# AXAF COMMAND ACTION PROCEDURE

CAP #607:
DATE: 19 May 2000

ORIGINATOR: Plucinsky
COMMANDS CHECKED BY: Ford, Buehler, Grant
Time of CAP Execution (GMT): 2000:143:21:30

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DESCRIPTION/RATIONALE

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

- S0 16 row Squeegy, 32 row exclude window, initial frame flushes
- S0 NO Squeegy control run, 32 row exclude window

This Squeegy run differs from the previous Squeegy runs in that there are initial flushes of the CCD which should remove the charge which built up while the CCD was not being clocked. It is hoped this will remove the bias instability problem seen in previous runs.

This test will be attempted during the 10ks period overlapping 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 from the load except for the OBSID update to 62047 at 2000:143:21:55:18 and the stopScience command at 2000:144:04:04 which is *after* the HRC has conducted two science observations and the OBSID has changed twice so the CXCDS will have complications in processing these data.

The exact start time of the first science run depends on the focal plane temperature and the radiation environment. We expect COM at 143:21:30 and the OBSID update occurs at 143:21:55. The beginning of the pass can therefore be used to dump the SSR and uplink the loads. We hope to begin the first science run as soon as possible after 143:22:00 if conditions allow.

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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 and soigné nevertheless. The ACIS commanding should begin as soon as 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 *after* the HRC has conducted two science observations.

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| 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_WB00D_135.CLD | 4E6F5E0 |
| | 1A_WB00E_155.CLD | 52E8479 |
| | 1A_WT054_137.CLD | D08548C |
| | 1A_W2008_159.CLD | 25513F2 |

| | | |
|---|---|---|
| | 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 alerts OC when FP temperature and EPHIN rates are appropriate to start the first run ($\sim 143:22:00$). | |
| 3 | At 143:21:55 daily load changes OBSID to 62047 | |
| 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, WB04SQGDLY (cmdId = 2968) |
| 11 | Enable and Activate SCS 155 | writeBep, WB24_FLUSH (cmdId = 2971) |
| 12 | Enable and Activate SCS 137 | loadTeBlock, WT0034C014 (cmdId = 2962) |
| 13 | Enable and Activate SCS 159 | load2dBlock, W20003D014 (cmdId = 2844) |
| 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 0x528a0 (338080 decimal) per exposure | exposureTeFaint (cmdId = *any*) |
| 20 | collect data for ~ 10.0ks | |
| 21 | On bad data, skip to step 22 | |
| 22 | Enable and Activate SCS 191 | 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 62887 | |
| 29 | *If necessary* Activate SCS 164 | WSVIDALLDN (cmdId = 1541) |
| 30 | *If necessary* 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, 155, 137, 159, 190, 207, 151, 191, 211, 217, 139 | |
| 37 | collect data for ~ 1.0ks | |

Approved:

Subsystem Engineer:
TST Manager/Lead:
SOT Lead:

Flight Director:
Program Manager: