



RESPONSE TO ASAC February 2005 MEETING REPORT

Date: 26 May 2005
From: ALMA Board
To: ALMA Scientific Advisory Committee
Subject: Board response to ASAC report of 24-25 February 2005 meeting

PREFACE: The thoughtful and thorough response by the ALMA Scientific Advisory Committee (ASAC) to the first charge for their February meeting provided the Board with deeply appreciated, timely advice, which played key roles in discussions at our April, 2005 meeting in Pasadena. The Board learned a valuable lesson from this experience, in that the primary charge was more specific and concrete than a related one in September, 2004. As well, the JAO provided ASAC with a great deal of relevant information concerning rebaselining issues during their February meeting. Those elements, in combination with ASAC's diligence, enabled ASAC to rise admirably to the challenge of discussing scientific priorities clearly. ASAC's response to realistic scenarios within a cost constrained project garnered credibility. We thank ASAC for their effective work, and we particularly thank the Chair, Dr. Jean Turner, for her clear presentation to the Board in Pasadena.

The Board's response to ASAC's report follow.

Charge 1: Examine the status of ALMA re-baselining, including rescope options identified to date, and comment upon the impacts that the proposed changes will have on ALMA's scientific capability.

The Board agrees with ASAC's concerns regarding the importance of the Project making a priority of the cross calibration between the ACA and ALMA Baseline arrays.

ASAC's clear statements and priorities (in section 3.1) regarding rescoping options identified to date provided excellent guidance to the Board's discussions, and all are being actively explored by the Project. Equally, the identification of unacceptable rescope options was very influential. The Board has requested that the Project maintain for its current planning both polarizations, a minimum of two sub-arrays, and both IFs. The Board is committed to consulting ASAC regarding rescoping proposals, including any that might reduce computing. We welcome ASAC's interests in the computing aspects of ALMA, and understand that ASAC may be requesting reports from that IPT at upcoming meetings.

ASAC's analysis, referred to Level 1 science requirements, of the impact of fewer antennas was particularly helpful, including highlighting of the aspects that would be

most affected, e.g., by lower sensitivity and image fidelity, as well as longer observing times.

The Board acknowledges that “the ASAC strongly urges the ALMA Project to consider any methods possible to eventually attain the original goal of 60 operating antennas.” We assure ASAC that procurement contracts are being structured so as not to preclude that goal should the budget permit. We further understand that, “While a smaller number of antennas, such as 50, would not necessarily preclude the primary goals, these groundbreaking programs would require significantly longer integration times and some science objectives could be put at risk due to systematic errors.” ASAC’s concern that “...a smaller number of antennas will likely lead to more complicated operation and higher barriers to broadening the user base” needs to be borne in mind by the Project, but the Board appreciates ASAC’s accompanying evaluation that “ALMA with 50 or 60 operating antennas will be a superb instrument that will enable cutting edge observations beyond the reach of any other instrument.”

Should it be necessary for ALMA to seek substantial cost reductions or to conduct other tradeoff studies with the potential to impact on scientific capability, the Board reaffirms its intention that ASAC be part of the process.

Charge 2: Time Allocation Policies for Large Programs, Legacy Programs, and Joint Programs

Given the appropriate focus on the first charge, the Board fully understands why ASAC was unable to make much progress on this charge. The issues here are challenging, complex ones. We understand that there is an ASAC consensus around “...a need for an international Program Review Committee to consider joint proposals, and particularly very large proposals.” ASAC has some time to perform a careful analysis of how other observatories (optical, radio, space) are dealing with them, and to propose structures and policies for ALMA that can guide Board discussions. We encourage your continued effort at the September, 2005 meeting to address this charge. In so doing, please bear in mind the previous feedback from the Board.

Other business. In response to the discussion of the proposed contribution of some Band 5 cartridges, the Board addressed a point raised by ASAC in its September 2003 report. The Board requested that the three Regional Project Scientists develop recommendations regarding the procedures and standards by which proposed future enhancements to ALMA should be evaluated. Their report is to be discussed at the May telecon.

Finally, the Board looks forward to working with the new Chair, Leonardo Testi, and Vice Chair, Christine Wilson.