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NSB-NSF Proposed Merit Review Comment Letter

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Ray M. Bowen
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Subra Suresh
Director, National Science Foundation
The National Science Foundation Board
4201 Wilson Boulevard
Arlington VA 22230

SUBJECT: NSB/NSF Proposed Merit Review Criteria Revision and Principles

Dear Drs. Bowen and Suresh:

The Council on Governmental Relations (COGR) is an association of 184 research universities and their affiliated academic medical centers and research institutes. COGR concerns itself with the influence of federal regulations, policies and practices on the performance of research conducted by its member institutions. COGR members include many if not most of the potential applicants to the National Science Foundation (NSF) and, therefore, they are very interested in the recommendations proposed by the National Science Board (NSB) to clarify the merit review criteria. In offering comment to the NSB during its data gathering phase, we expressed our confidence in the current description of the criterion on intellectual merit noting that the use of the criterion in the review process has succeeded in identifying those projects likely to advance the frontiers of knowledge.

We expressed less confidence in the criterion addressing the broader impact of the research concerned that investigators may find it difficult to state with certainty what the broader impact of their basic research will be at the time of application and that linking basic research to a set of broad national goals like economic competitiveness, scientific literacy, or national security may draw responses that are, by the nature of the question, speculative or ill-defined. The recommendations proposed by the NSB do not fully allay that concern.

At the outset, we commend the NSB for articulating a clear set of principles that we hope will continue to inform the review process. We agree that all NSF projects should be of the highest intellectual merit and, collectively, help address national goals. We agree that the broader national impact of a project can be and, some would say, should only be achieved

through the conduct of the research itself. It is on this latter point – how the broader impacts of a project can be achieved – that we begin to question the manner in which that impact is described and measured as a part of the review process.

Broader Impacts and National Goals

We recognize that the list of broad national goals comes primarily from the list of goals included in the America COMPETES Reauthorization Act of 2010 (PL 111-358) in Section 526. In pursuing these goals, we would urge the NSB and NSF to balance achieving these goals with Section 519 of the America COMPETES Reauthorization Act that celebrates NSF's contribution to basic science. As the primary sponsor of basic research in a very broad range of disciplines, NSF must not diminish its support of basic research activities that ultimately serve as the foundation for contributions to goals like economic competitiveness, industry partnerships and national security. As we noted in our earlier comment, NSF needs to continue to recognize that not all science and engineering activities have an easily defined broader impact beyond enhancing scientific knowledge and that each discipline – each NSF directorate – and each project, investigator and institution will have different opportunities for having a broader national impact. With the development of the recommendations for the elements for consideration in the review of proposals, some investigators fear that giving the broader impacts similar weight to intellectual merit may diminish the value placed on the scientific aspects of the proposed activities and push NSF toward support for more applied research and development activities.

Principle No. 2 accurately states that NSF-supported research and research-related activities collectively contribute to important national goals. What is not yet clear to the research community is how NSF will document and promote or communicate that collective achievement. How NSF frames its presentation of advances in national goals can provide investigators with a clearer understanding of their role in the collective endeavor. With this understanding, investigators may be better prepared to address the broader impact of their own research.

We are concerned, however, that the expectation that all applications will include a well-reasoned plan for activities addressing one of the broad national goals including a well-justified rationale for choosing that approach to the national goal and department-level or institutional engagement doesn't reinforce Principle No. 3 that states that broader impacts can be achieved through the research itself. If Principle No. 3 is true then, in some cases, the questions proposed under the broader impacts criterion would be asking for a separate well-reasoned plan including a well-justified rationale for the research activities, themselves. Some would argue that information will have already been addressed by the elements in the intellectual merit review. In a proposal that argues that the basic research makes a contribution, there will be likely be no separate broader impacts activities to describe and justify. It is not clear how an investigator will be reviewed in this circumstance.

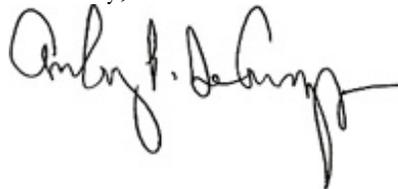
Institutional Role

We continue to be concerned with how department-level or institutional engagement and institutional qualifications will be assessed if/when addressed separately under the broader impacts criterion. Unless the expectations are clearly defined in NSF's implementation of the criterion, we are worried that investigators will make pledges of support for or engagement in activities that may not be accurate or cannot be achieved. The consequence of pledges of resources made by investigators within applications may establish a commitment that auditors or inspectors would want to consider voluntary committed cost sharing. Without a clear articulation of NSF's expectations and interpretation of this aspect of the criterion, we may return to the era when investigators believed without clear evidence or

on the subtle urging of program directors that cost-sharing would strengthen their applications. For all the reasons the NSB and NSF eliminated cost-sharing except in limited circumstances, we believe the same reasons be applied here and pledges made within the broader impacts section of an application not be considered voluntary committed cost sharing. Rather, if NSF wants a formal commitment of resources, it must establish a separate section of the applications for a description of such resources and ask for those costs to appear in the budget.

We are eager to see the policy proposed by Director Suresh in response to the Congressional request in the America COMPETES Reauthorization Act. We anticipate the policy will provide a greater level of detail on how the revised broader impacts review criterion will be addressed in applications for and the administration of grants from NSF. We deeply appreciate the NSB's careful attention to and thoughtful consideration of the merit review criteria and look forward to the final versions and NSF's implementation of the revised merit review criteria.

Sincerely,

A handwritten signature in black ink, appearing to read "Anthony P. DeCrappeo". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Anthony P. DeCrappeo
President