

Report of the Space Telescope Users' Committee (STUC) Meeting, May 1998

The Space Telescope Users Committee (STUC) met in open session on 18-19 May 1998, in the Board Room of the Space Telescope Science Institute. Committee members in attendance were: B. Balick, J. Bally, J. Clarke, L. Kay, P. McCarthy, F. Mirabel, R. Schulte-Ladbeck, S. Terebey, R. Thompson, F. Walter (Chair), H. Weaver, and B. Woodgate. Absent were R. Fosbury, J. Frogel, and S. Ortolani.

Minutes of the meeting are reported elsewhere.

Readers should note that this report is based on information presented to the STUC in May 1998, and may be superseded by later developments. Readers are urged to refer to the STScI web pages for up-to-date information.

Executive Summary

The tenor of this meeting was generally positive. HST continues to operate well. NICMOS is performing as advertised. The NICMOS Cooling System is looking more practical. Plans for SM3 are advancing towards a May 2000 mission. The projected funding for the HST project looks good through 2010, to the extent that any budgetary projections can be believed. NASA and the STScI are beginning to plan how to operate HST at low cost after 2003. And a new director has been appointed to lead STScI into its second decade.

The personnel at NASA Headquarters who manage space science programs were delighted that Congress recently listed "science" as NASA's top priority, and this new emphasis creates optimism for the future of space science endeavors at NASA, although the imminent departure of Wes Huntress, who has been an effective advocate for science at NASA, does create some uncertainty.

However, the committee had a number of concerns about the adverse impacts caused by the apparent inadequate staffing of STScI on the capabilities of the HST. The committee expressed concerns about perceived imbalances on various review panels and committees. And the performance and calibration status of the ACS continues to be a concern.

The Second Decade Study

It is clear that NASA is serious about continuing to operate HST through 2010, and the STUC enthusiastically supports this. NASA has convened the Second Decade Study to recommend how to best utilize the HST in an era of reduced support, and in concert with a new array of supporting technologies, including AXAF, XMM, SIRTf, SOFIA, NGST, GEMINI, and the VLT. Although purview of the Second Decade Committee is somewhat limited because the final instrument complement is set, it has the charge and responsibility to develop observing strategies for HST to maximize its scientific potential in the context of changing programmatic needs.

The STUC is concerned that the Second Decade Committee is inappropriately constituted to meet this challenge. The STUC feels that a committee which lacks sufficient breadth to appeal to the full astronomical community will not gain the respect of the full community, and that its recommendations may not be taken seriously. HST will need broad support from the community to continue to operate during this second decade.

The STUC has delivered a brief report to the Second Decade Study Committee. We are heartened that the committee membership has been augmented in response to some of our concerns.

STScI Manpower

A number of instrument capabilities, particularly on STIS, are not yet implemented. This is directly attributable to manpower limitations. We encourage a review of the distribution of responsibilities, in the expectation that this could lead to an enhancement of the resources available for instrument, observer, and operations support.

Proposal Evaluation

The information content returned to the proposers from the Cycle 7 archival research proposal reviewers was far superior to the checklist used during the Cycle 7 delta CP. Reviewers thought that the checklist was a good tool for internal use, but the proposers felt that it failed to convey any sense of the rationale for the decisions. We encourage STScI to retain written reviews for Cycle 8. We urge the STScI to instruct the reviewers to put themselves in the place of the proposers, and to write a review sufficiently detailed that proposers will understand why their proposals were so evaluated.

The STUC noted some apparent problems with the Cycle 7 delta-CP and archival research reviews. In the Cycle 7 delta-CP review, proposals targeting star formation and circumstellar disks were spread over two panels, neither of which appeared to have much expertise in this area. Consequently, a surprisingly small number of orbits was allocated for star formation studies, despite the excellence of NICMOS for tackling problems in these areas. Similarly, a lack of panelists with expertise in spectroscopy of cool star chromospheres and coronae may have contributed to the lack of successful proposals in this area in the Cycle 7 AR CP.

The greater number of panels (and panelists) in the Cycle 7 review led to a fair treatment of these and other scientific areas. We are cognizant of the difficulties involved in assembling review panels, and we understand the difficulty of providing experts in all possible fields for the smaller supplemental reviews, but we urge the STScI to make a strong effort to ensure fairness and balance in the review process.

