AXAF COMMAND ACTION PROCEDURE

CAP #726:
DATE: 17 May 2001

ORIGINATOR: P. Plucinsky
COMMANDS CHECKED BY:
Time of CAP Execution (GMT): 2001:142:19:40

DESCRIPTION/RATIONALE

This CAP executes the first test of the new "Cuckoo" mode on the S0 CCD *without* using the Squeegy clocking. 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 the cuckoo clocking. This test will be referred to as CR1 (subsequent tests in the load will be referred to as CL1, CL2, etc).

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 stopScience command and the OBSID update.

We do NOT expect the focal plane temperature to be at -120 C at the beginning of the pass. The run may be started once the focal plane is at -119.5 C or colder. The EPHIN rates should be at 1/3 or lower of the SCS 107 trigger levels and dropping at the start of the science run.

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 permits. The OBSID will be updated to 61620 at 2001:142:17:41 (before the COM) and the stopScience command will be executed by the load at 2001:143:00:16. We will stop the cuckoo run in r/t at about 143:00:05 to allow time for the dumps of the PRAM and SRAM. Although a stop-science exists later in the load in case we lose comm.

There is no need to re-load the window block since the window block which the OFLS expects to be loaded is the same one used in this CAP (W200054014).

STEP	INSTRUCTIONS (Command/Script)	RESPONSE (TLM Verifier)
1	Verify OBSID = 61620	
2	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_WB01C_134.CLD	264FBAB
	1A_WB01D_135.CLD	CB61F68
	1A_WB01E_136.CLD	34C2CAB
	1A_WT063_137.CLD	A3632CA
	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
3	ACIS informs OC when EPHIN rates and FP temp are appropriate to start.	
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 (cmdID=2166)
7	Enable and Activate SCS 251	executeBep, XB1SLOMO03 (cmdID=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, WBCUCKOO05 (cmdID=3823)
11	Enable and Activate SCS 135	writeBep, WBCUCKOO06 (cmdID=3825)
12	Enable and Activate SCS 136	writeBep, WBCUCKOO07 (cmdID=3826)
13	Enable and Activate SCS 137	loadTeBlock, WT00473014 (cmdID=3820)
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 25.	
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 334104 decimal per exposure	(exposureTeRaw)
21	collect data for $\sim$ 3.0ks	
22	On bad data, go to step 23 IMMEDIATELY, and also do 25-31	
23	Enable and Activate SCS 191 at $\sim 143:00:05$	stopScience (cmdId = 1539)
24	ACIS confirms normal completion of science run	
25	Enable and Activate SCS 211	readPram (cmdId = 1613)
26	ACIS confirms receipt of PRAM dump; if dump fails re-do 25 ONCE more	
27	Enable and Activate SCS 217	readSram (cmdId = 1602)
28	ACIS confirms receipt of SRAM dump; if dump fails re-do 27 ONCE more	
29	Clear and Disable SCS 164, 252, 250, 251, 132, 133, 134, 135, 136, 137, 160, 190, 207, 151, 191, 211, & 217	
30	Verify stopScience from load at 143:00:16	stopScience (cmdId = 1539)
31	Verify OBSID update to 1018 at 143:00:49	

Approved:

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