AXAF COMMAND ACTION PROCEDURE

CAP #697:
DATE: 08 February 2001

ORIGINATOR: P. Plucinsky
COMMANDS CHECKED BY: Grant, LaMarr, Ford, Buehler
Time of CAP Execution (GMT): 2001:047:17:20

DESCRIPTION/RATIONALE

This CAP executes the second realtime test of the new "Cuckoo" mode on the S0 CCD. The "cuckoo" mode has been used many times now in the stored command load. This run will be different in that it will utilize 8 rows in the Squeegee instead of 16 rows. This CAP will execute only one science run. This run will clock the CCDs in "raw" mode (telemeter every pixel, not just the ones with X-ray events) using vanilla 8 row Squeegy and cuckoo clocking. This test will be referred to as Squeegy R12.

This test will be attempted during the 10ks period overlapping what is normally a CTI measurement on the out bound leg of the orbit. The FOT MPers have removed the commands to execute the normal ACIS CTI measurement except the stop-science command at 2001:047:20:17 and the OBSID update to 61734 at 2001:047:12:13. We will use OBSID 61734 for this run.

We have reserved OBSID 62863 for a contingency run, in case we need to reconfigure the instrument after an unexpected result.

The focal plane temperature may not be at -120 C at the beginning of the pass.

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 the radiation environment and focal plane temperature permits. We will stop the cuckoo run in r/t at about 047:20:10 to allow time for the dump of the PRAM and SRAM and in case something goes wrong, although a stop-science exists in the load in case we lose comm.

Once the science run is progressing nominally, we uplink and activate the same 2D window block the OFLS last had in it's history: W200038014.

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_WB008_132.CLD	15AF653
	1A_WB009_133.CLD	7F9FFE4
	1A_WB01B_134.CLD	E2376C7
	1A_WB019_135.CLD	1B61F5B
	1A_WB01A_136.CLD	321BD14
	1A_WT062_137.CLD	23432A1
	1A_W2017_160.CLD	557671F
	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
2	ACIS informs OC when EPHIN rates are appropriate to start.	
3	Confirm OBSID 61734, change if necessary	
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 132	writeBep, WB00SQUEG1 (cmdId = 2890)
9	Enable and Activate SCS 133	writeBep, WB00SQUEG2 (cmdId = 2892)
10	Enable and Activate SCS 134	writeBep, WBCUCKOO04 (cmdId = 3735)
11	Enable and Activate SCS 135	writeBep, WBCUCKOO02 (cmdId = 3622)
12	Enable and Activate SCS 136	writeBep, WBCUCKOO03 (cmdId = 3619)
13	Enable and Activate SCS 137	loadTeBlock, WT00451014 (cmdId = 3732)
14	Enable and Activate SCS 160	load2dBlock, W200054014 (cmdId =3615)
15	Enable and Activate SCS 190	startScience (cmdId = 58)
16	If execution fails (immediate *scienceReport* with abnormal *terminationCode*), skip to step 28.	
17	Enable and Activate SCS 207	bepReadReply/Config (cmdId = 66)
18	Enable and Activate SCS 151	bepReadReply/Huffman (cmdId = 68)
19	ACIS confirms receipt of data	(dataTeRaw)
20	ACIS confirms *fepTimestamp* increment of 338176 decimal per exposure	(exposureTeRaw)
21	On bad data, go to step 26 IMMEDIATELY, and also do 27-32 and 23-24	
22	If science run progressing nominally, reload 2D window block	
23	Uplink: 1A_W2011_159.CLD	checksum=DE51504
24	Enable and Activate SCS 159	load2dBlock, W200038014 (cmdId =2141)
25	collect data for $\sim$ 8.0ks	
26	Enable and Activate SCS 191 at $\sim 20:10$	stopScience (cmdId = 1539)
27	ACIS confirms normal completion of science run	
28	Enable and Activate SCS 211	readPram, RY_FULL_S0 (cmdId = 1613)
29	ACIS confirms receipt of PRAM dump; if dump fails re-do 28 ONCE more	
30	Enable and Activate SCS 217	readSram, RZ_FULL_S0 (cmdId = 1602)
31	ACIS confirms receipt of SRAM dump; if dump fails re-do 30 ONCE more	
32	Clear and Disable SCS 164, 252, 250, 251, 132, 133, 134, 135, 136, 137, 160, 190, 207, 151, 191, 211, 217, & 159	

Approved:

Subsystem Engineer: Flight Director:
TST Manager/Lead: Program Manager:
SOT Lead: