

Director's response to ATUC Report – December 2013

ATUC Recommendation	Director's Response	Traffic Light
Commendations and successes		
<p>ATUC wishes to commend ATNF on scientific discoveries and technical advances that make the Observatory more productive and powerful for astronomical research. In particular, several points of welcome progress were discussed at the open session of the December 2013 ATUC meeting, including:</p> <ul style="list-style-type: none"> ● Winning a national Engineers Australia Engineering Award for PAF development ● PAF and multibeam design contracts for MPIfR and FAST ● Funding obtained, or in negotiation, to complete at least 32 and maybe 35 ADE PAF systems for ASKAP ● Great progress on the ASKAP telescope and data processing path, and the recent detection of HI absorption at significant redshift with three ASKAP baselines ● The success of remote observing for Parkes ● Parkes TPS and other hardware and software improvements ● Hosting the Australian ALMA workshops which are very important for the community ● Improvements made in ASKAP communications to the community ● CASDA archive planning ● Creation of ACES ● CSIRO board strategic priority for SKA ● Establishing principles for availability of CSIRO telescopes under any future co-funding arrangements 	<p>Noted and thanks</p>	

Recommendations and Discussion		
ASKAP		
<p>1. Plans for early science The ASKAP leadership in consultation with the user community and the survey science project teams has developed a strategic plan for early science with ASKAP. These observations are based on an array of 12 to 18 ADE PAFs, which will be available by early 2015. The Committee approves this process.</p>	Noted	
<p>2. Secondments to ACES ACES secondments program is an excellent idea that could be more widely advertised to university partners.</p>	We have now discussed with all Australian universities that have substantial roles in SSPs.	Green
<p>3. Clarification on decision where NCRIS2 MkII PAFs go (on BETA antennas?) It would be prudent for CASS to begin consideration of when to replace the MkI PAFs.</p>	A community workshop is planned for October 2014 to give input. A decision is anticipated by 31 March 2015.	Green
<p>4. Short Baselines ATUC encourages ATNF to consider installing MkII PAFs on current BETA antennas as early as possible during the deployment of PAFs 13-24 to add short baselines to the array.</p>	This will be considered early in the deployment, as discussed above.	Green
<p>5. CSIRO ASKAP Science Data Archive (CASDA) ATUC suggests that it would be instructive for the CASDA group to look at the requirements of those ASKAP projects that were not selected as one of the SSPs.</p>	We thank ATUC for this advice. CASDA is continuing to consult with the Science Reference Group and other individuals on archive requirements. The initial stage of requirements gathering is now almost complete and a Preliminary Design Review for the project will be held in March. We will also review some of the non-accepted proposals – in particular to see whether there are additional items to add to a list of ‘desirable’ criteria.	Green
ATCA		
<p>0. The CABB system There is still a need to complete the CABB spectrometer system as planned.</p>	CASS is committed to completing the 16 MHz mode of the CABB spectrometer but in light of the resources available, the time taken to deliver a mode and the priorities of CASS, we have decided to review whether to continue with the 4 MHz once the delivery of the 16 MHz mode is complete. This does not rule out the supply of a 4 MHz mode but that will be	Yellow

<p>1. Improved ATCA Duty Astronomer training documentation ATUC recommends that detailed checklists for both the CABB primary setup procedure (to include the various modes of observation) and resolution of common failures of the system (for example loss of a correlator block) would be very helpful for both on-site and remote observers.</p>	<p>considered along with other options that might equally use the same resources.</p> <p>A good amount of this documentation already exists as printed information in the "DA folder" at Narrabri, but it is a good suggestion to make this widely available in a more coherent manner. Work on this has started, and the next revision of the AT User Guide will include the trouble-shooting flowcharts that Robin has prepared.</p>	<p>Green</p>
<p>2. Offset of ATCA calibrators ATUC recommends that the ATCA calibrator data base be systematically checked for position inconsistencies.</p>	<p>It appears that some positions which had been updated in the calibrator database were inadvertently reverted to their original (now erroneous) positions. This is being investigated. A full cross-check of all positions in the database will be made against an VLBI astrometric database and the most recent VLA calibrator database, with discrepant positions being subject to further investigation.</p>	<p>Green</p>
<p>3. Dynamic Scheduling of mm observing with ATCA The ATUC would like to see the statistics on how much cm time was asked for in compact configurations. The ATUC recommends that the ATNF survey mm observers of the last 2 to 3 years to ascertain how much time is really lost. The ATNF should re-examine dynamic scheduling of mm observing.</p>	<p>The mm swap scheme devised by Bob Sault (see, e.g., links from the ATUC web page for meetings in 2004) offered some improvement for 3mm observing, but was limited by the number of cm observers requesting time in the compact ATCA configurations favoured by mm observers. The statistics requested by ATUC will be presented at the next meeting. It is already quite common, and quite sensible, for millimetre proposers to factor in a 30~50% contingency into their time requests. Although this is not explicitly discouraged at present, we can explicitly encourage it in the next call for proposals. Unfortunately, current resources do not allow us to implement dynamic scheduling in the short term but we will continue to evaluate this.</p>	<p>Green</p>
<p>4. ATCA / CABB fault reporting Users would like to see the ATCA 'current issues' webpage being utilised to communicate, in brief, a greater range of hardware (or other) problems identified by ATNF staff affecting observations. ATUC also recommends that a dedicated 'current issues' page be set up on the ATCA Forum.</p>	<p>The Current Issues page has traditionally been used to note recent changes and upgrades, and faults that are likely to persist for some time (e.g., weeks). These <i>are</i> updated regularly. Shorter-term issues are, we believe, better communicated directly with observers.</p> <p>However, there is certainly a place for an archive of issues that may have</p>	<p>Green</p>

