

ANT COV November 2006 –Response, October 2007

These notes are draft responses from DD/ANT following the OAC teleconference meeting in May 2007 and following internal discussion.

A.1.1 – Q: Is the review mechanism appropriate? (panels, ad hoc reviews, site visits)

A: Yes

Noted:

- concern that AOCS doesn't regularly use a panel
- ad hoc reviews independently inform panel – the COV likes this model
- acknowledged that use of panel-only review sometimes is justified
- expressed concern when panelists are also ad hoc reviewers (there are two classes of potential problems e.g. one person with two opportunities for input whereas the material presented to PI's creates the impression that there are two people's opinions being expressed when it is really only one person, or panel discussion causes a change of mind but the now irrelevant ad hoc review exists and is presented to the PI as a valid opinion)

Recommended:

Standardizing use of both ad hoc and panel review across all programs. Not using a panel should be the exception.

Response:

ANT appreciates the recommendation to use ad hoc plus panel review process and agrees that it has many advantages. ANT will strive to use both ad hoc and panel review whenever feasible. In particular, the AOAS (formerly AOCS) program convened a proposal review panel in Sept 2007.

Regarding the use of reviewers in both ad hoc and panel role – NSF policy specifically allows this and so ANT cannot unilaterally prohibit this method. However, DD/ANT will ask PO's to carefully justify situations in which a person serves in this dual role. ANT will also ask that PO's use the "PO Comments" function or a program-specific "context statement" within EJ to include a program-specific statement that will inform PI's when a review process involves people serving in a dual role. This has been implemented for the IPY and AA&W panels that met in late summer 2007.

Finally – ANT discussed these concerns with others in NSF but outside OPP and was told that others shared this general concern. ANT PO's felt strongly that a dual role was appropriate at times and did not want restrictions placed on their flexibility. One suggestion to provide clarity to proposers was to have ad hoc reviews by panelists so marked in FastLane. ANT welcomes OAC discussion and input on this suggestion for an NSF-wide change. In any event, ANT will pass the concern on to the NSF policy office for possible consideration in an NSF-wide forum.

A.1.2 – Q: Is the review process efficient and effective?

A: Yes – except for logistical issues

Noted:

- long delays to award decisions because of logistical reviews
- logistics decisions that outweigh science merit review
- rare cases of declination of highly rated proposals for “programmatic reasons” without explanation of what the programmatic reasons are is inadequate documentation

Recommended:

- more tightly couple science and logistical review
- provide better out-year information about logistics, “at least a year-out look”
- consider a pre-proposal process at least as a pilot
- try to improve the potential for the highest ranking proposals to be awarded more frequently and all awards to be made in a more timely manner

Response:

ANT acknowledges this situation and also wants to make decisions faster and with less wasted time on logistically unfeasible projects.

Reliable information about logistical resource capacities and current commitments is essential but has not been uniformly available in the past. AIL has already established “resource buckets” which represent the major resources needed to support a project (aircraft, lab space, ship time, etc.). These note continuing commitments and compile requirements from proposals that have been well reviewed. ANT POs in consultation with AIL PO’s can then make informed decisions regarding awards and impact on future commitments. Management tools are being developed for SP science support and logistics. Among them is the Integrated Master Schedule which can better predict labor and other resource requirements to facilitate scheduling of support. This is promising but must be extended to out-years and made accessible to science PO’s in addition to the operations planners. However, the constraints at the South Pole are now bounded by other parameters such as power, bandwidth, and bed space. Existing commitments are likely to constrain the addition of new projects for the foreseeable future. It is the intent of DD/AIL to extend the IMS and other planning tools to all areas of the USAP.

Once the IMS is populated with necessary information, then we can figure out what information is sensible to be extracted for public access – principally for PI use. While not as simple as publishing a ship schedule, it should be possible to make the useful information available.

We (ANT and AIL) have already implemented the concept that awards for complicated projects can be made with defined planning phases, with milestones and resource thresholds defined or identified, that are required before implementation of field work. This has a distinct advantage in that it would allow robust outyear planning that would then feed into the resource management tools being developed. This seems to be a useful path but we are still in the midst of the first experiment in using this path.

