

Meeting of Gemini Operations Working Group (2nd Meeting)

January 16, 2002 - La Serena Chile, CTIO Conference Room

Participants: D. Crabtree (Chair; Canada), S. Lopez (Chile), A. Bruch (Brazil), T. Armandroff (U.S.), P. Roche (U.K.), N. Morrell (Argentina), P. Puxley (Gemini), J.R. Roy (Gemini; by videocon), G. Da Costa (Australia), H. Richer (Canada; "guest"), D.Simons (Gemini)

Resolutions:

Resolution #1: The Operations Working Group was deeply saddened to learn of the sudden passing of Bob Schommer, Chair of our Group and US Gemini Scientist. Bob had a clear understanding of modern observatory operations and a keen sense of scientific priorities. Bob used his extensive experience to provide astute advice to the Gemini Observatory during this early operational phase. His advice found just the right balance between high user expectations and the need for a well-reasoned commissioning effort.

Resolution #2: The Ops Working Group supports the sense of the Commissioning Review Committee recommendations in addressing the goal of completing commissioning and moving to high scientific productivity.

Resolution #3: Resolutions of the Gemini Board should be available to the OPs Working and the GSC before their meetings.

Resolution #4: Gemini should attempt to clear out the OSCIR/Flamingos payback owed by the end of semester 2003A.

Resolution#5: Phoenix to be offered from October 1 onward and Flamingos between August-November. They will not be scheduled so they overlap, but the exact date of the changeover from Flamingos to Phoenix will be driven by scientific demand.

Resolution #6: The OpsWG supports the draft schedule presented by Gemini with modifications.

Action Items:

Action Item #1: Gemini will forward astronomer feedback forms to the National Offices.

Action Item #2: NPOs to consult their communities on moving the start of semesters one month later (with the same proposal deadline).

Action Item #3: NPOs to think of HelpDesk metrics for the next OpsWG meeting in August.

Action Item #4: Gemini to analyze network bandwidth realized to the partner countries from Hawaii and to determine the reasons why this may be limited.

Review of the Agenda:

An additional item on time exchange added after Status of Archive. A discussion of the GSC report and Commissioning Review report was also added.

Action items: Reviewed.

The minutes of the Durham Operations Working Group meeting held on July 12, 2001 were approved.

Reviewed past action items:

1.1: Done. Puxley will send electronic version too.

1.2: Not done. There is still interest by the NPOs in the proposal checking tools.

1.3: Done

1.4: Not done. This work is still planned to be included in the advanced Gemini Science Archive

1.5: Done

1.6: Done. However, Richer suggested that the Queue status needs updating more frequently, possibly nightly. Puxley indicated that implementation of high-level software is needed for simple updating of the queue status page.

1.7: Done

1.8: Done

1.9: Not done. Roy replied that not much feedback has been received (perhaps 1 in 4). The issue of how to get a better response rate was discussed.

Action Item #1: Gemini will forward astronomer feedback forms to the National Offices.

1.10: Done

1.11: Done

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Summary of Time Usage for 2000 QS, 2001 A (Puxley)

Puxley had distributed a final time accounting of 2000 Quick Start. This was an update, with fixes for calibration time and for payback time to Florida & Hawaii. Puxley then presented the 2001A summary, followed by the aggregate time charges for 2000QS + 2001A. Gemini is recording cumulative aggregate time balances including 2000QS + 2001A. Puxley floated returning between 30% and 50% of the aggregate imbalances in the 2002B call for proposals. This would result in marginally more nights for the U.S.; Armandroff stated that this would be helpful because the U.S. owes some nights to Florida related to the waived overhead for T-ReCS. The Ops WG supported a 30% correction of the aggregate time imbalances being applied to the shares for semester 2002B, with a quantization of 1 hour.

