

OTC Meeting:

18:00 UTC, Thursday, 26 August

AOC 280 (12:00)

GB 241 (14:00)

NTC 200 (14:00)

TUC N505 (11:00)

Call-in (NTC-200 Hub):434-984-0244

Present: Barry Clark, Larry D'Addario, Rick Fisher, Brian Glendenning, Tony Kerr, Peter Napier, John Payne, Dick Sramek, Art Symmes, Dick Thompson, John Webber & Frazer Owen (invited).

Agenda:

(1) Follow up on the Scientific Staff Policy (SSP) document that Miller Goss and Frazer Owen have been revising. Frazer agreed to talk with us about this.

(2) The R&D planning that Tony has been working on. Tony has already distributed some material in preparation for the meeting.

1. Scientific Staff Policy (SSP)

The latest Scientific Staff Policy document had been distributed by Billie on 7/7/2004, and is at:

<http://www.nrao.edu/administration/dsaa/scistaffpolicy.pdf> .

Frazer introduced the topic. There have been a couple of drafts attempting to incorporate **Research Engineer** into the scientist track. One worry is that the words "Research Engineer" don't seem to include computational scientists; do we need 3 distinct terms, for hardware research engineers, software researchers (algorithm development etc.) and astronomers? Brian commented that there was no problem in having 3 distinct terms. There was some discussion on whether "software engineer" was or was not a preferred term; the OTC intention was that "Research Engineer" does include algorithm development etc. – everyone doing **research** would be included, not just hardware engineers.

Frazer commented that having different titles (e.g. principal research engineer or whatever) in the different categories makes things very complicated. A suggestion is for HR to have alternate titles for the general scientific staff track. HR would anyway like flexibility to allow for different market

salary rates in the different groups. A global statement in the SSP document would reflect this. There is a need for “the right piece of paper” to hand to a prospective new employee, describing the career paths within the scientific track. HR would keep the different titles, such as “Research Engineer/Assistant Scientist.”

Rick commented that we do want to encourage people with a broad interest and background, without creating artificial barriers between career tracks. One possibility would be simply to use the term “researcher” throughout the SSP document, but Frazer thought that would be too big a change in the document at this stage.

Peter suggests that a statement about the different categories should appear EARLY in the document, making the distinctions clear. Frazer prefers that the details be in a different document, under control of HR; the current document has to be approved by AUI, which makes future changes more difficult and reducing flexibility. Perhaps HR could maintain a table with the details that could be supplied to new or prospective employees.

Brian commented that the computing council, the OCC, should be kept informed and be given a chance to comment on this development.

Tony reminded everyone that engineers should know in advance about any periodic review system that may be introduced.

Action:

Frazer will come up with new words within a day or two, and the OTC will respond to Frazer within a couple of days of receiving the revisions.

2. Research and Development long-term planning at NRAO

In advance of the meeting, Tony Kerr had distributed some documents:

The current marked-up draft 5-year plan for technology development is at <ftp://ftp.cv.nrao.edu/NRAO-staff/akerr/hdn/R&Dplan.ark04.pdf>

The budget and manpower sheets to go with the 5-year R&D plan are at:

<ftp://ftp.cv.nrao.edu/NRAO-staff/akerr/hdn/R&Dbudget04.Totals.pdf>
<ftp://ftp.cv.nrao.edu/NRAO-staff/akerr/hdn/R&Dbudget04.annual.pdf>

Following the baseline & non-baseline classification of projects used in the AUI 5-year plan, baseline projects are indicated in the sheets by "B" and printed in black; non-baseline projects are in brown.

R&Dbudget04.Totals.pdf is a single page summary of the 5-year costs & labor by project. R&Dbudget04.annual.pdf is more detailed and contains a separate sheet for each of the five years.

We all agree we need to have a range of R&D supported by the observatory. The last 5-year plan is now out of date. During this meeting, the above sheets were discussed, line by line. Some projects have been deleted from earlier list, being outdated or no longer relevant or having already been combined with something else.

Here is a summary of the suggested changes to the present draft 5-year plan (thanks Tony):

Priorities of projects were discussed. Following Rick's suggestion, several projects have been designated as "highest priority" items; these will be marked with an asterisk in the next draft. We now have three priorities of project: Highest (*), Baseline (= essential) (B), and Other (= non-essential) (O)

The following projects have been designated (*):

1.1 Focal Plane Arrays

1.4 Physical Optics -- to enable us to buy a high-end physical optics program and paying its license fees.

2.2.2 Technology Development for 780-950 GHz Heterodyne Receivers

3.4 RFI Mitigation Techniques

3.5 Advanced Digital Correlators

The following project has been moved from a tentative (*) category to (O):

3.5 Advanced Digital Correlators: It was felt that data is coming in fast enough not to need to keep abreast of Moore's Law.

The following projects have been elevated from (O) category to (B):

3.4.3 Spatial Nulling

The following projects have been removed from the R&D list for the reasons indicated:

2.2.3 New SIS mixer packages: Include under particular receiver development projects.

2.2.5 Rapid Evaluation of SIS Mixer Circuits: Include under particular receiver development projects.

2.3.3 A 100 element focal-plane array heterodyne receiver: Too large a project for the R&D budget.

2.6.2 Advanced Materials for Components and Receivers: Include under particular receiver development projects.

3.4.2 Adaptive Cancellation: Covered under 3.4.

Please send Tony any further suggested changes for both text and budget. In particular:

Rick: Please send text for section 2.5 Cryogenics to support the requested budget.

Larry and Rick: Please revise section 3.4.1 Digital Filtering to your mutual satisfaction.

Larry: Any comment on section 3.5 Advanced Digital Correlators?

On the subject of funding for NRAO R&D projects, Tony suggested the following, with reference to John Webber's 21 June 2004 draft "NRAO Engineering Research & Development Funding":

The Director has exhorted us to go outside to seek funding for our R&D work. Unfortunately, this has the effect of encouraging us (a) to work on projects not of great relevance to radio astronomy, and/or (b) to compete for funding with universities who rely on the same funding agencies. With (a), we become more and more like a university department, with investigators following their personal research interests but little consideration of the common radio astronomy focus. With (b), we will generate discontent in the community we are here to serve -- mainly the universities; Tony has already heard complaints about this from university colleagues. Surely one of the Director's primary duties is to ensure that R&D at NRAO is supported internally, at least at a level sufficient to keep our technology at the forefront. Darrel agreed to draw this sentiment to the attention of the Director.

Action:

Tony volunteered to update the R&D planning sheets, with help from other OTC members, in time for our next OTC meeting. The goal is for the OTC to present to the Director shortly after that a document with our R&D recommendations.

Rick: Please send Tony text for section 2.5 Cryogenics to support the requested budget.

Larry and Rick: Please revise section 3.4.1 Digital Filtering to your mutual satisfaction.

Larry: Any comment on section 3.5 Advanced Digital Correlators?

All: Please send Tony any further suggested changes to text and/or budget.