Archive Users Survey

The STUC generally concurs with the conclusions and recommendations of the 1998 Archive Users Survey. The STUC is enthusiastic about the plans to implement the On-The-Fly-Calibration system. We agree that paper products are important, but that the number of pages produced could be reduced, especially in cases (like NICMOS) where the typical observation has hundreds of observations.

HST Scheduling

The experience of Cycle 7, with the unforeseen difficulties with NICMOS mandating the delta-CP, is one we would all like to put behind us. For GOs and the STIS GTO team, the deferral of STIS and WFPC2 observations into 1999 has, in many cases, caused both scientific and financial hardship. At the urging of this committee, the archival Call for Proposals (CP) was issued to provide users of the archive an interim opportunity independent of the drawn-out observing cycle. The STUC thanks the STScI and the HST project for their responsiveness. The STUC realizes that these unplanned CPs involved much effort, and applauds all involved in successfully implementing these extraordinary calls for proposals.

The STUC welcomes the return to 1 year durations for Cycles 8 and 9. We look forward to predictability in the dates of future cycles, and strongly support the objective, being pursued by the STScl, of creating a stable Long Range Plan.

Planetary Working Group

The new capabilities for planetary and moving target observations (discussed in the minutes) continue to be important for the production of high quality science from HST. The STUC encourages STScl to continue the development of these capabilities. In particular, we believe that the routine distribution of finding charts to observers will be valuable in heading off pointing problems, which have plagued observations in the past, before they occur, thereby also improving observing efficiency.

There is a specific problem with some observations using track 51 tracking. Often, in a sequence of exposures using different filters, apertures, etc., the absolute pointing within the field of view is crucial for the comparison of the exposures. However, the present software creates a new alignment with a new pointing, differing typically by 1-2 arc sec in some random direction, whenever any of a series of parameters is changed in the phase 2 proposal, including the aperture, target name, etc. In the case of STIS, several different filters have unique aperture names defined for them. It is not possible in the phase 2 proposal to obtain co-aligned images, for example, with the UV-MAMA clear and with any filter, since each of these exposures is required to be performed with a different aperture name. We request that the STScl look into this matter, modify the ground software to enable co-aligned observations under track 51, and report back to this committee.

The Proliferation of Committees

There are many committees and ISRs advising STScl and the HST project these days. These committees are often called into existence to examine a single narrow aspect of the HST operations. The STUC, as the standing committee representing the interests of the users of the HST, is concerned that these committees and ISRs may not understand the history and context of the actions, and its impact upon the HST users. We request that the STUC be informed of the creation of such committees and ISRs, and that the STUC be represented on these committees, either through explicit membership or in an ex-officio manner.

Advanced Camera for Surveys

The STUC remains concerned about the status of the ACS. It is clear that fiscal issues are compromising the ACS ground testing and calibration programs, particularly in regards to the solar blind camera (SBC). We strongly advise the project to aggressively seek ways to provide the appropriate resources for this very important effort. The HST project should not jeopardize the long-term scientific potential of the ACS due to a short-term financial problem.

The STUC was told that the typical GO data set from an ACS observation would total nearly 9 Gb, and would require a high-end workstation to process and analyze. We trust that this need will be taken into account when grants for projects involving ACS data are awarded.

The NICMOS Cooling System

It is clear to the committee that NASA is pursuing a cautious approach to the NICMOS Cooling System (NCS; formerly the cryocooler). If the NCS can extend the useful scientific life of the NICMOS, with no adverse impacts upon the safety or operational capabilities of the HST, this committee endorses the concept.

WFC3

The STUC endorses NASA's plan to replace the aging WFPC2 with a new and more capable camera, presently known as WFC3. The straightforward design approach helps to insure the presence of an important research tool of low cost and high value intended primarily (but not exclusively) for galactic studies that can complement the Advanced Camera. The WFC3 will be an exciting instrument for the second decade of HST operation, especially for narrow-band imaging of emission-line regions, including H-H objects, all sorts of ionized stellar outflows (e.g. LBVs, supernovae, post-AGB stars), and the ejecta from relatively-low-redshift AGNs. In tandem with STIS, WFC3 will be the premier tool for studying gas morphologies and kinematics in many types of objects.