ANT will discuss with AIL ideas for eliminating some of the barriers related to logistical constraints that have proven problematical in the past. For example, shortages of helicopter, twin otter, and similar capabilities can be solved with addition of new funds or through re-allocation of base-level resources depending on appropriations because these resources are now contracted with provisions for adjustments to the level of support desired from year to year. Funds for ICDS, UNAVCO, UV monitoring, sea-ice camp support, etc might be reasonably considered in the same category. Perhaps these funds should be tightly coupled with the science programs and thus compete for priority within ANT rather than between ANT and AIL. This would entail major changes to the way OPP has operated in the past – shifting to a model more like that used in ARC. ANT would appreciate input from the OAC on this idea but there may also be other ideas or options that should be considered.

A pre-proposal process has many burdens and restrictions so it may not be a useful solution, but it can nevertheless be carefully analyzed prior to a final decision. An alternative approach would be a pilot program that would require development of a basic logistics plan in consultation with the USAP contractor prior to submission. This plan would be included much like a UNOLS ship request form, or an Arctic logistics form, or a request for NCAR aircraft, and it would bring ANT proposals more in line with all other NSF programs. This would require significant changes to USAP, including investment in sufficient planning resources available during the proposal development time period to make this model work.

Separate from these ideas, OPP made a commitment to do accelerated logistical review for IPY and this has been a useful test case for quicker action. The lessons learned are still being developed but a key aspect is that we need to adjust the solicitation and info in Polar Ice to be clear about what materials and supplies can be provided through the contractor. We will be modifying things consistent with the notion that if materials/supplies are not on a list of items in Polar Ice, then the proposer should request the items in their proposal.

A.1.3 – Q: Do the individual reviews (either mail or panel) provide sufficient information for the Principal Investigator(s) to understand the basis for the reviewer’s recommendation?

A: Yes – except for broader impacts

Noted:

- BI comments not as clearly stated as comments about IM
- BI seems still not well understood by community at large
- need greater uniformity of PO commentary to community about BI
- BI seem “afterthoughts” for most PI’s and reviewers

Recommended:

- NSF must continue to improve the documentation for the BI merit criterion
- greater access to information during proposal writing

- establish web links to clear and detailed explanations of BI

Response:

OPP OAC took the lead shortly after the current merit review criteria were approved by the NSB by developing guidance about BI. NSF has subsequently developed this information further and this is on NSF's web site. This information is reasonably prominent (e.g. search NSF main URL for "broader impacts" and first item (<http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf>) is a 5 page document offering ideas etc). Nevertheless, ANT acknowledges that the community (PI's and reviewers) and NSF continue to struggle with the issue of what constitutes meaningful BI. The Division of Chemistry sponsored a "Broader Impacts Showcase" at the American Chemical Society Fall 2005 meeting in DC (see: <http://www.nsf.gov/pubs/2005/nsf0540/nsf0540.jsp>). This seemed to work well and if OAC sees value, we can consider sponsoring a similar activity at a major meeting. However, in not wanting to perpetuate a perception of a "polar" community with separate values from the general NSF community, if this is done, then perhaps it should be done in conjunction with at least the GEO and BIO directorates, and perhaps also with AST.

ANT seeks comment on this idea from the OAC.

Regarding uniformity of a view of BI. Some level of consistency is good across NSF, not just ANT or OPP, but it cannot be set as a formula for people to meet because then the system would work against innovation. Proposing PI's and PO's need flexibility to propose and recognize possible innovations in BI. Furthermore, exemplary BI activities may be different in different sectors of NSF (e.g. innovative BI for BIO might be very different from innovative BI in MPS) and because OPP is a microcosm of NSF we should expect differences across the programs. Thus, awareness and continuous dialog to keep the concept fresh in PO's minds and activities such as discussions at workshops, conferences, town hall meetings, etc., that help the community to grasp the general concept of BI may be worthwhile. But through this, it is important to retain the valuable element of constructive ambiguity that could foster innovation.

A.1.5 – Q: Is the documentation for recommendations complete, and does the program officer provide sufficient information and justification (a) for her/his recommendation? (b) for the Principal Investigator(s)?

A: Yes – in most programs

Noted:

- "Review summaries [review analyses] were detailed, quite frank, and explanations and justifications were very detailed; the COV was impressed."
- this generally translates into adequately informing the PI
- but "information provided to the PI generally does not seem as robust as the internal documentation and could be improved"
- communication in AOCs was "very limited" – this was the exception

Recommended:

- program goals should be clearly articulated, especially since some decisions, and close decisions, depend on these programmatic goals
- information transfer to proposing PI's could be more complete
- adequate funding needed for PO travel to scientific meetings and other venues to discuss program goals with the community

Response:

ANT agrees that good communication with proposing PI's about the rationale for decisions is imperative. ANT places high value on this attribute in the search underway for a PD for the AOAS (formerly AOCS) Program.

