

Future Review of R & D Contracts awarded by NRAO

Recommendation of the NRAO's Observatory Technical Council (OTC) to the Director.

2005-04-15

1. Summary

The NRAO not infrequently awards research and development grants to other institutions. The OTC proposes that in the future proposed grants for hardware development¹ should be thoroughly reviewed internally, and suggests that the OTC be the body to undertake such reviews. The review panel would make recommendations to the Director, based on the immediate scientific relevance to the Observatory, the likely technological impact both inside and outside the NRAO and on resources available. During the period covered by a successful award the review panel would also be responsible, either itself or by delegation, for continued oversight of the progress being made within the contract.

2. Research and Development Contracts

The NRAO regularly awards outside research and development (R & D) contracts to institutions or companies, when it may not be feasible or appropriate for the work to be carried out in-house. There are several problems with the current arrangement, including:

- There is no internal forum where such contracts are publicized before being awarded;
- The Observatory may not be making the best use of its own resources in deciding how or where to place contracts;
- There is no uniformity in the terms laid down for such contracts, in particular as regards adherence to a fixed reporting and delivery schedule;
- There is no uniformity in the mechanism for continued oversight by the Observatory.

¹ This OTC proposal is intended to cover hardware R&D efforts, including embedded and associated software, but not pure software activities. Any review process for pure software contracts is in the purview of the OCC rather than the OTC.

3. Recommendation for Reviews

It is recommended that, as a matter of policy, all significant proposals for research and development grants (see footnote 1) to be awarded by the NRAO to other institutions undergo an internal peer review process. In what follows the reviewing body will be called the “Panel”; it is further suggested that the OTC itself is best qualified to be the Panel. In any case, the Panel should feel free to co-opt other experts, from inside or outside of the Observatory, in order to make the best possible recommendations to the Director.

The proposals should include sufficient detail about why it is appropriate for an outside body to be awarded an R & D contract, rather than undertaking the work in-house. The scientific relevance must be stated clearly, particularly in the context of the NRAO’s existing and future instruments. A formal “Statement of Work” should be included; this Statement of Work should include the process for status reporting and NRAO’s oversight of progress for the duration of the contract. The proposal should also include suggestions for expert reviewers, who may not necessarily be members of the Panel or even employees of the NRAO. Note that the Panel is purely advisory, and has no funding of its own to allocate.

4. Threshold for Review

Not every contract awarded by the NRAO requires review. The proposed threshold is a potential contract value of more than \$25k for an item which is clearly not an off-the-shelf project, but one that involves a significant component of engineering research. If an approved project already undergoes mandatory technical reviews with the participation of outside experts, then there may be no need for further review; in such a case, the chair of the Panel should be informed of the proposed contract, and be given copies of material already prepared for the external review. The role of the Panel then becomes one of communication rather than of approval.

The proposals would normally be communicated to the Panel by the relevant Division Head or Site Director. The chair of the Panel may choose to assign a preliminary review to the most appropriate Panel member to determine if the entire Panel really needs to spend time on a given project. In some cases the response of the Panel may be simply “No review necessary.”

5. Conclusions

As a matter of policy, all significant contracts awarded by the NRAO for outside research and development work (subject to footnote 1 above) should undergo a peer review process. The Panel undertaking this review, which may be comprised of the OTC with other internal or external experts, will make recommendations to the Director on relative

priorities of different proposed contracts. The Panel will also ensure that successful contracts include an appropriate Statement of Work with provisions for adequate oversight for the duration of the contract.

Appendix: Membership of the OTC

During the generation of this recommendation, the membership of the OTC was:

Barry Clark
Darrel Emerson (chair)
Rick Fisher
Brian Glendenning
Tony Kerr
Peter Napier
John Payne
Marian Pospieszalski
Art Symmes
Dick Sramek
Dick Thompson
John Webber.