The WFC3 will be a popular user instrument, but its realized scientific utility will be very sensitive to the selection of its filters. STUC applauds the plans for community wide-study of the filters (to be conducted by the WFC3 Scientific Oversight Committee now being organized). The STUC urges that the HST project see to it that the scientific oversight committee is balanced between galactic and extragalactic interests. The STUC wishes to be appraised of the selection of filters prior to the selection being finalized. We suggest that a member of the STUC be appointed to the SOC in either an active or ex-officio capacity.

Given that the current design of the WFC3 draws more on the heritage of the ACS than it does on the WFPC, we concur with the suggestion that NASA seek another name for this instrument.

GATOR

The STUC applauds the proposed acceleration of the funding of HST grants, which is one goal of the Grants Administration Team for Organizational Reengineering (GATOR) project. However, we are concerned that the funding algorithm will be too general to adequately account for the disparity of budgetary needs. Judgment of the complexity of the data reduction and analysis, and of the funding needed, should ultimately remain in the purview of the PI. Observers must not be penalized for working at high-overhead institutions, nor for living in regions with high costs of living and salaries. The STScl must realize that graduate students can rarely be employed for periods shorter than a semester or a summer, and that PI summer salaries should be allotted in units of man-months. The STUC also feels that the Grant's Office's projection that only 10% of the PIs will appeal is on the low side.

The STUC looks forward to the report, in a year's time, detailing how accurately the funding algorithm predicts the requested budgets during Cycle 8.

The Director

With deep admiration and gratitude the STUC recognizes the many scientific and administrative achievements made by the outgoing Director of the STScl, Dr. Robert E. Williams. Bob kept a steady hand on a large, successful, and high-momentum organization during times of financial havoc and staff reductions early in his tenure. The Institute emerged leaner and meaner, and it has maintained a record to be admired by the entire astronomical community.

HST users have benefitted from Bob's commitment to a simplified proposal process, his strengthening of staff orientation to user requests, and his continuous enthusiasm for new HST instruments and initiatives. All during this time Bob maintained an active research program, most notably contributing in many important ways to one of the premier astronomical experiments of the 20th century: the Hubble Deep Field. The STUC has always found Bob to be an engaged listener, a forthright, dependable, and enthusiastic partner, and an always-cheerful sport in the parrying that characterizes STUC meetings.

We wish Bob Williams an active, productive, successful, and satisfying return to a life outside the Director's Office, and we look forward to equally good relations with the new director.

This report submitted by Frederick M. Walter

on behalf of the Space Telescope Users Committee

July 1998

Minutes of the Space Telescope Users' Committee (STUC) Meeting, May 1998

The Space Telescope Users Committee met in open session on 18-19 May 1998, in the Board Room of the Space Telescope Science Institute. Committee members in attendance were: B. Balick, J. Bally, J. Clarke, L. Kay, P. McCarthy, F. Mirabel, R. Schulte-Ladbeck, S. Terebey, R. Thompson, F. Walter (Chair), H. Weaver, and B. Woodgate. Absent were R. Fosbury, J. Frogel, and S. Ortolani.

Monday 18 May

B. Williams, director of the STScI, welcomed the participants and opened the meeting with the STScI perspective. The observatory continues to operate well. Some of the highlights of the past 6 months, and the near future, are

- Despite the failure of an S-band transmitter, no scientific data was lost because of yeoman work by the HST project and schedulers, and the scheduling efficiency remains high.
- The southern HDF field will be observed on 1-10 October.
- The schedule for Servicing Mission 3 has slipped into early 2000.
- Negotiations are underway between NASA and ESA to extend the Memorandum of Understanding which expires in 2001.
- The director reported that he will be stepping down on at the end of July, and M. Hauser will be interim director of STScI for the month of August. S. Beckwith will become director on 1 September 1998.
- E. Weiler told the committee about the current status at headquarters. Wes Huntress will be leaving as Associate Administrator for Space Science on 1 September. No replacement has been identified yet. Although the current budgets look as good as can be expected, there are some concerns. AXAF is facing a 30-40 million dollar overrun, and these funds will have to be found somewhere within OSS. Congress has sent a letter to Dan Goldin informing him that Congress considers science to be NASA's top priority. It is hoped that this will protect space science funding from the International Space Station cost overruns.
- J. Campbell reported on the spacecraft and project status. The planned date of the SM-3 mission has slipped 5 months to 5/11/00 (STS 107). In order to maintain a 3 year spacing, the SM-4 mission

has slipped by 4 months, into March 2003 (STS 133). A current STS launch schedule can be viewed at this site.