ANT will take into consideration the comments about better articulation of programmatic goals when next revising the general proposal solicitation but also must be sure that justification to narrow the solicitation is appropriate and strong.

ANT has conveyed the importance of adequate travel funds for PD travel to NSF management.

A.1.6 – Q: Is the time to decision (dwell time) appropriate?

A: No

Noted:

- shortening the time is needed, particularly for proposers who might reasonably revise and resubmit in a subsequent cycle
- logistics affects dwell time strongly
- long times seem affected by coordination of science and logistics review

Recommended:

- a program-wide effort is needed to better coordinate science review and logistics review to reduce dwell time

Response:

ANT agrees that the long time to decision is not good. The logistical review issue should be significantly improved through the resource bucket review process that has been implemented. However, other factors beyond our control also affect timing – for instance, the federal budget is rarely resolved before the 6 month deadline and this propagates major uncertainties through the planning system that affects both ANT and AIL.

Logistical planning often entails development and examination of an array of options for support of a suite of projects to optimize the USAP science program as a whole. Because the resources needed for a field program are controlled partly by ANT (research funding) and partly by AIL (field support resources and funding) this “development and examination” activity requires close engagement of ANT and AIL managers. Requiring ANT PO's to stay focused on moving proposals right after panels would have the effect of reducing or eliminating ANT PO oversight in Antarctica during the first half of the summer season and the ramifications of this kind of change has not been examined yet. Also, see response to A.1.2 for a discussion about possible avenues to improve.

A.1.7 – Additional comments on the quality and effectiveness of the program’s use of merit review procedures:

Noted:

- up to 3 of 5 declined proposals were declined because of logistical limitations
- these were sometimes the most highly rated proposals of the cycle
- thus – need better information about available logistical resources for community to do their own planning
- citation of “programmatically” reasons (e.g. new investigators, women and minorities, education components) as rationale for decisions is not sufficiently clear to COV – documentation should include more explicit reasons, and best science should be supported regardless of “programmatically” demands

Recommended:

- entry of ratings in NSF databases should be done consistently and according to protocol
- ratings from panelists should not be included in the review score/average
- if a reviewer has a dual (ad hoc and panelist) role then the score should be entered once, as a panelist

Response:

Regarding ratings protocol: ANT PO’s will review NSF policy and documentation requirements (NSF Manual #10, Proposal and Award Manual (PAM) Chapters V and VI). Current NSF protocol does not provide for individual panelist ratings (see PAM VI.B.4.c (Chapter VI, page 8)) unless the panelist also submits an ad hoc review but then it is the ad hoc rating that is captured (the fact that the ad hoc rating may not be consistent with that panelists’ final opinion of the proposal is acknowledged as an issue, but one at NSF’s level). NSF policies allow a single person to serve a dual role as an ad hoc reviewer and a panelist. ANT will convey to the NSF policy office the recommendation about the panelist rating taking priority over an ad hoc rating if a person has a dual role as well as the concern expressed in A.1.1 about more general concerns about this dual role. Regarding citation of “programmatically” reasons: NSF requires PO’s to consider a broad array of factors when formulating a decision about a proposal and input from reviewers and the panel are only two of these inputs. Other factors that NSF sees as valid are issues such as balance between subdisciplines, across institutional types, etc etc. ANT will endeavor to include more explicit statements to clarify what programmatic goals are invoked when making a decision.

A.2 - Questions concerning the implementation of the NSF Merit Review Criteria (intellectual merit and broader impacts) by reviewers and Program Officers.

A.2.1 through A.2.4

Response:

- Educating the community about BI is an on-going activity – see A.1.3 above

- ANT will raise awareness of PO's to the need for ensuring that BI gets appropriate coverage in progress reports
- The content and requirements for reporting is an NSF wide policy issue.
- ANT will convey to NSF policy the COV's recommendation that appropriate data about BI should be captured in required reporting through NSF's e-business systems

A.3 - Questions concerning the selection of reviewers.

A.3.1 – Q: Did the program make use of an adequate number of reviewers?

A: YES

Noted:

- declines have slightly more reviews on average which suggests declination is not based on lack of information
- PO's "should be commended for doing an excellent job of gathering sufficient reviews"
- some evidence that AOCS tends toward fewer reviews while not consistently using a panel

Recommended:

- AOCS should request more reviews, use more reviews in decisions, and consider more regular use of a panel, consistent with other programs

Response:

ANT agrees with the recommendation. The importance of conducting the NSF merit review process and meeting the spirit of NSF's intent without merely meeting the minimum number of reviews required by policy will be an important element of the search for a new PD for this program.