Puxley showed that much of the time in 2000QS and 2001A went to the Universities of Hawaii and Florida. Roche followed this by suggesting that Florida and U.H. have a significant impact on Gemini's scientific productivity. Roy then discussed the status of the progress that the Florida and Hawaii groups are making in publishing their Gemini data. As GMOS, NIRI and the other facility instruments come on line, this bias toward institutions providing visitor instruments should disappear. This time going to UH and UF for payback contributes to the fact that the US has received almost 70% of the time on Gemini thus far.

Richer raised the question of whether visitor instrument data is archived. Gemini is storing data in a form that could be archived. It is much more effort to archive data from a visitor instrument than for data from facility instruments. Gemini is concentrating on moving beyond visitor instruments.

The 2001B time accounting is in progress. Puxley & Roy showed an interim execution summary for 2001B. On Gemini North, Hokupaa/QUIRC was reasonably successful (30 nights + 8 payback). GMOS data were taken on part of or all of 19 nights (starting 8 November). Much use of NIRI was planned, but it has not been used for any science observations yet. NIRI is currently in the best condition as it has ever been, and several of its modes have been commissioned. However, the unavailability of NIRI has really distorted the planned program execution for 2001B. Partner balance is likely going to be affected.

Roy described how public outreach images are being obtained. The time required to obtain images for this purpose is allocated to DD time. The Gemini Board supports using DD time for PR purposes. If such images can be obtained from approved science

programs, it reduces the amount of time needed for this purpose. Roy asked for help from the NPOs in identifying images from science programs that would be useful for public outreach.

The time lost in 2001B due to telescope failures has dropped markedly from 2001A (to 7.3% on GN). Time lost to GMOS problems was pleasingly low.

The CIRPASS run for engineering at the end of January was cancelled, due to very low demand from the partner TACs. This time will become NIRI commissioning and queue.

Gemini results are being submitted for publication in The Astronomical Journal and Astrophysical Journal (see astro-ph). These are based on Hokupaa/QIRC and Oscir. Roy highlighted the Liu et al. result on the brown dwarf desert, which received coverage in major newspapers (including the New York Times). Also, a paper by Close et al. on a binary brown dwarf pair was described. In addition, several OSCIR papers have been published or are in press. A Web page listing Gemini-based publications will appear on the Gemini Web site soon.

Armandroff asked about the need for pre-imaging for GMOS and whether accurate coordinates (and the images they derive from) will be an adequate substitute at some point. Puxley replied that this is a longer-term goal. Roy and Puxley stated that the GMOS Instrument Scientist wants all programs to have pre-imaging in 2002A. Armandroff offered USGP help in working on other images/coordinates becoming acceptable input for GMOS multi-object spectroscopy.

Puxley then described Gemini South in 2001B. The Flamingos time was reduced due to the shipping damage and time it took to repair it. Phoenix was successfully commissioned (Richer noted the beautiful Phoenix spectra that were displayed on the USGP poster at the Washington AAS meeting). Little OSCIR and Flamingos payback time has been used, so a debt of about 10 nights has accrued. The top band of Flamingos and OSCIR programs almost all received data; all AcqCam programs received some data.

Puxley showed some lovely images with the ABU camera, with FWHM = 0.2 arcsec, and Flamingos. The median Flamingos image FWHM = 0.37 arcsec in J. Roche asked about the AcqCam, and Puxley reported that it is going well and that programs have been triggered by the PIs. It was suggested that AcqCam be offered on Gemini North as well. Puxley would like one more semester in the south before expanding this to Gemini North.

The OpsWG noted the Overall Summary of Gemini/NIRSPEC Observing (by Geballe & Takamiya). Roche pointed out that significant time investment by Geballe & Takamiya and others in the NIRSPEC program should be remembered when considering implementation of programs like this in the future.