	affected observations over given timeframes, as this would be a useful reference for people downloading archival data from ATOA. A web-page for this purpose will be established.	
Remote Observing/SOC		
<p>1. Initial training and qualification for remote observing (Parkes) The users committee recommends that ATNF enable qualification and re-qualification for observing be allowed by observers directly contacting Parkes staff from their home institutions.</p>	<p>We will continue to require first-time users of Parkes to travel to the SOC: we believe that first time users gain a lot from seeing the standard observing set-up at the SOC, and from having the opportunity to interact with operations, astro, and engineering staff in person. Experience indicates that users are much more likely to report things they are unsure of in person rather than, for example by submitting a Fault Report. Qualification in person also provides operations staff with a better chance to judge the capabilities of the observer: remote qualification is not guaranteed and is contingent upon operations staff assessing the observer to be competent.</p> <p>For similar reasons, we believe both the ATNF and users benefit from observers visiting annually to requalify. The participation of users in observing, including interactions with staff, is a critical part of the contribution that users make towards optimising productivity and impact from the ATNF telescopes.</p>	Red
<p>2. Qualification for remote observing (ATCA). The users committee recommends that remote training be offered to users at their home institutions.</p>	<p>As above, we strongly feel there are clear advantages to both the ATNF and observers from interactions in person, and so we do not plan to offer training to users at their home institutions.</p>	Red
<p>3. Feedback on user experience in remote observing and at the SOC</p> <p>ATUC was pleased to hear that the ATNF will be soliciting feedback on remote observations. ATUC looks forward to a summary of the findings of the survey at the next meeting.</p>	<p>The report on feedback from SOC users will be given at the next meeting.</p>	Green
<p>ATUC is proposing that the ATNF investigate two certification processes: one for observers who desire a more extensive training program, and one for experienced observers who still require safety training.</p>	<p>We are not planning to implement a separate process for re-qualification for the reasons already described above, where this suggestions was made for Parkes.</p>	Red

<p>ATUC propose a more extensive training program, provided at Marsfield SOC, which not only covers the safe remote operation of the telescope concerned but should also include a component directly related to the proposed observing program and be conducted with a suitably qualified mentor.</p>	<p>We have adopted this suggestion for Parkes. CASS will, from 5 May, be rostering a Parkes Support Astronomer to be on duty in the SOC during business hours, to provide (with Parkes-based staff) assistance and training to Parkes remote observers and assist in the assessment of observers' capabilities. As discussed, ATCA initial training and qualification is still done at Narrabri, but this recommendation will be considered if/when this function becomes available at the SOC.</p>	<p>Green</p>
<p>Parkes</p>		
<p>1. Receivers Wideband feed testing and characterisation has the highest priority for the next 9 to 12 months.</p> <p>The ATUC recommends that CASS should give a high priority to advancing the designs of all three receivers in parallel for the next 12 months, with an objective of having complete designs for a suite of UW receivers, either in a single dewar or multiple dewars on a common turret, by late 2014.</p>	<p>CASS recognises the need to retire the risks of the 700 MHz-4 GHz receiver and the feed is one of those risks. CASS has a program underway already to examine the feasibility of the feed and will continue this investigation.</p> <p>CASS recognises the relevance of all three proposed receiver systems and has stated its support for them. It understands that pursuing any of these receivers requires consideration of the others in order to meet operational requirements of the Parkes radio telescope. As part of its feasibility study for the UWB-low receiver CASS will engage feed expertise to examine feeds for the UWB- high. The design of a cryostat for either UWB-low or high will take into account the other's need to occupy the rotator space adjacent to the first. Establishing the nature of the RFI environment at Parkes is vital to the design of the UWB-low and the determination of the suitability and/or modification of an ADE PAF for use on Parkes. As such many of the activities for any one receiver overlap with those needed for another. Resources are likely to dictate that only one receiver can be 'made' at once but there is a chance there will be a surfeit of resources to look at issues with the other two that approach the ideal stated here. CASS's feeling at the moment is that complete designs will be difficult to achieve but that significant strides toward that ideal can be made.</p>	<p>Green</p> <p>Yellow</p>

