

ANASAC Report From September, 25, 2009 Face-to-Face Meeting held at NRAO Charlottesville

1. Commissioning Status

*Apropos ASAC Charge "Continue to review the progress and schedule of the AIV/CSV process, especially with respect to readiness for Early Science. The Board would appreciate a report on the status of plans for Commissioning and Science Verification and for obtaining "ALMA Public Images", and commentary on the outcome of the Review of CSV plans which will take place in September. "*

We find the current release schedule for the Observing Tool worrisome. It will soon be time to engage the community in Early Science proposals, and tutorials that include use of the Observing Tool need to commence soon. Strong management of deliverables that will be seen by the user community will help to build support and use of ALMA in the wider North American astronomical community. ANASAC encourages the NRAO director to push for expedited delivery of this software through the project and ALMA board. We hope that early versions of the OT will be released to the ARCs as soon as possible and will allow the NAASC to being to prepare for user tutorials. We look forward to updates on the progress of the OT at our regular telecoms.

Site delays at the OSF, and the control room in particular, make it more difficult to carry out essential commissioning activities, to test and use archive software, keep personnel happy, and engage in multiple commissioning activities at once. We strongly urge that the priority for infrastructure completion at the OSF be motivated by science needs. We will try to help keep an eye on progress and urge the NAASC to do so as well.

2. NAASC Operations

*Apropos ASAC Charge: "Report on the readiness of the ARC's to support early science proposals and the of the ALMA helpdesk, and on the plans to reach out to the communities to encourage early science proposals, and to inform the communities about realistic capabilities and performance."*

Thank you for ably hosting our ANASAC meeting. Going forward, we hope to be updated on developments every two months by the NAASC via ANASAC telecoms.

We commend the NAASC for the success of their recent science meeting. This series of meetings has been a highlight of the outreach to the community. We think that the NAASC should hold a science meeting next year, either a small one in June or large one in September. While we know that the NAASC will have a very busy year, we also think its leadership on a workshop is essential. A topic of the next ANASAC telecon should be the topic for such a workshop and who within the ANASAC community could help with the organization. In addition, such a workshop should be an opportunity to hold a tutorial on ALMA proposal preparation and CASA.

We encourage the NAASC to take a proactive role in offering tutorials at the AAS meeting and other topical meetings such as the Florida star formation meeting next April. We look forward to more information about coordination of tutorials and user support within the NAASC.

We will take the advertising of the NAASC and JAO positions to our home institutions and encourage good candidates to apply. It appears that progress is being made on hiring for the JAO, but we were concerned to hear about the few North Americans who are applying for commissioning positions. We hope that able millimeter scientists will be hired into the NAASC.

We are happy to provide some preparatory review of the NAASC NSF proposal prior as soon as a draft is available. Keep up the good work!

### 3. Proposal Review

#### a) Peer Review Timing

In past discussions of the ANASAC, there has been no clear consensus on the number of Calls for Proposals per year that is reasonable. A majority view of our committee is that to have more than one review per year is a tremendous burden on the community, in terms of both writing, and especially reviewing, proposals.

#### b) Director's Discretionary Time

The ANASAC endorses the principle of ownership of the observing time by the Executives and believes the North American Director should be responsible for ensuring that the interests of the NA community are upheld during time allocation. There was consensus that there should be Director's Discretionary Time (DDT) to enable fast observatory response to new and immediate scientific needs. It was agreed upon that observations made under DDT be available to the community without proprietary period.

The majority opinion of the ANASAC was that some amount of observing time should be held by the North American Director as DDT to use at his discretion. A consensus amount was something like 3% (not as high as 5%, probably more than 1%) of the NA time, starting as soon as Early Science commences. The amount was chosen to allow the Director to put a substantial number of hours into an important project and have flexibility to negotiate with the other Directors. The rationale for this opinion was that the NA Director could enable science that is a) high-risk and therefore unlikely to be successful during ordinary peer review or b) deemed particularly important to the NA community.

A minority opinion held that DDT time should be contributed by all partners and held by the Directors' Council at the Observatory level. This would ensure that cross-partner, international collaborations could easily apply for time, that public data from any DDT

proposal would benefit NA astronomers, and remove the possibility of undue burden on NA DDT time under the “open skies” policy.

#### c) PRC Details

The ANASAC is very interested in the details of the PRC process, most of which have yet to be fully fleshed out. While the framework discussed by Fred Lo seems reasonable, there are sure to be many details that will impact NA observers. We highlight two below, but believe many more will surface.

**Duplications:** We would like further information on how duplications will be defined and detected, and whether they will be flagged during technical review or left to proposers to flag and explain. We are also interested in how duplications will be resolved during queue assembly, particularly if Chile does not join the international review process.

**Queue Filling:** We are also concerned that complications will arise in queue formation under the concept that projects will be scheduled for each region until the regional share is filled. This assumes that each region wants the same distribution of weather conditions (bands). Otherwise, it is possible in this system for one region to dominate the good weather conditions.

#### 4. ALMA Development Priorities

*Apropos ANASAC Charge "what does ANASAC consider, in prioritized order of scientific merit to be the priorities for future ALMA development?"*

The ANASAC made another attempt to prioritize ALMA Development Projects. We generated short and long-term prioritizations for two kinds of developments: those that improve efficiency and those that enable new phase space of discovery. In addition, we tried to note the science area most helped by the development item.

Improvements in efficiency, equivalent to adding antennas, will benefit all science. Exciting new discoveries may arise from new capabilities. Both kinds of development must be pursued. See Table 1.

These rough prioritizations obviously reflect the interests and scientific programs of those present as well as the various possibilities we were presented from Crystal Brogan, Al Wootten, and the ASAC. While they do not form a unique set and while they should be reordered depending on project progress and additional community input, we think they make a compelling and plausible list that could be included in the NSF proposal. We fully expect to read and review the NSF proposal in the coming months and help make its scientific case as strongly as possible.

Table 1: Recommended developments, very roughly prioritized by category

<b>Immediate</b>	<b>Preparatory</b>
<i>Efficiency</i>	
Side band separators for Band 9 [ALL]	Detector Development, foundries[All]
Bandpass Equalizers, if necessary [ALL]	Data Rate Expansion
Attenuators, if necessary [Disks]	Side band separators Band 10
Expand Band 6 bandwidth [ISM]	
<i>New Capabilities</i>	
Band 5 [ExGal, HighZ, Water Observ]	Band 1 or Band 2 (more community and technical input needed)
Subarrays [transients, comets, planets]	Band 11
Solar fore-optics	
VLBI [Galactic Center]	