

# FORUM

## A Fool's Errand: How Not to Conduct a Research Solicitation

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In early December 2009, I participated in a panel review of proposals submitted to the U.S. Department of Energy's Atmospheric System Research Program in response to a call for proposals from early-career investigators. Fourteen panel members, each of whom had reviewed four to eight proposals, spent a day discussing and evaluating 28 proposals. Yet all was not what it had seemed.

Early-career research awards, which fund scientists for 5 years at approximately US\$150,000 per year, are highly sought by tenure-track investigators because they provide support for an extended period of time and serve to move young scientists forward in their careers. The concept of such a program is thus much to be lauded. The particular call for proposals for which I served as a reviewer was undertaken as part of the American Recovery and Reinvestment Act, with the objective of promoting useful governmental activity while stimulating the economy.

The good news was that there were quite a few very good proposals and several outstanding ones. Our panel deemed roughly two thirds of the proposals to be in the categories "encourage funding" or "strongly encourage" funding.

The bad news, which we learned during the course of the review, was that the amount of money available for these proposals was such that only one would be able to be funded. Yes, there was only enough for one project.

So what was accomplished by this exercise? Twenty-eight young investigators spent several weeks each preparing proposals and providing literature reviews and background information, statements of research, justifications of why his or her research meets the programmatic requirements of the Department of Energy, time lines, budget pages, letters of support from collaborators, and the like. Fourteen reviewers each reviewed several proposals, spending half a day to a day each, and then all spent another 2 days in a panel meeting and on travel.

By a rough estimate, some 2 person-years were expended in this exercise by scientists (in addition to efforts by support personnel) that will end up funding only one young investigator at \$150,000 for 5 years.

What else was accomplished? To be sure, the economy was stimulated. Airlines sold tickets. Taxis and limousines sold rides. A hotel sold rooms and conference space. A contractor set up a room full of computers. Restaurants sold food.

This writer is reminded of the gambling and shakedown scene in Leonard Bernstein's operetta *Candide*, in which the participants lament, one after another, on the futility of their efforts. A colleague observed, "It's as if you had built a factory and set up an assembly line to manufacture cars, and then used it to produce one car."

In mid-January, I and other panel members were informed of the final results of our efforts. Money was actually found for an additional project, so there are now two happy early-career scientists and only

26 disappointed ones. The program manager expressed his "pleasant surprise" at this turn of events and his "delight" at the benefit that these two projects will bring to his program. And the secretary of energy, in his announcement of the outcome of the department-wide solicitation, was able to praise "the administration's strong commitment to creating jobs and new industries through scientific innovation."

While this may be good news for the successful proponents, and while this effort will make its contribution to the nation's economic recovery, I think the truly sad news is that fully two thirds of the young investigators who submitted applications received reviews that praised their proposals and evinced strong support for their ideas and approach, accompanied by a letter reading, "Unfortunately insufficient funding was available...."

What can be done to prevent a situation like this from recurring, especially as it would appear that the funding available for these awards was known at the time that the call for proposals was being formulated?

Aside from the obvious solution of increasing the available funds, one possibility might be that agencies simply refuse to participate in exercises such as this. Alternatively, and I think preferably, each agency might identify a narrow area of research for a call and put all the funds there so that funding could be awarded to, say, one third of the proposals received. In a subsequent year the call could focus on a different area of research.

Whatever the solution, it would seem essential that efforts be made to avoid situations such as this in the future.

*The views expressed are solely those of the author.*

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