Next, the GSC report and the Commissioning Review Committee report were discussed. In general, the committee supported the development and measurement of clear metrics and milestones. Armandroff asked about recommendation 4 of the Commissioning

Review Committee whereby all observing is in the queue mode. He asked about how long this recommendation would be in place and wondered about the balance between the extra effort required by Gemini to support queue vs vs. the additional flexibility gained. Roy informed the committee that instruments like GMOS currently have very primitive user interfaces because the high-level software is not ready. Thus, Gemini staff are currently doing the full commanding of the instruments, and therefore the visiting observers would only be useful to do data examination and some reduction. In fact, for the VLT queue, ESO staff do all the instrument commanding. The OpsWG discussed the importance of interaction with the proposers, which Gemini is doing. PIs need to see data the next day (perhaps 2 or 3 will do) to have timely input into the program execution. Remote eavesdropping presents opportunities to get more PI feedback and PI reactive decision-making.

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2002A Proposal Process

The Call for Proposals advertised: Gemini North 90 nights (50% science), Gemini South 72 nights (40% science). Then, the Gemini Board dropped the science percentages to 40% and 30% on Gemini North and South, respectively. The total number of proposals and science time requested increased by approximately 30% from the previous semester. In terms of the 2002A proposal packages from the NPOs, Puxley reported that there were not any real problems. The ITAC process was straightforward and robust.

Puxley reported that the Queue was under-filled in the poorer conditions and over-filled in the best conditions. He identified the U.K. as the worst offender and encouraged the NPOs to balance their requests over all conditions. CIRPASS failed the 16-night minimum by a wide amount, but all the other instruments offered exceeded the minimum.

J.R. Roy raised the issue that some proposals were forwarded by some NPOs that required filters that we do not have and/or required nod and shuffle charge shuffling (which is not currently implemented). The NPOs need to watch for issues like these.

J.R. Roy highlighted the fact that there is a very short time between when time is announced and when Phase II is due so that the Queue can be built. There are a number of options to address this. One simple "band aid" is to schedule classical observing or engineering or commissioning at the start of the semester, though this may not always be possible. Another possibility is to move forward the deadline for submission from the NTACs to Gemini by about a week. However, the NPOs mostly felt that this would not be possible. The final option discussed was to move forward the start date of each semester by one month.

Action Item #2: NPOs to consult their communities on moving the start of semesters one month later (with the same proposal deadline).

Partner Perspectives

U.S.

The proposal process for 2002A ran fairly smoothly in the U.S. NOAO received 113 proposals for time on Gemini during Semester 2002A. Nights requested were 143.6 for Gemini North and 80 for Gemini South, with oversubscription factors of 5.5 and 5.0, respectively. On Gemini North, GMOS was the most popular instrument among U.S. proposers (37 proposals), followed by NIRI (27 proposals), then Hukupaa (7 proposals), and CIRPASS (2 proposals). For Gemini South, Phoenix was the most requested capability (20 proposals), followed by T-ReCS (17 proposals), then Flamingos (4 proposals), and AcqCam (3 proposals). For 2002A, proposers had the option of using either the NOAO proposal form (also used to apply for time at KPNO and CTIO, and community-access time at the MMT and HET) or the Gemini Phase I Tool (PIT). We received 11 proposals, 10% of the total, with the PIT.

UK:

Canada:

The process ran fairly smoothly in Canada for 2002A with no major problems. Very few complaints about PIT and the TAC liked the new HTML formatted output. TAC would still like some way of enforcing page, or word, limits for the proposals. We discovered a process for producing formatted Word documents from the PIT output. First, the PostScript figures were converted to JPEG format. Then the HTML output from PIT was read into Word. The figures were then inserted and sized accordingly. Finally, some formatting was performed such as starting the scientific justification on a new page.

Canada received a total of 40 proposals, 27 for GN and 13 for GS. The oversubscription, using the initial time allocation, was 3.9 for GN, 1.9 for GS and an overall oversubscription of 3.0. GMOS, as expected was the most popular instrument with 16 proposals. There was strong support for facility instruments with 31/40 proposals for the three facility proposals offered for 2002A.