The HST spacecraft is in good health. Changes since the last meeting include:

- New operating procedures have improved the performance of FGS2. The bearings have been degrading. FGS2 will be replaced in SM-3.
- There are intermittent EDAC (error detection and correction) errors in the Solid State Recorders, but these affect about 1/1000 of the memory chips, and are not a cause for concern at present.
- An S-band single access (SSA) transmitter failed, and will be replaced in SM-3. There are two high-gain antennas (HGA). Each is pointed at a different TDRSS in order to minimize HGA movements. The SSA transmitters are redundant, and can feed either HGA. The transmitters for the low gain antennas can also feed the HGAs, so there is still redundancy in the system.
- During SM-3, the following items will be inserted or replaced:
 - The Advanced Camera for Surveys (FOC will be removed)
 - FGS (replacement for FGS-2)
 - Solar Array III
 - A replacement Gyro package
 - a 486 Computer
 - Aft Shroud Cooling system
 - NICMOS cooling system
 - Batter voltage improvement kit
 - Solid State Recorder (SSR)
 - S-band Single Access (SSA) transmitter
 - Multi-layer insulation (MLI) will be repaired
- In addition, the HST will be reboosted by 9 nautical miles.
- The committee asked why the SM-3 EVA schedule had the two solar array replacements scheduled for adjacent EVAs, when that would mean training both EVA crews to perform this task. The answer was that there was concern about the fragility of the old solar arrays, in case the shuttle had to make an unplanned maneuver.

During SM-4, the following are planned:

- Insertion of the Cosmic Origins Spectrograph (COS)
- Insertion of the Wide Field Camera 3 (WFC3)
- Replacement of FGS-3
- Replacement of the batteries and 4 gyros
- Replacement of any other failed components

In addition, the HST will be reboosted by 10 nautical miles. This will supply sufficient altitude for the HST to survive the solar cycle 24 maximum.

During the expected Leonid meteor shower on 16-17 November 1998, the HST will be pointed with the aft bulkhead facing into the shower. The project is looking for suitable targets in the other direction.

D. Leckrone reported from the HST project. NASA intends to operate the HST beyond its nominal termination date of 2005, as recommended by the "HST and Beyond" study. The basic plans for

implementing these goals, and ensuring that HST is still returning useful science in 2010, include upgrading COS capabilities, to provide a near-UV channel, and providing for a replacement for WFPC2 (WFC-3), to provide redundant imaging capabilities. Both these have been approved by the STIC, the Origins subcommittee, and by Wes Huntress.

WFC-3 is being developed as a facility instrument, with a Science Oversight Committee (SOC) being chosen from the community. There were 60 applicants for the SOC, in response to a community-wide call. The membership will be announced shortly.

The Second Decade Study committee is being formed to study operations of the HST (see below).

The NICMOS Cooling System (NCS) is being developed to provide near-IR capability into the second decade. It is not yet an official part of the second decade plan. NCS will be flight tested on the HOST mission (STS-95). The Fall committee will assess NICMOS performance and science output; the Second Decade Committee will critically assess NICMOS versus anticipated ground-based capabilities. Both these committees will report to the NICMOS ISR (Harwit committee) which will make a recommendation on whether or not to proceed with the NCS on SM-3.

Science funding (UPN 459) for HST looks stable for the foreseeable future.

M. Stiavelli reported on the Servicing Mission Office activities. Most SMO activities are unaffected by the delay in SM-3. The ACS delivery and testing schedule is unchanged. The office is developing pipeline processing software for the ACS. It was noted that the ACS data sets will be large (the typical WFC GO data set is expected to amount to 8.9 Gbytes without compression), and will require high-end workstations for data processing. There was some discussion of whether dithered imaged should be combined in the pipeline processing.