A.3.2 – Q: Did the program make use of reviewers having appropriate expertise and/or qualifications?

A: YES

Noted:

- PO's did an outstanding job
- Greater efforts are needed to ensure full participation of a diverse reviewer community

Recommended:

- PO's need to make every effort to include a diverse reviewer community

Response:

ANT agrees, PO's are aware of the need to have a diverse reviewer community and ANT endeavors to continue to maintain vigilance on this issue.

A.3.3 – Q: Did the program make appropriate use of reviewers to reflect balance among characteristics such as geography, type of institution, and underrepresented groups?

A: YES

Noted:

- database is not well developed to answer this question with any certainty
- status is unavailable for 78.80% of reviewers, with very low response rate for specific demographic information
- suggestion of high use of senior male reviews

Recommended:

- encourages use of international reviewers across all programs
- use international reviewers heavily in ad hoc, and national reviewers as panelists
- NSF database needs to be improved to address this question
- provide sufficient travel funds to PO's to attend more national and international meetings and conferences as a means of diversifying PO knowledge of emerging scientists and others in order to diversity the reviewer community

Response:

ANT agrees that the NSF data about reviewer demographics is poor and will raise this to the attention of NSF management as appropriate. However, NSF cannot compel people to provide the demographic information so the problem may persist.

ANT agrees that increasing diversity of the reviewer pool while maintaining quality input to the merit review process is important and will continue to seek ways to improve in this area.

ANT agrees that PO participation in international and national meetings is an important way to meet emerging scientists who might usefully participate in the merit review process and will request funds for increased travel.

A.3.5 – Additional comments on reviewer selection:

Noted:

- overall, PO's did a commendable job seeking and selecting reviewers representing a broad array of expertise

Recommended:

- more funding needed for PO travel to interact with the community and thereby improve the diversity of the reviewer pool
- NSF demographic data must be improved
- database for reviewer and panelist ratings should be more systematic in data recording: rating as a panelist is preferred when a single person serves in a dual role

Response:

- see A.3.3 regarding travel for improving PO knowledge of potential reviewers
- see A.1.7 regarding ratings from people in dual roles (ad hoc reviewer and panelist)

A.4 Questions concerning the resulting portfolio of awards under review.

A.4.1 – Q: Overall quality of the research and/or education projects supported by the program.

A: Yes (Appropriate)

Noted:

- quality of science is “very high”
- some of the best proposals are declined because of logistical constraints (see A.1)
- educational components of research are quite reasonable and have a broader impact
- “Young Investigators” and “Post-Doctoral” Programs are Excellent

Recommended:

- coordination between scientific and logistical planning needs to be improved
- science community needs to be better informed of logistical constraints and plans
- highly recommends continuation of Young Investigator and Post-Doctoral Program

Response:

ANT acknowledges the problem and agrees with the concern. Many logistical problems are based on lack of funding for a particular resource that might otherwise be simple “bought.” AIL controls direct funds for science support whereas ANT funds have traditionally been limited to funds for research awards. AIL has to balance and manage funds across a huge array of competing needs – roads and commodes to science lab systems and also has to cope with market driven price increases for things ranging from labor to fuel.

ANT suggests to the OAC that things change significantly. For example:

- 1) AIL should support a defined baseline level of infrastructure including vehicles, fish huts, temporary field camp facilities etc, ships at the dock, planes at the runway, etc.
- 2) ANT builds a science support budget and pays incremental costs for support of science projects. Thus, if more helo time is needed, ANT Programs pay for the additional support; if another Twin Otter or helicopter is needed for a season, the ANT plans for this budget expense.
- 3) As the program changes, rebaselining can be done as appropriate.

This would serve to tie the science support, at least in those areas where funds can buy more capability, to the highest priority science. It would follow the model for ARC more closely with an analogy being that the AIL baseline infrastructure would be roughly analogous to commercial infrastructure in the Arctic with pay as you need science support. See also discussion in A.1.2.

ANT intends to continue the “New Investigator” (assuming the COV meant “New” when they wrote “Young”) workshops approximately every other year. ANT and ARC are working toward a revised announcement for the OPP Post-Doctoral Fellowship program to continue with a competition in FY08.

