5.1_V2.0 CLOSE SMALL VENT VALVE

Last Revised: June 29,1999

BRIEF FUNCTIONAL DESCRIPTION:
The "small" (previously known as little) vent valve is planned to be opened once on orbit and left open. In the event of an aborted *AXAF* deployment and a shuttle return to earth with *AXAF*, it would be desirable but not necessary to close the small vent valve. The procedure is in essence the reverse of opening the small vent valve, with the pressure measurements and DPA power-up deleted. The procedure contains no indefinite wait so that the commands can be sent as quickly as possible (6 commands in 6 s)

The sequence of actions will be:

1. enable and close the small valve mechanism A & B
2. disable the small vent valve mechanism A & B

ASSUMED INSTRUMENT STATE:
Assumes that the PSMC has power from the spacecraft.

SPECIAL INITIAL CONDITIONS:
Assumes that *AXAF* deployment had failed and the shuttle is returning to earth with *AXAF*.
Assumes that the spacecraft has power and connections for commanding and telemetry.

OPERATIONAL CONSTRAINTS/CAUTIONS:
There is no telemetry verifier that the small vent valve mechanism has closed.
This procedure will execute in 6 s so that it will impossible to verify the valves were actually enabled.
The only way to verify that the valve has closed is to observe a pressure stabilization, if there is still enough gas inside the camera housing to be measured.
CARD ACIS-003

REFERENCES:
ACIS Long Form Functional Test Procedure (36-01301.01)
CHANGE HISTORY:

V1.2

- changed filenames from "close_lvv" to "close_svv"

V1.3

- deleted steps 1 and 4 which power-up/power-down the DPA A
- re-ordered the commands into Enable A/Enable B/Open A/Open B in steps 1.1 – 1.4

V2.0

- ACIS Team signed-off version
- changed expected values from 0's and 1's to "ENB" and "DIS"

- removed criticality values for each step since this procedure will execute in 6 s and there will be not time for TLM verification
- edited "Operations Constraints and Cautions"

Table 1: **Close Small Vent Valve Procedure**

Step #	Title (Revision 5.1_V2.0)	Time Req (s)	Command Description	Command Mnemonic	Telemetry Description	Telemetry Mnemonic	Expected Value	Units
1.0	Close Little Vent Valves							
1.1	Enable valve A	1.0	Enable valve A	1LVCAEN	Little valve enabled A	1LVDBAON	ENB	
1.2	Enable valve B	1.0	Enable valve B	1LVCBEN	Little valve enabled B	1LVDBBON	ENB	
1.3	Close valve A	1.0	Close valve A	1LVCCAON	Little valve close A	NONE		
1.4	Close valve B	1.0	Close valve B	1LVCCBON	Little valve close B	NONE		
2.0	Disable Valves							
2.1	Disable valve A	1.0	Disable valve A	1LVCADS	Little valve disabled A	1LVDBAON	DIS	
2.2	Disable valve B	1.0	Disable valve B	1LVCBDS	Little valve disabled B	1LVDBBON	DIS	
	Total Time	6						

Table 2: (CONT) **Close Small Vent Valve Procedure**

Step #	Telemetry EGSE	Other Verifier	Crit	Description	Notes	RT Con	Tlm Fmt	Min Alt	SIM Pos
1.0									
1.1							6		
1.2							6		
1.3							6		
1.4							6		
2.0									
2.1							6		
2.2							6		