

## 2013 Antarctic COV: Recommendations and PLR/ANT Response

### General:

The Antarctic Sciences Section (ANT) appreciates the effort expended by the COV members in conducting the review. ANT is pleased that the COV's overarching conclusion is that they are "very impressed with the quality, effectiveness, and management of the Antarctic Sciences (ANT) and Antarctic Infrastructure and Logistics (AIL) programs." Furthermore, ANT is pleased that the COV "was very impressed with the effectiveness of the merit review process" as implemented by the Section, and that the COV was "supportive of the program's broad and inclusive "bottom-up" approach to defining program research objectives." While improvements are always possible, and continuous improvement is a clear goal of this organization, we are also pleased that the COV has advanced recommendations in the spirit of improving a system that is clearly working well. Below is a summary of the major recommendations along with the Section's response. Comments and response to minor recommendations are noted at the conclusion of this document.

### Recommendation 1:

The COV recommends continued reliance on the combination of ad hoc and panel reviews, which provides for a strong and effective merit-review process. Overall, ad hoc reviewers provide expert, thorough reviews, and panels provide value-added, carefully argued critical evaluations of the proposal, incorporating input from ad-hoc reviews.

**PLR/ANT Response:** The Antarctic Sciences Section agrees with this recommendation and intends to maintain the use of ad hoc reviews followed by panels, to the maximum extent practicable, in implementing NSF's merit review process.

### Recommendation 2:

The COV recommends strengthening several aspects of the ad-hoc review process.

- ANT should work to ensure that all proposals evaluated by ad-hoc review receive an adequate number of high-quality ad-hoc reviews. This is especially important for large-budget, complex, and/or interdisciplinary proposals. Most proposals are thoroughly and adequately reviewed; a few have only the minimum allowable number of reviews.
- The COV believes that a system to allow improved tracking of reviewer responses to requests to review proposals would facilitate Program Officer tracking of review requests and allow for improvement in the number of reviews received for the proposals that are currently most lightly reviewed. A system similar to the editorial system used by journal editors is felt by the COV to be a good model, allowing for quick reviewer responses, automated reminders, and improved early identification of potential conflicts of interest early in the review process.
- ANT should work to ensure that conflicts of interest are identified early in the review process. Most conflicts of interest are identified properly and early; in a small number of cases, conflicts of interest were identified late. The addition of several "checkboxes" prior to review submission that ask the reviewer about specific areas of potential conflict would help identify cases of conflict of interest earlier in the review process and would serve to remind the reviewers of the various sources of potential conflict.

**PLR/ANT Response:** The Antarctic Sciences Section works hard to ensure that proposals receive an appropriate number of reviewers. Achieving an appropriate number of reviews prior to a decision while

balancing the pressure on the reviewing community is challenging given the continual increase in numbers of proposals. However, additional attention will be paid to ensuring that large budget, complex, and interdisciplinary proposals have an appropriate number of reviewers in addition to the minimum required. The Antarctic Sciences Section is in full agreement that an improved system to track review requests and reviewer responses would be beneficial to the review community and it would have the added effect of reducing program manager workloads. A more interactive system to deal with reviewer conflicts would also be welcome. The concept of a tracking system and ideas to improve ways of identifying and dealing with conflicts of interest have been brought forward by ANT staff during internal NSF discussions of program management. While COI situations will ideally be identified very early, it is inevitable that some will emerge late in the process and so NSF must maintain vigilance regarding this issue and ensure appropriate actions are taken. The development of appropriate policy-based tools within NSF business systems would greatly assist Program Officers in dealing with COI situations. ANT staff will raise this issue in appropriate internal NSF venues aimed at business system improvement.

**Recommendation 3:**

The COV recommends that ANT work to strengthen the overall quality of panel summaries. Most panel summaries are appropriately thorough and add significant value in the review process; in some cases, the summaries are cursory, particularly with respect to broader impacts. The use of a template or Program Officer-provided list of questions to be addressed in the panel summary would likely create more uniformity in the quality and content of the panel summaries and would ensure that the panels address both the intellectual merit and broader impacts review criteria.

**PLR/ANT Response:** The Antarctic Sciences Section agrees that all panel summaries should clearly address both broader impacts and intellectual merit and strives to achieve this goal as Program Officers work with panels. Although most program managers do provide panelists with a template to ensure that all critical review elements are addressed, we will raise the level of attention to this issue during panel meetings so that panelists will understand the value of complete and well-written panel summaries. Ideally, templates should be standardized across the Foundation but until that happens, ANT will continue to stress the need to address all criteria and will make program-level templates available whenever practicable. In response to the America Competes Act, the Foundation has modified proposal requirements and is changing e-business systems broadly. We will encourage adoption of Foundation-wide reviewer and panel templates as part of the changes to NSF e-business systems.