Chile:

Australia:

(1)The overall process

Highly encouraging advancement up the 'learning curve' by all parties involved (applicants, NGO staff, GPS, NTAC members):

- Total number of proposals received almost doubled, with 12 proposals for Gem-N (and a very strong demand for GMOS - 8/12 proposals) and 6 for Gem-S.
- Healthy oversubscription factor of 2.35 for Gem-N; the factor of only 1.04 for Gem-S, however, was disappointing (but most likely attributable to the very limited availability of those instruments that were offered).
- Applications received from all the major astronomical institutions within Australia, so now starting to see interest in Gemini spread across the whole community and Gemini `workshops', run by the Project Scientist to drum up interest, pay off.
- Multi-partner proposals were common, with 8 (44%) of the 18 proposals also involving requests to other NTACs in the Gemini partnership.
- Technical assessment process went smoothly with assessors clearly becoming more familiar with the instruments and confident in using the ITCs; only hiccup was misunderstanding over there being no obligation for multi-partner collaborations to be submitted as multi-partner proposals.
- Only 4 HelpDesk queries were received in the lead-up to the proposal deadline; 2 were resolved at the tier 1 level and the other 2 were elevated and resolved at the tier 2 level...all within 48 hrs! The latter two queries were from technical assessors who required clarification of the output from the ITCs for their instruments. The speed with which these tier 2 queries were handled and the clear-cut way in which they were resolved was most impressive.
- A small number (2-3) e-mail enquiries were sent directly to the Project Scientist who dealt with them directly.
- Vast improvement in the NTAC process, with the committee being much more confident and better informed in their consideration and ranking of proposals, and having a much better grasp of the technical and allocation issues. The overall quality of proposals was also considerably higher than on previous occasions.

(2)The PIT:

This continued to be the main problem area in this round, with new difficulties encountered and a long-standing one still remaining unresolved. The two new problems were:

- Lengthy delays in getting the AAO's backend code for 02A proposal receipt working, due to XML Perl module incompatibilities (between those used at the AAO as those used at Gemini). This consumed a lot of effort both at the AAO (~1 person-week) and at Gemini (Colin Aspin's time).
- Failure of the PIT installed at USydney to submit proposals to the AAO. This occurred `opaquely' in that users at Sydney University were unaware of the problem (being first-time users of the PIT, they were unaware that no news is bad news in this case), and it was only noticed at the NGO when their

proposals were not forwarded from the AAO. This problem remains unresolved.

In addition, a solution to the problem of the firewall restrictions at Swinburne University, which also prevents them from submitting proposals, has yet to be found. [Both the USydney and Swinburne problems may have the same origin and relate to the use of a proxy server.]

On a positive note, the new and more compact format of the html version of the PIT form was received favorably by the NTAC, and with the exception of one applicant, feedback on using the PIT was generally positive.

Argentina:

The proposal preparation and submission ran smoothly in general. Our office received 12 proposals for semester 2002A, leading to an oversubscription near 2.0. The proposals were for NIRI, Hokupa'a, GMOS and Flamingos.

In general people found no problems in using the PIT. Submission is via e-mail. A few questions were posed to the office members.

We were not able to add NTAC's comments on the proposal files; no written comments from the NTAC were available.

The technical feasibility of each proposal was analysed by an astronomer not belonging to the NTAC. Then, having this report, the NTAC analysed the scientific merit of the proposed observations.

Brazil:

For semester 2002A the Brazilian NGO received 18 observing time requests. This is a 50% increase with respect to the previous semester. The increase is due to the availability of GMOS and to the re-submission of NIRI requests that could not be realized during 2001A. The submission process itself was rather smooth without the problems encountered in previous semesters (PIT, ITCs). However, it proved difficult to convince the applicants to obey some formality requested by the national TAC aimed at facilitating the evaluation of the proposals.

Joint Proposals

Puxley then made a brief presentation on joint proposals originating from multiple NTACs. He found that about 1/9 of joint proposals suffer serious double or multiple jeopardy.

User Support Performance and Help Desk

Puxley presented several analytical histograms relating to the Help Desk. The percent of questions being resolved in less than 2 days has increased, which is positive. The number of HelpDesk users is increasing steadily. Puxley asked all to think of metrics for HelpDesk performance for the next Operations Working Group meeting.