R. Brown presented to the committee a description of the plans for the Second Decade Study. The HST project has directed the STScl to develop a strategic plan for the second decade of HST (following SM-4). A 21 member committee has been convened. The committee will meet at STScl in July, at the ECF in Garching, Germany in the fall, and aims to complete their study by early 1999 and distribute their findings as a booklet. The charter of the committee and further information is available at the HST Second Decade website.

The Second Decade Committee is requesting public comment and input.

P. Stanley discussed the current state of HST planning and scheduling. Cycle 5 observations are 99.6% complete, with the last 4 proposals (19 orbits) expected to execute by August 1998. Cycle 6 is now 77% complete, with a 90% completion expected by the end of 1998. Cycle 7 is 43% complete.

It is currently anticipated that NICMOS science observations will terminate on 15 November 1998. To date 46% of the observing time in cycle 7 has been used for NICMOS, which is within the 40-50% guideline. It has been difficult to schedule STIS observations, in part because of ORIENT constraints for the long slit.

The failure of the SSA transmitter had no significant impact on the science program, thanks to manual effort by the GSFC and STScl operations personnel, and good TDRSS support.

It has not been possible to maintain a stable long range plan (LRP), because of additional time allotted to NICMOS (including the NIC3 campaigns) and increased calibration requirements. The STScl is developing a tool which will automatically notify PIs when a change in the LRP has a significant affect on the scheduling of one of their programs.

The STScl is planning for cycles 8 and 9 to be 1 year in duration. Cycle 8 will start in June 1999 (Call for proposals issued 17 June 1998 with proposals due at 5PM EST 11 September 1998). Cycle 9 will

start in June 2000. The SM-3 servicing mission in May 2000 will affect both cycles, and ACS will first be available in Cycle 9.

There will be an Education and Public Outreach (E/PO) beginning with Cycle 8. E/PO proposals must be associated with a successful "parent" GO/AR proposal. Up to \$10K can be requested for activities which enhance education and public understanding of space science.

M. Shara discussed the mechanics of the recent Archival call for proposals. PIs were notified within 4 months of the issuance of the PC, about 2 months after the proposal deadline. 169 proposals were submitted; 44 were accepted for funding. The policy was to fund the best proposals in full rather than to cut individual funding requests to permit acceptance of more proposals.

M. Donahue discussed the recent survey of archive users and cycle 5-7 PIs. 114 of 460 users responded. Among the findings are:

- 13% of users report tape problems and 25% report electronic retrieval problems. Only one tape problem and no electronic retrieval problems could be traced to DADS.
- 57% of users would prefer to receive their data on CDROM.
- The paper products were deemed especially important for first-time users, but most respondents did not think that they needed actual paper as long as the information were reliably available, say on CD.
- The report asked about user recalibrations, in preparation for the on-the-fly-calibration (OTFC). 88% of STIS users, and 66% of WFPC2 users recalibrate their data at least once. 33% of NICMOS users recalibrate their data at least 3 times.
- OTFC is expected to be available for WFPC2 in October 1998, and for STIS and NICMOS in 1999.

K. Long advised the STUC on the status of the current instruments.

[NICMOS](#) is working well. The instrument is photometrically stable, and absolute photometry appears good to 5%. Cosmic ray persistence following SAA passages has affected some images. The structure of the dark frames is now fairly well characterized.

[STIS](#) is operating well. Spectral sensitivity calibrations are complete; imaging sensitivity calibrations should be complete by mid-June 1998. Collaborations with the IDT and ECF on calibration issues have been helpful. The data reduction pipeline is stabilizing, but significant updates are expected over the next year. The ground system is being enhanced. WAVECALs will be permitted in occultations, which will greatly increase MAMA efficiency. More slits, and FP-SPLIT slits are now supported.

WFPC2 continues to perform well, and is generally stable. The CTE problem is worsening with time. This affects primarily images with low count rates.

About 110 FOC orbits remain. The last FOC/48 image was taken in June 1997. A closeout calibration plan has been developed. About 500 internal calibration frames will be taken before SM-3. These will be available to any GO who requires 1% pixel-to-pixel statistical accuracy (the analysis of the calibration images will be the responsibility of the GO).