**A.4.7 – Q: Does the program portfolio have an appropriate balance of:
Geographical distribution of Principal Investigators?**

A: Data not available

Noted:

- California attracts a disproportionate level of funding (19.1%)
- New York, Washington, and Massachusetts account for 20.8%
- Overall distribution of funds by geography is consistent with findings of the last COV

Recommended:

- NSF should provide further data and analyses to allow an accurate assessment by COV's in the future
- Without statistics on population, numbers of incoming proposals, and distribution of Antarctic research activity/interest across states, it is not possible to comment on whether or not funding is appropriately balanced

Response:

ANT will pass this comment about inadequate data on to appropriate managers.

A.4.8 – Q: Does the program portfolio have an appropriate balance of: Institutional types?

A: Yes

Noted:

- noted high proportion of funding that goes to top tier institutions
- noted absence of data about proportion of funding from ANT that goes to national labs and other federal agencies in support of activities at NASA (including Goddard Space Flight Center and JPL) and USGS

Recommended:

- it is appropriate that best science is done mainly at top tier institutions
- COV needs additional information from NSF about what constitutes an appropriate balance of institutions
- Should split-out “business/non profit” from the category called State & Local/Foreign/Other
- COV wants OPP policy of appropriateness of funding federal agencies and labs and information about funding in this category

- Reviewers should be informed of NSF's policy about other federal participation in Antarctic science

Response:

Regarding the question of clarification about what criteria NSF wishes to apply about appropriate balance, ANT will pass this comment on to appropriate agency managers. Regarding the need for information about funding to other federal agencies, ANT will pass the comment along to appropriate data managers. ANT notes that this may not be an important aspect outside OPP since very few NSF funding actions go to other agencies outside of OPP. See below.

Regarding funding of other agencies:

NSF policy requires specific and appropriate justification when funding federal agencies. OPP does not have a separate policy and complies with the general NSF policy. By Presidential Decision Directive, NSF is the single point manager for the US Antarctic Program and so has a role in support of activities by other agencies in Antarctica. In practice, when the activity is a mission responsibility of another agency, the other agency pays the incremental support costs. For basic research, ANT encourages partnerships between agency scientists and university based scientists and accepts and reviews proposals from other agencies but generally does not provide support for federal salaries.

ANT could consider customizing the review request letter for proposals from other agencies to include a note about NSF's "national" role in the USAP. But the amount of work relative to the number of proposals may not be effective. ANT wonders if there is a problem here that needs to be solved because we don't have suggestions that the review process is compromised by considering these proposals. ANT is happy to explore this issue with the OAC as needed.

A.4.11 – Q: Does the program portfolio have appropriate participation of underrepresented groups?

A: No

Noted:

- COV analysis of data gleaned from an extended spreadsheet rather than from simple EIS data indicate that 3% of awards had minority involvement, 23% women, and 13% new investigators, and 19% new involvement.
- These numbers are significantly lower than the NSF demographic data of PhD scientists in the US
- Additional data are needed to understand why

Recommended:

- further work is needed to increase participation of women, minorities, and new investigators
- perhaps more collaboration with the NSF ADVANCE program, or other NSF social science and education programs could assist in creating a plan for change

Response:

ANT will explore ways to increase participation of women, minorities, and new investigators. ANT attempts to keep the issue at a high profile for PO's and to encourage the community wherever possible, but would like to hear a discussion at the OAC about how to make better progress. Some directorates devote significant PO time to this endeavor and perhaps OPP should consider this avenue.

OPP does participate in ADVANCE but this can be discussed in OAC for ideas about how to advance this concept in polar research.

The New Investigators workshops have seemed worthwhile. ANT has discussed the concept of running these in a fashion more like DIALOG with a new emphasis on underrepresented groups and on opportunities for networking early in one's career. ANT might include a diversity focus as an important aspect of a rotator position that would also serve to further cross-pollinate the science programs.

A.5 Management of the program under review. Please comment on:

A.5.1 – Management of the program.

Noted:

- very well managed at all levels
- good balance between large long-term projects and single investigator/small group projects
- IceCube and WAIS Divide Ice Coring are examples of flexible and balanced management
- Excellent management databases, sample repositories, and long term monitoring
- AA&A, ABM (now AO&E), AG&G (now AES), GLAC have been exceptionally well managed
- AOCS (now AOAS) seems well managed in some respects but communication with the community is not as robust for several cited reasons, not as responsive or engaged as the other programs

Recommended:

- immediate filling of AA&A vacancy
- improve logistical planning for proposed projects
- continue to seek out ways to engage underrepresented groups

Response:

ANT has filled the AA&A position as of Aug 2007, Dr. Vladimir Papitashvili is the PD. ANT will continue to seek ways to attract and involve scientist and educators from underrepresented groups. See A.4.11 above.

