SAAO DIRECTOR'S REPORT

SALT BOARD MEETING #37

May 2015

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1. FINANCIAL ISSUES

There are two issues of serious concern that the Board must address:

1) Two partners have indicated that they cannot meet their operations obligations going forward, and the operations budgets will have a shortfall of approximately 5%. The NRF has stated that they will not be able to cover their share of this shortfall. We urgently need to find funds, either from existing partners or by marketing time to outside parties.
2) The funding for projects is coming to an end, and either additional funds must be found or some key people will have to be laid off at the end of 2015. This will have profound negative impact on the ability of the telescope to continue at its current level of effectiveness, and will also badly damage the morale of the remaining staff.

The SALT budget has increased by 51% (in terms of Rands) from 2010/11 to 2015/16. This increase is due to several factors: a) NRF salary scales have increased by 52% over the same period, b) electricity costs have increased by 84%, c) other utilities have increased by 52%, and d) the value of the Rand (vs the US$) has decreased by 64%. Calculated in terms of constant US$, the SALT budget has *decreased* by 15% over this period. Comparison of major observatories is shown in the following table:

Observatory	ESO	Gemini	NOAO	CFHT	SALT
Financial Year	2013	2013	2012	2013	2013
Telescopes	4x 8-m	2x 8-m	2x 4-m	1x 4-m	1x 9-m
# of Sites	2	2	2	1	1
Annual Budget	$220 M	$36 M	$49 M	$7 M	$2.5 M

Clearly SALT is operating on a severely constrained budget compared to other observatories. The Board needs to grapple with the reality of these figures, in light of the partners' funding limitations. In order to continue to operate at its current level, SALT needs a budget that maintains the current number of staff, that funds the mandated salary increases and other local costs, and that retains its purchasing power in terms of international currencies.

2. SALT OPERATIONS

Following the decisions of the SALT Board made in November 2014, the management structure of SALT operations has been reorganized. Chris Coetzee has taken over responsibility for SALT operations, merging the former Technical Operations and Astronomy Operations divisions. Petri Vaisanen is now the Head of Astronomy Operations, supervising the day-to-day functioning of the astronomy staff and advising Chris on scientific matters. There is great synergy between Chris and Petri, and their energy is inspiring all the SALT staff. David Buckley ended his secondment to SALT effective 31 March 2015 and returned to his position at SAAO. David now has the title of SALT Scientist, and continues to devote 25% of his effort to SALT, working on developing global recognition of the success and effectiveness of the telescope.

SALT observations are becoming more routine. Most importantly, large amounts of quality scientific data are being produced and returned to users on a daily basis. The throughput of RSS has been improved dramatically, and the mechanical repairs and refurbishment have made it much more robust. Polarization modes will be recommissioned when the beamsplitter is returned to the telescope in the next few weeks. The mechanical mounting of the Fabry-Perot etalons has been improved and initial tests indicate that it is sufficiently stable to allow dual etalon operations to be commissioned. HRS has gone through some final equipment upgrades and is now operating routinely. We anticipate final HRS acceptance testing in the coming months. The SAMS sensors are installed on the inner seven mirror segments and are in operation every night. While SAMS testing is on-going, the system meets specification and successfully controls the mirror alignment. The SAMS team visited Fogale in February and have negotiated a new contract for the remainder of the project that will speed up the deliveries and will retain a larger portion of the payments until the end of the project.

Chris has set up a "dashboard" that reports key operational statistics on a daily, weekly, monthly, and semester basis. This is proving to be an effective tool in monitoring the performance of the entire SALT system and in motivating the technical and scientific staffs.

Darragh O'Donoghue and Petri Vaisanen are leading a project to optimize the use of the telescope. They have identified the major bottlenecks and have established a prioritized list of tasks to address them. The entire staff are engaged in this important program.

The new SAAO-SALT operations contract has been signed, and went into effect on 1 April 2015, with a duration of ten years.

