AXAF COMMAND ACTION PROCEDURE

CAP #: 640 Rev B
DATE: 11 August 2000

ORIGINATOR: Plucinsky
COMMANDS CHECKED BY: Buehler
Time of CAP Execution (GMT): 2000:225:10:15

DESCRIPTION/RATIONALE

This CAP executes the ninth test of the new "Squeegy" mode on the S0 CCD. The plan is for two separate science runs.

- S0 2 row Squeegy, 8 row exclude window, initial frame flushes, NO on-chip summing, slow parallel transfer time of 320μs of the imaging array into the framestore but a nominal transfer of the Squeegy back to the top of the chip AND a 256 subarray starting at row 768 and extending to row 1023.
- S0 NO Squeegy control run, 8 row exclude window

This Squeegy run contains the initial frame flushes to remove the bias instability.

This test will be attempted during the 10ks period overlapping a CTI measurement on the inbound leg of the orbit. The FOT MPers have removed the commands to execute the normal ACIS CTI measurement from the load except for the OBSID update to 61968 at 2000:225:10:12 and the stopScience command at 2000:225:12:47.

The exact start time of the first science run depends on the focal plane temperature and the radiation environment. We expect AOS at 225:10:15 and LOS at 225:13:15. If conditions permit, we would like to start the ACIS activities at the beginning of the pass. The largest question here will be the focal plane temperature since the previous measurement was done at -110 C and we will be waiting for the focal plane to drop to -120 C. The temperature command will be executed at 225:07:13; so there will be 3 hours for the temperature to drop. Once the ACIS science run has been started, there will be a long period ($\sim$ 2 hr) with no ACIS commanding. This should be a convenient time for other spacecraft activities.

RESTRICTIONS/WARNINGS/NOTES/SCHEDULE REQT:

This commanding will be interleaved upon the daily load. There should be no potential conflicts except with ACIS (see discussion above), but the operators should be cognizant nevertheless. The ACIS commanding should begin as soon as possible if the focal plane temperature and radiation environment permit. The second science run (normal CTI on S0 alone) will be stopped by a stopScience from the daily load.

STEP	INSTRUCTIONS (Command/Script)	RESPONSE (TLM Verifier)
1	Uplink Loads:	
	1A_WS007_164.CLD	7021872
	1A_WS041_252.CLD	50391DC
	1A_XB000_250.CLD	417494C
	1A_XB001_251.CLD	A0E1874
	1A_WB00C_134.CLD	E5B0858
	1A_WB009_133.CLD	7F9FFE4

	1A_WB015_135.CLD	3452F6D
	1A_WB016_136.CLD	7EA9C9C
	1A_WT05A_137.CLD	95B6A92
	1A_W2013_159.CLD	BA08097
	1A_XT000_190.CLD	C421014
	1A_RS000_207.CLD	4022412
	1A_RH000_151.CLD	601EE12
	1A_AA000_191.CLD	502066E
	1A_RYFS0_211.CLD	F423E81
	1A_RZFS0_217.CLD	4424581
	1A_WT04F_139.CLD	50E019C
2	ACIS informs OC when FP temperature and EPHIN rates are appropriate to start the first run ($\sim 225:10:20$).	
3	update OBSID to 61968 if load has not already done so	
4	Enable and Activate SCS 164	WSVIDALLDN (cmdId = 1541)
5	Enable and Activate SCS 252	WSPOW0103F (cmdId = 2163)
6	Enable and Activate SCS 250	executeBep, XB1SLOMO02 (cmd ID = 2166)
7	Enable and Activate SCS 251	executeBep, XB1SLOMO03 (cmd ID = 2160)
8	Enable and Activate SCS 134	writeBep, WB00SQUEG3 (cmdId = 2967)
9	Enable and Activate SCS 133	writeBep, WB00SQUEG2 (cmdId = 2892)
10	Enable and Activate SCS 135	writeBep, WBTSTSQG17 (cmdId = 3087)
11	Enable and Activate SCS 136	writeBep, WBTSTSQG18 (cmdId = 3089)
12	Enable and Activate SCS 137	loadTeBlock, WT00392014 (cmdId = 3158)
13	Enable and Activate SCS 159	load2dBlock, W200047014 (cmdId = 3084)
14	Enable and Activate SCS 190	startScience (cmdId = 58)
15	If execution fails (immediate *scienceReport* with abnormal *terminationCode*), skip to step 24.	
16	Enable and Activate SCS 207	bepReadReply/Config (cmdId = 66)
17	Enable and Activate SCS 151	bepReadReply/Huffman (cmdId = 68)
18	ACIS confirms receipt of bias and data	dataTeBiasMap (cmdId = *any*)
19	ACIS confirms *fepTimestamp* increment of 0x26548 (157000 decimal) per exposure	exposureTeFaint (cmdId = *any*)
20	collect data for $\sim$ 5.0ks	
21	On bad data, proceed to step 22 immediately	
22	Enable and Activate SCS 191 $\sim 225:12:00$	stopScience (cmdId = 1539)
23	ACIS confirms normal completion of science run	
24	Enable and Activate SCS 211	readPram (cmdId = 1613)
25	ACIS confirms receipt of PRAM dump	
26	Enable and Activate SCS 217	readSram (cmdId = 1602)
27	ACIS confirms receipt of SRAM dump	
28	Change OBSID to 62874	
29	*Only if ADU latchup on VBs,* Activate SCS 164	WSVIDALLDN (cmdId = 1541)
30	*Only if ADU latchup on VBs,* Activate SCS 252	WSPOW0103F (cmdId = 2163)
31	Enable and Activate SCS 139	loadTeBlock,WT0032C014 (cmdId = 2866)
32	Activate SCS 190	startScience (cmdId = 58)
33	Activate SCS 207	bepReadReply/Config (cmdId = 66)
34	Activate SCS 151	bepReadReply/Huffman (cmdId = 68)
35	ACIS confirms normal science run	
36	Clear and Disable SCSs 164, 252, 250, 251, 134, 133, 135,	

	136, 137, 159, 190, 207, 151, 191, 211, 217, 139	
37	collect data for $\sim$ 1.0ks	
38	confirm stopScience from daily load 225:12:47	stopScience (cmdId = 1539)
39	Uplink load:	
	1A_W2012_160.cld	EE61111
40	Enable and Activate SCS 160	load2dBlock, W200039014 (cmdId = 2142)
41	Clear and Disable SCS 160	

Approved:

Subsystem Engineer:
TST Manager/Lead:
SOT Lead:

Flight Director:
Program Manager: