Director's response to ATUC Report – July 2012

ATUC recommendation	Director's response	Traffic light
Commendations and successes		
The ATUC congratulates the ATNF staff for their successful progress in many areas since the last meeting. Some highlights are: • The ASKAP telescope is moving toward completion. The committee notes the highly improved performance of the prototype Mark II phased-array feed (PAF) system and we strongly support the ATNF in seeking funds to construct the full set of 36 receivers based on the ADE design. • The Parkes telescope has had many improvements, with the goal of making it safe and reliable as a remotely operated facility (the Remote Access Parkes Telescope - RAPT). • Scientific research by the ATNF staff and visitors has made notable discoveries, and productivity as measured by publications based on ATNF data is at an all-time high. • The ATNF is in negotiations with external partners to arrange continued funding for observations using the Mopra telescope. If successful, this would prevent the closing of this important, world-class facility. • The Compact Array Broad-band (CABB) system continues to make progress toward completion, including implementation of spectrometer zoom bands. • The new wide-band C-X receivers have excellent performance over the range 4-10.8 GHz, and a new feed will be tested that may allow operation as high as 12.25 GHz. • The ATNF has begun a process of	Noted and thanks.	

planning for a new set of receivers for the Parkes telescope that will reduce operating costs. In the long term, the number of receiver changes can be greatly reduced by building wideband, high performance receivers based on the newest technology. The committee was excited to hear about many possibilities that are under consideration, with design studies underway. The committee was also impressed by the participation of the astrophysics staff in projecting future research needs.		
Recommendations and questions		
1. REMOTE OBSERVING AT PARKES AND NARRABRI		
a. The role of the "observer's friend" is no longer clearly defined; when is a local collaborator required, and what is the Observatory policy on service observing? How will new users of the telescopes be trained?	For Parkes, current practice is that a member of the local staff is assigned as the "friend" for each project, and this will continue, with a likely expansion to include Marsfield-based staff. For the ATCA, a "friend" can be requested by inexperienced teams, with usually a Marsfield-based staff member being assigned, and this practice will also continue. Local collaborators are not required. Service observing is not offered now, and there are no plans to introduce it. (The only exception is a form of service observing during ATCA "mm-swap" observations, see www.narrabri.atnf.csiro.au/observing/flexsched.html)	Green
b. The ATUC suggests that a two year refresher schedule for ATCA remote observers might be better than every year, at least after an observer has a few years of experience.	Remote observing requirements are under review and will be discussed with ATUC at the next meeting.	Green
c. The ATNF should develop a training process based at Marsfield, for new observers using Parkes remotely. A similar remote training process for Narrabri observers should be considered. New documentation and complete instructions will be needed for the RAPT system before it can be opened up to the broad user community.	This is indeed the plan. We currently envisage that Parkes observers will need to observe from Marsfield in order to qualify for remote observing from further afield, with training to be provided by Marsfield staff and/or Parkes staff via video-link. Documentation and complete instructions are currently in preparation. Introduction of Marsfield-based training for remote ATCA observers is under consideration.	Green
d. Remote observers using the ATCA need a Q&A checklist for fixing problems that come up during observing. A standard email with up-to-date links to important documentation should be sent to all observers a few weeks before their telescope time. Communication between successive observers is a	We acknowledge that the trouble-shooting documentation does not contain an answer to every known problem. However, observers are not expected to fix all problems that arise – they are expected to recognize problems (and notice when caobs, cacor, and assistance report problems!) and then contact the DA or local staff as appropriate. The important documentation is in reality the ATUG and the current issues page, and observers are	Green

critical part of observing. Remote observing must incorporate that process, perhaps using a designated staff member for continuity.	expected to be familiar with these. However, we will prepare several checklists to aid new observers. Communication between successive observers is important, and the ATCA (and Mopra) VNC sessions make use of a dedicated chat window to facilitate this. Parkes remote observing will also provide a similar capability. However, as remote observers are (by definition) experienced, we do not expect to have a designated staff member, or the DA, on hand for every handover at all hours of the day or night.	
e. For the next meeting, the ATUC would like a more detailed summary and timeline of the operations model for the Marsfield remote control centre.	This will be provided.	Green
2. REDUCTION AND ANALYSIS OF CABB DATA		
a. The committee recommends that techniques for measuring continuum source flux and spectral index, polarization calibration, and other difficult topics should be explored and tested. Users need good advice about how to use CASApy for CA data analysis. There is a need for better documentation on using either Miriad or CASApy for CABB data.	We intend to evaluate the use of CASApy for ATCA data analysis, and produce guidelines for its use. We will also investigate options for contributing ATCA-specific code to CASApy. However, the departure of Tim Cornwell for the SKA organization later this year will impact the start of this activity.	Yellow
3. NEW RECEIVERS FOR PARKES		
The opportunity to develop new receivers for Parkes is exciting for both technical innovation and increased scientific capability. The ATUC is happy to play a role in the selection of which projects should take priority by engaging the user community in the discussion. The ATNF staff have made an impressive list of potential future surveys, and the ATUC would like to expand this discussion to involve all interested users. In preparation for this science day, it would be helpful if a review of receiver developments at other large single-dish telescopes could be compiled by the ATNF staff.	We will compile a list of receiver developments at other large single dish telescopes in preparation for the science day	Green
At the "science day" we will need interim progress reports on these receiver options from the engineering staff. The committee recognizes that considerations of calibration, interference, and the financial and human resources required must be balanced with the various science applications in setting priorities for development.	An update on these receiver options will be provided at the science day.	Green
4. INTERIM PARKES RECEIVER CHANGE POLICY		