FGS3 is currently being used for science astrometry; in Cycle 8 FGS1R will become the prime science astrometry FGS (a final decision will be made by July 1 1998, based on tests carried out in May).

STScI plans a comprehensive assessment of user support. A user survey will be carried out by late summer, and a report is to be made to the director by the end of 1998.

A. Storrs reported on the NIC3 campaign. 289 orbits were scheduled between 12 January and 1 February 1998. 4 orbits were lost to a NICMOS suspend, otherwise all went well. The 1 sigma noise level in the F160W HDF image is 0.9nJy (corresponding to AB magnitude H=31.6), based on the width of the distribution of all pixels in the coadded image. The second NIC3 campaign is scheduled for 4-28 June 1998.

K. Long reported on the Pure Parallel observations. The recommendations of the Parallels Working Group, chaired by J. Frogel, have been implemented. About 2200 hours of pure parallel data are now in hand. Three archival research programs using these data were approved. GOs will be allowed to propose pure parallel programs in cycle 8, but their aims should differ from those currently being run.

C. Christian described the activities of the Office of Public Outreach (OPO). Most of us are aware of the photo and press releases, but the OPO does much more, especially in support of education. They provide curriculum support through the Amazing Space program. OPO is involved in the Smithsonian Travelling Exhibit (SITES). The OIPO site provides support for the NASA Origins program through the Origins Education Forum, as well as providing outreach for FUSE and NGST.

J. Clarke brought up the planetary science issues. The STUC applauds the many improvements made by STScI personnel during the past two years in the planning and scheduling of moving target programs. These changes make it easier for STScI to support moving targets observations and decrease the probability of failed observations. A number of unresolved issues have been raised, and most of these were addressed by informal comments. In general, the situation in terms of NICMOS and STIS observations is favorable, with good quality observations ongoing and some excellent science having been reported in press releases and in scientific meetings. The following comments concentrate on issues yet to be resolved.

Planning and scheduling: Several improvements have been reported by STScI staff that should improve the facility and accuracy of planning and scheduling moving target observations.

Extension of track 51 segments beyond 33 minutes: This is now expected to be implemented with the installation of a 486 on-board processor in SM-3. Since the track 51 command is the one that is used for small linear motions of the telescope, not just for moving target tracking, there has been reluctance within the project to change this software. However, the software must be recoded anyway for the new processor, and STScI reports that the new track 51 segments will be able to extend for up to 4 times longer than the present 33 minutes in the new software.

Success rates on STIS and NICMOS observations: A report has been drafted, but not yet released, at STScI on failure rates for early observations with the new SI's, including STIS and NICMOS observations of planetary targets. A draft version of the main results was shown to us off-line. As of March 1998 there had been 37 NICMOS and 43 STIS observations, of which 10 of each failed. While this rate is unacceptably high, many of the failures are likely due to start-up problems that have now been fixed. A quick perusal of the reasons for the failures did not reveal any clear systematic trends for either instrument, although there are too few failures to obtain good statistics. It appears that no obvious problems with either instrument have yet been identified, although this may not console the unlucky observers whose observations failed. The STScI is continuing to monitor the various failures, and to watch for problems with the instruments.

STIS MAMA observations under GYRO pointing control: STScI is looking into the possibility. This is an important capability for observing newly-discovered comets, whose poorly-known ephemerides do not allow accurate selection of Guide Stars (to enable FGS tracking) more than a week in advance of the observations.

F. Walter voiced his opinion that it was the obligation of the STScI to provide a fully calibrated and extracted (if appropriate) data product to the users, and that it was inappropriate to provide a partially or incompletely calibrated/extracted data set and then tell the observer to perform the

calibrations in STSDAS. Any recalibrations are the responsibility of the observer. This issue will become moot after the implementation of on-the-fly calibrations

After an executive session, the committee adjourned for the night and were treated to dinner by B. Williams and D. Machtetto.

Tuesday 19 May

The committee reconvened on Tuesday November 25 at 8:45 AM in executive session. The public session began at 9:00AM.