<p>If that should be necessary, the Committee notes that the user community will need warning at least two semesters before the change.</p>	<p>Noted</p>	
<p>2. Establish Parkes online forum We recommend a system similar to the ATCA users forum.</p>	<p>The ATCA forum is working well, in particular providing a forum for discussion of data reduction with myriad, which is used by almost all ATCA users. A Parkes forum would probably be more diverse, with a number of different data reduction packages in use, but there are of course some telescope issues that affect all observers. We will establish a Parkes forum and trial its effectiveness.</p>	<p>Green</p>
<p>3. Contact procedures during Parkes remote observations If this information was included in the PORTAL, for example, a flow chart describing who observers should contact (and at what hours) would be useful.</p>	<p>We will follow the suggestion of preparing a flow chart describing a flow chart to make clear to observers who they should contact and when.</p>	<p>Green</p>
<p>4. Minor changes to the way VNC observing works Remote observers have requested a change to the size of the VNC session windows as the current size is often too large to fit on laptops and small desktop monitors. ATUC recommends that the vnc windows are re-sized to enable easier use on smaller screened computers. Users have also noted that the “beep” on chat portal is quiet (particularly compared to FROG noises) and can be missed. Users recommend the volume be increased.</p>	<p>The SOC and observatories have been set up with large screens in order to maximise the amount of observing and monitoring information that can be displayed, and we are reluctant to "penalise" those observers by reducing the VNC window size to suit remote observers using smaller screens. That said, we acknowledge the Parkes VNC windows were optimised to full HD size and the scroll bars lay frustratingly just off-screen for many users, and so the Parkes VNC windows have been slightly reduced in size so that they do fit better on many screens.</p> <p>The "beep" on the PORTAL chat was selected to be audible but not overly obtrusive for all PORTAL users. We will endeavour to find a more audible alternative.</p>	<p>Yellow</p>
<p>5. Notes on the RFI environment at Parkes The users of the Parkes facility would appreciate an update on the RFI monitoring process currently in operation.</p>	<p>The ATNF web-based RFI reporting tool provides a means to collecting RFI information. The collected information is used for RFI/EMC analysis – in particular, ATNF staff use the reports for the initial source identification and analysis (is the source internal, external, frequency, bandwidth, magnitude). The collected information is typically more useful, as individual observers do not always provide enough detail for ATNF staff to effect identification and (where possible)</p>	<p>Green</p>

	<p>remedy and/or countermeasures. In particular, the L-band is becoming crowded, because of new radio navigation systems being implemented in the red-shifted HI bands below 1400 MHz. The collected information will be complemented by permanent spectrum monitoring, once the ATNF RFI monitoring network of EB-500 radio monitoring receivers is operational.</p> <p>As previously reported to ATUC, we have acquired three Rohde & Schwarz EB-500 radio-monitoring receivers, for the purposes of remotely operable RFI monitoring at each of the sites (MRO, Parkes and ATCA). For the longer term, the plan is to operate these units in data collection mode – archiving emissions to log files, which can be mined for RFI time-series data. However, at this time some issues remain to be resolved, including potential RFI generated by antenna rotators and the test equipment itself (eg. local oscillator radiation) and practical issues such as antenna vs equipment location. For the interim, an EB-500 unit at ATCA is operational in test mode and the permanent installation at Parkes is pending further planning & resources.</p>	
ASTRO		
<p>1. Feedback ATUC feels that the current time assignment process balances the needs of large programmes to have reasonable certainty in their time allocation with their accountability to the observatory.</p> <p>2. Bolton Symposium ATUC encourages that such changes in policy be communicated to users.</p>	<p>Noted. We have no plans to change the current process</p> <p>Noted</p>	Green
COMPUTING		
<p>1. Specialised software requirements on ATNF computers ATUC recommends that a formal channel for requesting such installations be set up, such as an IT request form on the ATNF webpage.</p>	<p>We will establish a formal channel to capture this type of request, with requests assessed on a case by case basis depending on the effort required and technological constraints (for example security). A solution will be communicated to the user community as soon as practical and an update on this matter will be communicated in the next ATUC meeting. We note that we cannot support all possible packages users</p>	Green

	may request.	
<p>2. Strategy of downloading very large files from ATOA</p> <p>ATUC recommends that the ATOA system be updated to either allow individual files to be downloaded as a batch job or that the transfer of a single large file be easily resumed.</p>	<p>We understand that it is frustrating for users at present when downloading large data volumes from the ATOA across slow networks. Finding a resolution to this is the highest priority upgrade for the ATOA. We will explore options for improving such data downloads – including better handling of interrupted services, and will provide an update to ATUC at the next meeting.</p>	Yellow
MOPRA		
<p>ATUC suggests a report into the oversubscription rate of the telescope for ATNF general users would be useful after the next Time Allocation Committee meeting in February.</p>	<p>The requested oversubscription factor for 2014APR will be reported at the next ATUC meeting.</p>	Green