



Report of the DPF Committee on the DOE Comparative Review

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Charge from DPF Exec Committee

Noting that OHEP began comparative reviews of university grants in 2011-12 and that these will continue in future, and recognizing that a significant number of previous grantees were not funded (or had reduced funding) and that a number of new PIs were added –

The DPF Executive Committee formed a committee to:

- a) Solicit community input on the review process,
- b) Meet with OHEP for briefings on the process and to solicit information relevant to the reviews, and
- c) Prepare a report for DPF to forward to OHEP
(the report is at <http://dpfnewsletter.org/>)

Questions to DOE

The committee sent a list of questions to OHEP to help inform itself on the comparative review process in 2011-2012. (These questions can be found in the backup slides.)

There were no written answers to these questions, but the committee had an extensive and informative tele-conversation with Glen Crawford and Alan Stone in which the questions were discussed in some detail. Glen's Mar. 13 and Alan's Aug. 28 HEPAP presentations also contained answers to several of the questions and were important inputs to the committee's deliberations.

The committee is grateful for the constructive discussions, explanations and guidance of the OHEP.

Findings

OHEP Review process: Five proposal evaluation panels were formed for 6 areas: the three experimental frontiers (Energy, Intensity and Cosmic), plus theory and detectors/accelerator R&D (done jointly in 2012).

Two review stages were conducted in each area: mail-in reviews and a panel review held in Germantown. (For the Intensity Frontier, mail and panel reviewers were the same.) Proposals spanning more than one area were given to each relevant panel. 12 of 106 proposals were 'umbrella' proposals and were sent to more than one panel, each focusing on aspects of the whole. Many proposals had multiple PIs.

Panelists were asked for numerical scores for each co-PI. Panels were asked not to attempt a consensus on proposals and their relative merit.

Outcomes: 70% success rate overall (50% new proposals, 75% continuing proposals). Of 20 non-faculty senior scientists reviewed, 11 were terminated. Some co-PIs were terminated. Attempts were made to find bridge funding for students and postdocs of a terminated co-PI.

There were recommendations that some persons previously on research funds be moved to operations funds for projects.

Issues raised by the community

The community is in strong support of having comparative reviews. The previous system was seen as having too much inertia.

The committee mostly heard from individuals who had complaints about the process, often those whose funding was cut.

People complained that the rather substantial change in funding pattern had not been sufficiently advertised.

Several worried that proposals with multiple threads were not adequately appreciated in their totality by the reviews in the separate areas, and that there was not a clear mechanism for evaluating the overall proposal merit.

A related concern was that a group is more than the sum of its parts, and that cutting out one PI may have ignored the cooperative nature of the work within the larger groups.

There were concerns about the level of relevant expertise in the panels, and within OHEP, for some kinds of theory. These questioned if the full range from phenomenology to formal theory was adequately represented.

Recommendations

We understand that for many of these, OHEP plans to follow the spirit of the recommendation.

1. Large changes in funding patterns should not be too precipitous. Groups should be given some time to adjust to changes. People losing funding should be given sufficient time to find new positions.
2. A clear statement to the community should be made in case of a change in program emphases.
3. If PIs are cut, every effort to ensure support for grad students should be made. This will require attention on a case-by-case basis. Reliance on university backup funding on short notice should be avoided.
4. OHEP should solicit input from spokespersons/managers of ongoing experiments to help judge the critical efforts and to avoid loss of effort on important tasks. This information should be shared with panelists.
5. Research groups are more than the sum of their parts. Treating each PI separately may ignore the synergy common in the best groups. Panels should take into consideration the total group activity in evaluating the contributions of individual PIs.

Recommendations

6. The separation of panel reviews by 'Frontier' may not do justice to those working in more than one area, or on group infrastructure. The review process should be tuned to allow evaluation of such multiple responsibilities.

7. The consequence of error or procedural unfairness is great and we recommend that an appeals mechanism be established.

8. Care should be taken in choosing mail reviewers and panelists to assure the necessary expertise. This may be particularly important in theory.

9. To the extent allowed by DOE regulations, panels should attempt to develop a collective opinion and ranking. The individual letters from panelists are valuable, but open discussion and an attempt to rank proposals by the panel will be beneficial for program officers in making decisions. (The question is whether these panels need to be covered by FACA.)

10. Reviewer recommendations and program officer actions should be internally documented and periodically reviewed by the Committee of Visitors to monitor the execution of the comparative reviews and the appropriateness of actions taken, with its full view of the process.

Some broader issues and concerns

Although outside the charge from the DPF Exec Committee, the committee, based in part on comments from the community and also on the perceptions of its members, had some broader comments:

1. Partitioning the program:

The comparative reviews follow the OHEP organization and budget process into the 3 frontiers and 3 areas (theory, detector R&D, accelerator R&D), each managed separately.

We worry that the boundaries between these can become too rigid, artificially divide our field, and remove flexibility and mobility for researchers. Some of our best people work in more than one area and many group resources are shared across areas. Our recommendations above reflect some of this concern.

Some broader issues and concerns

2. Universities and Labs:

We note the tension that sometimes arises between researchers in universities and Labs. Over the past years, the HEP technical infrastructure has transferred mostly to the Labs. Particularly in the area of detector development, keeping the universities' capability is important for training well-rounded graduate students and for attracting bright undergraduates to our field. Bringing parallel comparative reviews to Labs and universities is appropriate.

3. Research vs. operations:

In the past, it was a given that all persons would contribute to both experiment operations and data analysis, although many specialized more in one or the other sector. We do not feel it is healthy to set rigid boundaries between the operations and research sectors in our large collaborations. This tends to create two classes of experimentalists, leading to young physicists who have poor understanding of the technical aspects or making it harder to attract good physicists to the operations side.

Backup

Questions to DOE

1. List of proposals funded and not funded, personnel breakdown. Old vs. new PIs?
2. 10 year history of university grant funding?
3. Was there a specific strategy/ targets for fraction of renewed grants?
4. What guidance to applicants? Was the potential to drop people made clear?
5. What charge to mail-in and panel reviewers? What guidance on outcomes?
6. Were there specific guidelines for Senior Scientists?
7. How uniform were the evaluations of mail-in reviewers? Of panel reviewers? How did Program Managers resolve variable assessments?
8. Was there numerical scoring of proposals? Were they used as hard cutoff? What were the distributions of scores?
9. How were review assignments made? Did reviewers have proposals of similar size, research area?

Questions to DOE

10. Was there input from large collaboration leadership?
11. How were detector (accelerator) related activities folded in?
12. For groups with more than one area of activity (Energy frontier, Intensity, Cosmic), how were these multiple threads considered? How were the individual panel findings incorporated in an overall action?
13. If a PI not funded, what happened to postdocs/GS supervised?
14. How were shared resources/infrastructure evaluated in large grants?
15. How was criterion 'alignment with program goals' applied, both for experiment, and for theory.
16. Is there specific policy for junior faculty in first year(s)?