M. Fall discussed the NICMOS independent science reviews (ISRs). An ISR chaired by Fall is examining the scientific productivity of NICMOS, in order to justify the continued development of the NICMOS Cooling System. This committee will report, in June 1998, to the HST project, and in January 1999 to the Harwit ISR. Issues are instrument performance and scientific results. This committee will not examine the capabilities of NICMOS as compared to the planned ground-based near-IR capabilities.

E. Cheng reported on the NICMOS Cooling System (NCS), formerly known as the cryocooler. The development of this device received a cool reception from the STUC last year. The Harwit ISR gave a go-ahead to continued development in September 1997. The NCS would permit NICMOS to operate indefinitely.

This will be the first flight of a turbo-Brayton cryocooler, so there may be potential problems that are not yet understood. An engineering model will fly in October on the HOST mission (STS-95). The HST project made it quite clear that NCS will not be allowed to negatively impact on any other HST operations.

The NCS draws up to 400W power (300W nominal), and will have a radiator similar in design to the Aft Shroud Cooling System. The power and aft shroud cooling constraints are not a problem now, but may exceed the capabilities of the HST after 2002, if three or four instruments are operated in parallel.

The preliminary tests results have been encouraging. The Harwit ISR will review the results of the Host mission and the Fall report in January 1999.

After a break, E. Cheng continued with a description of the Wide-Field Camera 3 (WFC3). The WFC3 is designed to replace WFPC-2, and provide backup imaging capabilities to ACS. It is a facility instrument, with no GO team, but the progress will be monitored by a Scientific Oversight Committee (SOC). It reuses some of the hardware of the WFPC, and builds on the legacy of the ACS. It will use an ACS CCD detector. There was some discussion of filter selection. There are a number of spare WFPC2 and ACS filters which can be used. The final selection of filters will lie with the SOC.

Characterization of the ACS lot 7 and 8 detectors is underway at GSFC. The SOC is being selected, and will meet in late summer 1998.

M. Rafal discussed the current status of the Advanced Camera for Surveys (ACS), which is to be installed in SM-3. Integration is well underway. Because of cost pressures, Thermal Vacuum and Calibration testing have been moved to GSFC. There will be no absolute calibration using external sources during thermal vac. There are no plans to calibrate the absolute UV throughput (the Solar Blind Channel - SBC).

The ACS is to be shipped to GSFC about 1 September, and prepared for SM-3 in the spring of 1999.

There was some discussion of the planned test schedule. At present, Thermal Vac and calibration immediately follow the Acoustics testing. The STUC felt that it would be prudent to return the ACS to Ball after the acoustics test, in order to measure the alignment or the optics prior to the thermal vac and calibration.

As reported at our last meeting, the WFC CCD QE is still below nominal, and the parallel CTE is also below specs. There has been no further progress on CCD development. Lot 7 is now being tested. If a CCD with improved characteristics is identified, it may be possible to replace it prior to launch.

There is some concern that Ball will not be able to provide adequate support after shipment to GSFC, because of tight funding.

R. Beaser described the Grants Administration Team for Organizational Reengineering (GATOR) Continuous Process Improvement (CPI) Project. They propose to speed up the funding allocation process, which currently takes about 9 months. Under the reengineered funding process, STScl would automatically generate a target GO budget, which would be sent to the PI with the time allocation letters. This target budget would be based on some algorithm which involved numbers of targets and observations and perceived complexity of the analysis. If the PI accepts the target budget, the funding can begin with the first observation (preparatory funding will still be available). PIs can appeal, and submit a revised budget, which will then be reviewed by the Financial Review Committee and the Director.

This algorithm will be tested, but not used, during cycle 8. Plans are to implement the target budgets for Cycle 9. It is expected that 10% of PIs will appeal the budget. The STUC felt this number was low.

The Grants Management Division is moving towards all-electronic budget submissions and notifications, with web-based community access.

The next meeting of the STUC is scheduled for November 9-10 1998.

The STUC applauded Bob Williams for his service to STScl and the community during his term as director.

The STUC entered executive session, and adjourned at 3:00 PM.

DISCLAIMER: All technical details reported above are accurate as of 19 May 1998. Readers should refer to the STScl web site for updated information, and for details not reported here.

The recommendations of the STUC can be found here.

This report submitted by Frederick M. Walter

Chair, Space Telescope Users Committee

July 1998