Action Item #3: NPOs to think of HelpDesk metrics for the next OpsWG meeting in August.

High-Level Software

A public release of the Observing Tool occurred in October 2001. A subsequent internal release has occurred within Gemini. The next full release, which will support T-ReCS, is planned for May or June. There is the possibility to change observing conditions using the Observing Tool, but Gemini has a process for detecting, screening, and approving or disapproving such changes.

A new PIT release is planned before the start of the 2002B proposal preparation season. The new PIT release does not address the feedback received from the PIT questionnaire.

There was a questionnaire on the Observing Tool sent to 32 individuals (most were GMOS & NIRI PIs). None had trouble installing the OT. One problem area identified was trouble navigating the help pages. A tutorial is needed (high priority). A number of areas were identified that need further attention, such as cutting and pasting. It is important that questions about the OT be sent to the Help Desk.

Instrumentation Update

Doug Simons gave an instrumentation status update. NIRI is behaving fine and is ready for science verification, and then 2002A/B science operations. There are a number of modest technical issues, including the lack of a Users Manual, and the need of Shack/Hartman prism for use with Altair. Doug Simons is in the process of drafting a letter of acceptance for NIRI.

GMOS-North is working well and performing queue science observations. Cryocoolers are being retrofitted to GMOS-North. The GMOS ADC will be delivered in approximately 3 months. Gemini is considering a nod-and-shuffle implementation for GMOS. New filters and gratings have been ordered. The GMOS CCD retrofit has been postponed until the MBE devices become available.

Altair is expected to arrive in Hilo around 1 August, with first light expected in September. Integration and commissioning plans are being developed.

Michelle is operational on UKIRT now. It is scheduled to transition to Gemini in October. Gemini has purchased a science-grade detector from Raytheon; ATC and JAC have agreed to provide technical support. Commissioning is targeted for late 2002B.

GPOL has passed its acceptance test with a minor "punch list" and will be shipped to Gemini North in February.

Hokupa`a is having its final run in 2002A. It will be put into hibernation pending Altair's successful commissioning. Work is proceeding on an arrangement with UH to build Hokupa`a-85 South. Mark Chun joins the UH staff on February 1 and will lead development of Hokupa`a-85 South.

As noted above, CIRPASS failed the 16-night minimum by a wide amount, and thus it will not be offered in 2002A. There is a general concern that our community may not be adequately aware of or interested in IFU science. CIRPASS Demo Science will be dependent on a compelling case being made to and approved by the GSC during its April 2002 meeting.

T-ReCS: The T-ReCS engineering effort has centered on fixing a flexure issue (highly repeatable). Recent reports from the Team indicate that retrofitting a brace has solved this flexure. The science detector noise is about a factor of 2 out of specification. It is possible that T-ReCS will undergo acceptance testing in February.

GMOS-South is slipping some due to delays in shipping components from Canada to the U.K. The slip is perhaps 2 months.

bHROS is in the integration phase at UCL. The bHROS detectors need rebonding at Marconi. Also, some camera lens material is late. Delivery in Chile will likely occur in Q3 or Q4 of this year. The Cerro Pachon 'pier lab' is being prepared.

GNIRS integration is ongoing in Tucson. The OIWFS has been successfully integrated into the system. The first cold test is planned for Q2. NOAO is forecasting GNIRS delivery in Chile in October although Simons considers this very optimistic.

Phoenix is on the telescope and ready for science. Two problems were identified during commissioning, which need to be addressed: a problem with one cold head and some flexure around the slit region. Both issues can be worked around, and NOAO is planning to send a technician to address these in April.