Thabelo Makananise has been hired to fill the electronic technician position vacated by David de Bruyn. Thabelo has moved to Sutherland with his family and has started in the position.

3. SALT and SAAO

Nithaya Chetty and Ted Williams visited the Aryabhatta Research Institute of Observational Sciences in Nainital India and their new 3.6 m telescope in Devasthal, continuing the effort to strengthen Indo-South African cooperation. There is interest in additional Indian participation in SALT, both from ARIES and the Indian Institute of Astrophysics, which should be explored.

A high-level delegation of astronomers from China visited South Africa on March 16-21, with meetings in Cape Town followed by visits to SALT and the SKA. They are clearly interested in SALT, and have a national budget for purchasing time on international telescopes.

Two Thai astronomers visited the Office of Astronomy for Development in January, and we had very constructive discussions with them. David Buckley has remained in touch with them and provided information about SALT.

A group of students from Dartmouth College visited SAAO and SALT for an extended period in January and February, under the supervision of professors Brian Chaboyer and John Thorstensen. The students joined the NASSP summer school and also spent two weeks observing with SAAO telescopes, resulting in a DDT proposal for SALT observations that was carried out in late February, resulting in an ATEL. This is an excellent example of the synergy between SAAO and SALT, and a great foundation for other SALT partners to build similar programs upon.

Ramotholo Sefako and Petri Vaisanen are continuing the work to protect the Sutherland observing site within the context of the Astronomy Geographic Advantage act. Two night sky brightness monitors have been purchased and will soon be deployed at Sutherland and surrounding areas.

The South African SALT Task Team met at Sutherland on 19 March to review a number of issues, including the SALT risk register, funding and the prospect of new partners, increasing science productivity, and the SALT Science Conference. The structure of the task team is being reorganized.

The risk register can be an effective management tool, and Darragh O'Donoghue has taken responsibility for it and is leading the implementation of its recommendations. The continued support and committment of the Board and staff to carry this forward is important. A SALT business continuity plan will be implemented within the risk management program.

SAAO has decommissioned its two smallest telescopes in February, removing them from their domes and shipping them to new homes within South Africa as outreach and teaching telescopes. The domes are being refurbished and will host MeerLicht (support for MeerKAT radio array) and SAAO's new 1-m telescope, both coming later this year.

The South African Astronomy Strategy Plan for the coming decade is under final review by the Department of Science and Technology, and we expect the plan to be formally announced by the Minister at the Astronomy Town Hall Meeting that will be held at the end of June. On-going support for SALT and its integration into the national multi-wavelength astronomy strategy are expected to be important parts of the plan.

4. SAFETY and SECURITY

There was an accident during the removal of the SAAO 0.75-m telescope from its dome on February 4. While the telescope tube was being removed from its mount, the support holding the counterweight was dislodged from its socket in the floor, allowing the mount and counterweight to swing. One of the workers was struck by the support pole, and sustained cuts and a blow to the head and neck. He was taken first to the Sutherland clinic and then to the Worcester hospital for treatment. Fortunately, there were no severe injuries (broken bones, concussion, etc.) and he returned to normal work after a few days. ER24 was contacted at the time of the accident. They could not send a helicopter for evacuation, but did agree to send an ambulance. Once again, the ambulance never arrived, and all transportation was provided by SAAO and SALT staff in observatory or private vehicles. As a result of this second failure, we have decided to discontinue the contract with ER24, and are currently arranging another source of emergency medical support. SAAO has instituted a review and upgrading of all safety procedures in response to the deficiencies revealed by this incident. The support and expertise of SALT personnel is invaluable in this process.

There have been two burglary incidents, one at Cape Town and one at Sutherland. In neither incident was any SALT property stolen or damaged, but at Sutherland the SAAO video conferencing equipment was taken from the recreation center. This is being replaced, but has been an inconvenience for SALT meetings.