a. … the 10-50 receiver could be off the telescope for up to two months, without compromising most pulsar timing results, provided that the total observing time is not reduced, and that pulsar timing data can be taken using the multi-beam receiver during the period when the 10-50 is off the telescope. The ATUC recommends that the Observatory staff reconsider the possibilities of receiver changes, given this relaxation of the strict pulsar cadence requirement.	We thank ATUC for its review of the memo. We have also sent the memo to external experts for evaluation, and will take all the advice received into consideration when scheduling. In the coming semester (2012 October), other constraints limited the number of receivers that could be offered for LBA observations, while highly ranked single-dish proposals were scheduled with the receivers requested. The maximum gap between 10-50 cm observing for pulsar timing is 6 weeks in the 2012 October semester.	Green
b. An advertised receiver rotation schedule with all receivers available on a 12 month time scale would be a viable operations model for 2013-2015, based on input from users. For the VLBI requirement an exception to the rotation schedule may be needed. The TAC should be open to proposals for particular receivers that are NOT scheduled for the coming semester, to preserve flexibility for the proposers and for the scheduler. The rotation schedule should be given first consideration, but not be binding on the TAC or scheduler. Exceptions can be made in any semester based on proposal quality and pressure.	Overall we agree, however it is likely that not all receivers will be offered even on a 12-month rotation schedule. Nevertheless, it will remain possible to propose for any receiver and for exceptions to be made to the receiver schedule.	Yellow
c. The goal should be to allow observations at all Parkes frequencies for highly ranked proposals with at most a 1 year waiting time.	We agree with the goal but note that it may not be possible to achieve it under all circumstances (e.g. due to technical circumstances, or to low overall demand even where one or a few highly ranked proposals requests a given receiver).	Yellow
5. ASKAP SCIENCE		
a. The ATUC encourages the ASKAP team to focus on a science application that can demonstrate the power of the PAF design. There should be a track to early publication of results as soon as possible.	We are working with the science survey teams through ASKAP WG4b to solicit short test observations that will both verify the performance of the PAFs as well as showcase the technical niche that PAFs occupy. We are also working through test fields observed with the ATCA to produce high dynamic-range images of large complex fields near Fornax and Circinus. These will provide an early demonstration platform for ASKAP's PAFs. We are committed to speedy publication of the results.	Green
6. MOPRA TIME AVAILABLE TO THE MM-WAVE COMMUNITY		
a. If and when an agreement is concluded to allow continuing operations with the Mopra telescope, the ATNF should issue a clarification to the users on how access and scheduling will be handled. The	An agreement is nearing completion. For the first year of operation (starting October 2012) ATNF time will be allocated to LBA use and the completion of some existing large projects. We plan an open peer-reviewed process for ongoing use of ATNF time. Users will be advised how access and scheduling	Green

ATUC reaffirms its strong commitment to an open-skies policy on all telescopes operated by the ATNF, but we understand the need to accommodate partners who make substantial contributions to operations of a telescope.	will be handled.	
7. THE VLBA CONTRIBUTION		
a. The ATUC recommends that in future situations when new resources like the Australian VLBA time become available, an email should be sent to all users explaining the process.	We intend to continue alerting all relevant scientists to any similar opportunities (although none is planned at present). Communication methods include the ASA email list, the ATNF users database, and the ATNF webpage. The entire ATNF user database is not always appropriate as the majority are non-Australian users.	Green
8. DATA ARCHIVE ANNOTATIONS		
a. A suggestion has been made that the ATOA should include a link to the relevant publication that describes the observations, where possible.	While we agree this would be useful it would take significant effort and unfortunately it is not possible to achieve with current resources.	Red
9. NEXT ZOOM MODES		
a. Users have given convincing arguments in favour of giving priority to 16 MHz zoom modes over 4 MHz, when the 64 MHz zooms are finished.	There are no strong engineering arguments for favouring one or the other so, given the feeling of the community is to concentrate on 16 MHz functionality, CASS will focus its efforts there.	Green
10. VISUALISATION		
a. A recommendation for future visualisation options would be helpful.	We will initiate a program to investigate visualisation options.	Green
11. SCIENCE DAY		
a. The ATUC wishes to organise a science day to be held as part of our October 2012 meeting to discuss astrophysical drivers for future receivers. The specific goal of the day would be to gather input for prioritisation of the new receiver development, particularly to hear plans and concepts for large projects. It would also be important to get feedback on the interim receiver change schedule concept, perhaps in response to a straw-man schedule prepared by ATNF staff.	We are happy to host this meeting.	Green