**Recommendation 4:**

The COV recommends ANT work towards more uniform documentation of the review process.

- ANT should ensure documentation of important “offline” communication with PIs. Overall, key communications with PIs are well documented in the jackets; in some cases, offline discussions with PIs relevant to award scope or award/decline decisions were noted only briefly in the jackets. The COV encourages Program Officers to follow up important offline discussions with proposers with an e-mail that summarizes the content of the conversation. This would ensure that the content of these conversations is well documented.
- Continue ANT’s thorough Review Analysis approach. It was noted that some Program Officers state explicitly in their review analysis the rationale for choosing reviewers, or how the reviewers align with different aspect of the proposal. The COV felt that this was a very useful tool to assess whether all aspects of the proposal were adequately addressed, especially for multidisciplinary proposals.

- Maintain and strengthen high level of detailed feedback to PIs at time of proposal decision. The Program Officers generally provide useful and detailed feedback to the PIs at the time of proposal recommendation or declination; less feedback is sometimes [provided] about the broader impacts criterion than about the intellectual merit criterion. More detailed comments from the Program Officers regarding the broader impacts criteria, would serve to better convey to the research community NSF's expectations for broader impacts, and help educate the PI community about this merit review criterion.

**PLR/ANT Response:** The Antarctic Sciences Section recognizes the importance of comprehensive documentation during all phases of the review and post-award process. The COV acknowledged the completeness of final award and declination actions and ANT agrees that this is very important. We will continue to strive for this level of documentation. ANT will also undertake internal discussions about the level of documentation of intermediate discussions to ensure that appropriate documentation will exist in the formal records. However, it is not reasonable (or possible) to document every interaction and so we will strive to ensure that we develop documentation that captures the essence of discussions and decisions without generating excessive records that would result by including every e-mail exchanged during award negotiation. ANT believes that the COV suggestion (see COV report, part 1, item 5, on page 10) of including an exchange of correspondence summarizing the substance of discussions leading up to award is a good approach and will work toward that end. ANT also agrees that the level of documentation should be similar across the Foundation. With the advent of the NSF-wide requirement for Program Officers to take the Merit Review Basics course, we anticipate greater consistency in guidance for program officers regarding documentation. All program officers had been encouraged to attend this training but we note that completion of this series is now required. In addition to NSF-wide training, the Section Head will continue to provide guidance on best practices for documentation of the review process. Program managers will also endeavor to provide more detailed feedback regarding broader impacts in the program officer comments so that proposers will better understand how this criteria affected NSF's decision.

**Recommendation 5:**

Continue to evaluate Program Officer workloads, develop appropriate metrics for assessing these workloads, and pursue strategies for reducing workloads.

- ANT should develop metrics for workload that include the significant project-management activities undertaken by Program Officers. The number of proposals handled appears to be an insufficient metric for Program Officer workload in the ANT section. The COV felt that post-award workload related to project management is especially important to track following the recent merger of the Antarctic program into the Geoscience Directorate (GEO).
- ANT should consider adding Science Assistants or associate program managers to assist in reducing Program Officer workload. This would also provide mentoring and career development opportunities for career Program Officers.
- ANT should work to ensure appropriate proposal-supported project management for large and complex projects. The COV recommends that project management plans be considered as an important element of the review by Program Officers, and that this expectation be stated in future proposal solicitations and broadly communicated to the research community.

**PLR/ANT Response:** Program officer workloads are an ongoing issue across all of NSF and the metrics that are often quoted when quantifying workloads (number of proposals handled) do not take into account either the additional work to negotiate and document logistical, environmental and safety

aspects of Antarctic field work, or the heavy post-award management required for these actions. Nor does it account for additional work required for international coordination when field support requires contributions from two or more national Antarctic Programs. To help more accurately demonstrate workloads, the Antarctic Sciences Section will work with NSF and GEO management toward better understanding of the relevant work activities so that better metrics can be developed. The Antarctic Sciences and Infrastructure and Logistics Sections have worked hard to fill vacant positions and are currently in the final phases of filling all remaining vacancies. This will greatly alleviate program staff workloads. The addition of Science Assistants into both Antarctic Sections would also help to reduce workloads and this possibility will be pursued.

