

CBET/NSF COV Response

The CBET/ ENG COV (Committee of Visitor) panel was held on July 23-24, 2012 at NSF Headquarters. The panel was chaired by Bruce Logan and co-chaired by John Chen. The CBET COV Coordinator was Robert Wellek, DDD. The CBET DD was John McGrath. Sunny Williams was the primary administrative staff member responsible for researching Division statistics and assigning proposal action records for the COV to review. This document is CBET's response to the major comments of the COV.

Quality and Effectiveness of Merit Review (Part I)

CBET is pleased that the COV commended CBET for implementing a high quality review process and for testing alternative methods such as review panels. However, the committee also recommended attention to some points that are addressed below.

A key component in this category the COV noted needed some attention was the issue of not consistently and thoroughly addressing broader impacts in the panelist reviews. **CBET recognizes** the issues of broader impacts not being fully addressed or equally applied across all review panel summaries. This issue has reached beyond just the scope of this division. NSF 13-1 provides a better clarification on the broader impact issue, and these revised criteria will be relayed and stressed to panelists at the outset for forthcoming CBET panels to create more uniform reviews.

The COV pointed out that at times review scores did not match the nature of the discussion. **CBET intends to emphasize**, that in the new NSF 13-1, the focus is on maintaining alignment of proposal ratings with written summaries. NSF 13-1 will have separate boxes and explicit review elements for reviewers to focus on. The panel moderators will highlight these changes to ensure dialogue matches scores. Many PDs have already been pressing this issue since the report was issued and will continue to do so.

Along these same lines, the COV also noted that reviews were at times not thorough or rigorous enough. **CBET recognizes the need** for panel moderators to spend a little more time before panels to "train" panelists on proper technique for writing thorough review summaries. In particular, we hope to educate the panelists that summaries of the proposals' goals and plans are not particularly helpful, and that instead the reviews should focus on the main strengths and weaknesses of the proposals. However, it may be that these particular reviewers comments were a reflection of some not always being experts in all proposal categories.

Program and Division Priorities generally not addressed in review summaries: **CBET agrees with the notion** that lack a reflection on program priorities and strategies will and should require additional dissemination of information at the start of panels to ensure the panelists validate weaknesses or strengths based in

part on each program's strategic foci. Although these strategies are already listed on CBET's website for each program and CBET is in the process of updating these to include specific criteria based on advice from ENG leadership, it is the program officer's responsibility to point these things out early on in the panel process. It might even be helpful to point this out prior to sending out the proposals to be reviewed, to ensure this information is captured accurately in reviews. However, the programs expect some novel ideas to not be reflected in the Programs current priorities—but perhaps leading to new future priorities.

To aid the COV's suggestion to spend more time discussing meritorious proposals to obtain more thorough reviews, **CBET may implement further triaging** of proposals to increase the quality of reviews on the more competitive proposals. There are important tradeoffs to be considered on these types of suggestions given the proposal loads of CBET. It is our hope that recent changes in window submissions to reduce proposal load will lead to more thorough reviews of all proposals moving forward.

Selection of Reviewers (Part II)

The COV thought that women and industrial panelists were underrepresented in most panels, and occasionally that some panelists were continually relied upon to maintain diverse panels. **CBET is attempting to increase the participation of these groups wherever possible.** At times, this becomes difficult if the positive acceptance response rate is sometimes low, as some programs of experienced. One avenue to pursue is for PDs to get the industrial names from patent searches to increase these participants. However, many of the potential panelists from industry may not be at the cutting edge of fundamental research in specific areas.

Another recommendation of the COV panel is to move to less dependence on smaller panels. However, CBET is already making a big push in the virtual panel use, which is necessary considering the FY13 travel cost reduction goals issued in response to sequestration. Also, it must be noted that it is not always possible to avoid small panels for some of the smaller programs with distinct strategic foci.

Management of Program (Part III)

The COV panel felt that CBET needed a roadmap to coordinate the various objectives of the many programs in CBET. Under the leadership of the Division Director during the previous three years, a CBET Strategic plan was developed and formed the basis of a road map for all programs. The technical focus was on: Energy and Sustainability; Biomedical and Health Care-related topics; Advanced materials and processing. But within these parameters, PDs have wide latitude, and it may have seemed to the COV that there was no strong unified technical operating map. The Division has pursued cross-division emphasis areas within these broad parameters, but unlike mission agencies or industry, CBET does not strictly measure or coordinate each award recommendation against roadmaps. CBET is asking each

program to better identify and update the current exciting new directions the program is moving toward on its various program web sites. PDs are encouraged to be alert to proposals in frontier areas. The COV calls attention to the need for more critical reviews, analysis, and feasibility studies of the proposal. Many of the CBET programs use the triage method to gain more panel review time of competitive proposals. With the division director leadership changes in the last year, the use of proposal pressure as a primary criterion for assigning program resources has ended, with more stress on strategic goals.

The COV commented on CBET's move to one window per year as a means to reduce proposal pressure. CBET has also in the past year introduced transfer of some of energy-related proposals to two other programs as a means of both reducing recycle of proposals between programs and leveling the program workloads in this area. CBET has also revised and updated program descriptions to point out what areas are cutting edge and which are of lesser interest.

The COV emphasizes the importance of roadmaps and wonders how workshops achieve their desired impacts. But, while road maps are good for short term planning, the division feels that they should not constrain CBET PDs when external interest groups generate and/or promote new areas not on the road map, e.g., major oil spills; hydraulic fracturing for fossil fuel recovery. A CBET workshop on oil spills ultimately resulted in a \$50 million industry supported program of basic research support for over 30 universities. These topics were not on CBET's strategic plan three years ago, but they erupted into major areas. With the help of quickly-created workshops, CBET helped motivate and mobilize the external community. The same is true for brain/neural research needs and biomanufacturing and biomaterials processing, a suddenly high visibility area for CBET.

CBET is pleased that the COV recognized our success in decreasing proposal processing time.

The COV panel commented on the short time for the COV to prepare for the COV. This was primarily due to the competitive scheduling of other Division events at nearly the same time – a grantees' conference and CAREER proposal panels. Avoiding this situation in the future will help greatly.