On Flamingos, the question arose of whether Flamingos is ready for MOS use. There were problems using Flamingos for spectroscopy when it was at Gemini South. The problems include: varying thermal background on the detector due to lack of temperature control (particularly as the orientation of the instrument changes) and baffling problems. A punch list has been prepared. The Ops Working Group is very interested to learn of progress toward Flamingos spectroscopy. Simons plans a trip to Florida to pursue this and other issues. There is a possibility that Flamingos may not work as a spectrograph. The OpsWG should consider whether it should be offered by Gemini should offer it after 2002B if this is the case.

Gemini Science Archive

Colin Aspin was appointed as the Gemini Archive Scientist within Gemini. A counterpart scientist must be appointed at CADC/HIA (under discussion). The review committee report has been sent to CADC/HIA. A reply proposal from CADC/HIA is the next step. A discussion of network bandwidth between Hawaii and the partner countries was undertaken.

Action Item #4: Gemini to analyze network bandwidth realized to the partner countries from Hawaii and to determine the reasons why this may be limited.

Time Exchange with Other Facilities

Both Keck and ESO have expressed an interest in time exchange. The goal is avoiding the unnecessary duplication of instruments. Specific suggestions include Michelle and GMOS IFU time in exchange for Keck HIRES and ESO UVES. For ESO, the exchange would be of queue observations, with the balance occurring over a longish period of time. For Keck, the exchange would be of fixed blocks of nights.

The TACs to be used are an issue. ESO would like the Gemini proposals to go to the ESO OPC. Keck would like their proposals to Gemini to be judged by the Keck TAC. There is no obvious winner about how to arrange the review on the Gemini side (ITAC vs. National TACs vs. new TAC to be created for this purpose).

Armandroff suggested the following for the ESO situation:

- run the ESO-country Gemini proposals through the NOAO TAC (or some other large partner TAC) to get a relative grading;
- have ITAC select from the ranked list to put on Gemini in match to ESO list of selected Gemini proposals.

For the Keck situation, Da Costa said that each of the Gemini-community Keck proposals could go to the appropriate NTAC, then have the ITAC perform the merge.

Some concerns by the Ops Working Group included:

- 2003A is quite early in the life of Michelle, and it may still be unreliable. 2003B seems safer.
- There is concern that the new processes and functions not be so involved that it represents substantial new demand on resources.
- Open shutter time may be a disadvantageous metric for Michelle.

2002B Preparations

Puxley showed Gemini's proposed plans for 2002B. On Gemini North, 50% of the time is available for science use, with 35% on Gemini South. There was discussion of the debt to the University of Florida (at around 16 nights currently). The Ops Working Group

recommended trying to pay off the Florida debt by 2003A. A definitive instrument plan is needed by February 23, and ITAC meets on June 13.

Resolution #4: Gemini should attempt to clear out the OSCIR/Flamingos payback owed by the end of semester 2003A.

On Gemini North, only the two facility instruments (NIRI & GMOS) will be offered. On Gemini South, the facility instruments are T-ReCS and AcqCam. As visitor instruments, Phoenix and Flamingos are planned. Simons will investigate Flamingos status, then we will have a Project Scientists telecon to discuss. Regarding Phoenix, concern was expressed about offering it only after November. After discussion, it was decided to advertise Flamingos through November and also to offer Phoenix from October 1 through the end of the semester. After seeing the demand and grades from the NTACs, Gemini would then schedule non-overlapping blocks of Phoenix and Flamingos. It was asserted that the communities are adequately used to science-driven instrument scheduling that this won't be disappointing. The level of payback to Florida was discussed again. The sense of the committee was to be aggressive with Florida payback up to 20 nights.

Resolution#5: Phoenix to be offered from October 1 onward and Flamingos between August-November. They will not be scheduled so they overlap, but the exact date of the changeover from Flamingos to Phoenix will be driven by scientific demand.

Resolution #6: The OpsWG supports the draft schedule presented by Gemini with modifications.

Next Meeting

There will be an Ops Working Group meeting on August 19, 2002 in Hilo. A pre-meeting telecon will occur on July 19. There will be a Project Scientists telecon on February 18. Dennis Crabtree is the new chair of the Ops Working Group.