ANT agrees about the importance of proposal-supported project management for large and/or complex field campaigns. To this end, we are instituting a more formal process that will provide support for investigators on large and/or complex projects to develop a comprehensive field plan, which would then undergo a logistics review of their project management structure, logistics costs, and feasibility. These projects would only proceed into the implementation phase if they successfully pass this review. This enhanced level of pre-fieldwork planning will help alleviate workloads on Science Support Managers in Antarctic Infrastructure and Logistics as well as program managers in Antarctic Sciences.

**Recommendation 6:**

Pursue long-term strategic planning and investment in support of logistics for Antarctic Sciences.

- Actively address Blue Ribbon Panel recommendations. The COV fully supports the Blue Ribbon Panel recommendations regarding increased capital budget commitment to the USAP and development of a capital plan for U.S. activities in Antarctica and recommends that these suggestions are implemented.
- Develop a plan to address logistics requests for support items where demand may exceed supply. The COV recommends that ANT and AIL develop a plan for dealing with logistics requests for support items that are in high demand, such as aircraft resources that allows the USAP to respond to target of opportunity research opportunities as they arise.

**PLR/ANT Response:** The Antarctic Sciences Section is currently initiating a strategic planning process that will build upon the foundation of the previous NRC report “Future Science Opportunities in the Antarctic and Southern Ocean”, as well as the NSF “Blue Ribbon Panel” report. The study committee will identify priorities and strategic steps forward for Antarctic research and observations for the next decade, in the context of the current state of knowledge, ongoing research activities, and resource availability. The outcome of this planning process will be a “strategic vision” and roadmap for implementation of NSF-supported Antarctic research. The study will recommend strategies to ensure that science support investments made possible from returns-on-investment from NSF actions to address the Blue Ribbon Panel report are properly balanced to meet the needs of the Antarctic research community. This strategy will enable ANT and AIL to better predict out year impacts on high demand logistics assets and more efficiently and effectively manage their availability and in turn allow the USAP to better respond to emerging research areas.

**Recommendation 7:**

The COV recommends focused attention on communication with the scientific community. Currently, items such as changes in proposal-submission dates and requirements are not well communicated to the broader scientific community. Similarly, there is a need for better communication of general news

items relevant to proposal planning, including rotations of program officers and plans for logistics support platforms. The COV suggests the development of a newsletter, such as that provided quarterly by NSF EAR ('EAR to the Ground'). We also suggest information be provided on the NSF ANT website, as appropriate.

**PLR/ANT Response:** A Communications Working Group has been established in the Antarctic Sections with the goal of developing new and enhancing existing modes of communication with the research community. The Polar Facebook page was resurrected and the Polar Media Officer developed plans for posting regular updates on upcoming PLR-relevant news (e.g. such as: funding opportunities, significant research outcomes, NSF news and other important information). In addition, as recommended by the COV, the Antarctic Sections have developed a concept for a newsletter, in line with those currently being used by the Divisions of Ocean Sciences and Earth Sciences, for consideration within GEO/PLR. This entails a quarterly newsletter that would, regarding the US Antarctic Program, provide more detailed information regarding logistics, changes related to proposal preparation, personnel changes etc. While implementation details are still in discussion, our intent is that this newsletter will be available via appropriate websites in late 2013. Integration of PLR into the GEO web-presence, and changes to the overall NSF approach to web resources is underway and final implementation of a newsletter will wait until these broader actions are completed successfully.

#### Other Recommendations:

In addition to these overarching recommendations the COV included a number of other suggestions that generally relate to NSF overall. For instance, the COV recommended that NSF develop a mechanism to assist program officers in tracking ad hoc review requests and responses so that additional reviews can be sought if needed. Toward this end, the COV suggested implementation of a system modeled after journal review requests whereby a potential reviewer is presented with sufficient information to make a judgment about whether to accept the invitation to review or to decline it, and a mechanism to convey that decision quickly. As currently configured, there is often no response from a reviewer unless and until a review is received. ANT supports this kind of effort to streamline and automate the process and encourages the relevant parts of NSF to consider developing and implementing such a system.

The COV noted its support for recent changes aimed at improving logistical review of proposals requiring Antarctic fieldwork and for incorporating this information during formulation of the final decision for award or declination. ANT and AIL are pleased that the COV views these efforts positively and we will continue to look for, and pilot, mechanisms to improve the logistical review and assessment process.