ANT will continue to seek ways to streamline logistical assessment and planning. See A.4.1 above.

The program officer search currently underway for a PD for the AOAS Program will stress the importance of excellent communication and community interaction abilities on top of good science sense.

Part C. Other Topics

C.1 Please comment on any program areas in need of improvement or gaps (if any) within program areas.

C.1.a

Recommended: Clarification etc of Broader Impacts criterion

Response: See discussion in A.1.3

C.1.b

Recommended: Pilot a review and panel rebuttal process.

Response: NSF policy does not currently accommodate a rebuttal process but will raise the suggestion for possible consideration at an NSF wide venue if the OAC endorses the idea.

C.1.c

Recommended: Improve coordination between science merit and logistical review. Provide PI the opportunity to modify the logistics plan if that is the only reason a proposal is not funded.

Response: See A.1.2 and A.4.1. Proposing PI's are afforded the opportunity to discuss alternative logistics, including needs of a possible reduced scope project, whenever the PO sees this as at all viable scientifically. ANT has a concern that this kind of alteration may unintentionally squeeze the science into mediocrity because the PI has a strong motivation to accept any support available and the PO at that point in the cycle is trying real hard to provide any support to the PI that they can. Since there is no cycle back to the panel asking if the new plan is still good science, there is the possibility that system can water down efforts.

DD/ANT believes that there must be a good balance between logistical planning by the proposing PI and logistical planning by NSF or the USAP contractor. The proposing PI's have to be more proactive and consider alternative approaches to accomplish their science during the proposal stage. In all other parts of NSF, the proposing PI has to plan and control the logistics and build that into the proposal in a justifiable fashion. So, while providing logistical planning support is a strength of the USAP system, this may have the unintended effect of weakening the skills of proposing PI's for planning research in remote regions.

C.1.d

Recommended: Standardize review process to use panels as often as possible. Avoid use of reviewers in dual (ad hoc and panel) role. Ad hoc ratings only on Form 7 sheets and panel outcome noted.

Response: Agree – but PO's do need flexibility to choose review method according to program needs in line with NSF policy. Also, NSF policy allows a dual role (ad hoc and panelist) but ANT will be sensitive to the potential problems that this can create and will seek to improve explanations in the Review Analysis and in feedback to PI's. NSF policy also allows PO's to determine the method of panel input, including the approach to recommendations (e.g. F/FIP/DNF or Highly Competitive/Competitive/Not Competitive or individual ratings or only comments). ANT will ensure that actions in this regard are carefully considered and explained.

C.1.e

Recommended: Develop a way to handle system science proposals that don't fall into one of the existing programs.

Response: ANT has initiated an Antarctic Integrated System Science Program. Dr. Kelly Falkner is serving as the PD, a community based workshop was held in mid June 2007, and the workshop report is published (<http://cresp.tamu.edu/AISSWorkshop>). In addition, several system science proposals were received as part of the response to the 16 March 2007 IPY competition. These led to the first two projects funded under the AISS program. The next regular ANT solicitation will include AISS as a regular program.

C.1.f

Recommended: Consider establishing a budget line for long term monitoring and for long-term equipment use.

Response: Mission type activities are odd ducks in an NSF-style grants world. We do the best we can via proposals that tie the observations to research. Making a real dent in this requires a significant investment. I would like to hear the OAC on the monitoring/long-term observations question. ANT has placed some emphasis on targeting funds for instrumentation in the FY08 request.

C.1.g

Recommended: Improved guidelines about BI.

Response: See prior discussions (A.1.3 and A.2 above).

C.3

Recommended: Agency wide issues include: funding line for long-term monitoring/observations, don't convert to GRANTS.GOV, NSF databases need improvement for COV use etc, PO travel budgets too low, BI needs clarification.

Response: Agree – agency wide issues.

C.5

Recommended: 1) pilot a rebuttal process
2) pilot pre-proposals for logistics

Response: 1) Rebuttal process is interesting – but needs discussion at NSF level.
2) Pre-proposal process. If compulsory, then needs to be formal. Major workload. If not compulsory, then the info can be had and often is produced via discussions between PI's and NSF logistics and program managers. Could make the current informal process more explicit, perhaps by following more of the Arctic model of having the support contractor write up a statement of needed support. Without full science review, might result in hard things being discouraged (science merit review determines how hard a PO should push). In any event, this needs staffing to do.