

**National Science Foundation**

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Dear Joe,

Thank you for your letter of 13 November on the report of the Senior Review committee. Reaching recommendations such as those made by the committee is a difficult task and I assure you that the committee approached them with honesty and a full and respectful consideration of the impact they would have on the scientific community.

It is also understandable and appropriate that those whose work will be affected by the recommendations express their views on the implementation of these recommendations. It is for that purpose that we at NSF have invited input from the community and will be holding a series of town meetings around the country in the coming months. In this spirit, we value your statement on behalf of the NAIC community

We would like to take this opportunity to address the points made in your letter, to clarify the process and role of the senior review committee in formulating the recommendations they have made to us.

1. The Senior Review Committee (SRC) received conflicting timescales from Cornell for completion of the ALFA surveys. As you point out, Cornell provided a timescale of 10 years to complete the surveys (half done in five years) in the document "Responses to NSF Senior Review Questions." However, in the earlier document "NAIC Science in the 21<sup>st</sup> Century: Report to the NSF Senior Review," the statement was made that "All of the presently active ALFA surveys will take many years to complete, often 5-7 years." The SRC took this range as a reasonable timescale for the surveys, and considered five years to be the time necessary to obtain substantial if not complete scientific returns from the surveys. It was the considered judgment of the SRC that the most important aspects of the surveys could be accomplished in this time, even if the full surveys could not be finished.

2. The Senior Review Committee fully recognized the discovery potential of the surveys. In its description of the Radio-Millimeter-Submillimeter Transition Program, it states, in relation to the proposed combination of survey work and competed, smaller observing programs, that it is “..very strong and is already producing important discoveries. The SR endorses its future discovery potential and archival value.”

3. The SRC did not specifically intend that the S-band radar be discontinued, nor does it indicate such in its report. The SRC was advised by AST that it was AST’s judgment that Arecibo could continue to produce important science with an annual operating budget of \$8M. An analysis carried out by AST and provided to the SRC for its consideration did not exclude funding for the S-band radar. In the past Cornell has maintained that the radar has been operated on a budget of about \$600k. AST modeled the radar using this number, then reduced the budget to \$400-500k with a decrease in radar staff by 1-2 FTEs. We considered this to be a lean but still functional program. It is AST’s position that an \$8M budget is tenable through a combination of appropriate reductions in staff throughout the observatory, freezing of the observatory’s overall technical capabilities, and cessation of all new astronomical hardware development. Closure of the planetary radar program is based on a prioritization by Cornell, not by the SRC or AST.

4., 5. “..Arecibo’s status as one of the most important and visible high technology enterprises in the Commonwealth of Puerto Rico.”, as well as its contributions to the inspiration of future Hispanic scientists, engineers, and educators was a focal point of our conversation on December 4 with the Honorable Luis Fortuño. We briefed him on the context, process, and complete recommendations of the Senior Review. He pledged to work constructively to seek additional funding locally, nationally, and possibly throughout Latin America precisely because of these two features of Arecibo and its continued scientific value. We urge Cornell to work with Mr. Fortuño and others in this spirit.

6. AST’s position with regard to the SAS program is that SAS will inevitably suffer some loss of support as engineering and administrative personnel levels are reduced observatory wide. We have already begun discussion with our colleagues in the Atmospheric Sciences Division (ATM) about this possibility. If this becomes a serious problem then ATM may have to adjust its staff commitments or budget to take appropriate account. ATM has expressed great interest in the cost reviews that we will be carrying out and has suggested that alternative operations models for atmospheric work may need to be explored in order to avoid adverse impact on its programs at Arecibo.

7. Workforce issues were a major consideration during the SRC deliberations, as evidenced by “Optimizing the Workforce” being the second of their six principles. In the end, the committee arrived at a scientific prioritization that informed its recommendations, realizing that even the telescopes recommended for possible closure

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could be 'unique and productive' for many years, as research tools, training opportunities for students, and as vehicles for public access to science.

While we welcome input as we consider the recommendations and develop an implementation plan, we must emphasize that the recommendations in the committee's report are final and will not be revisited or revised. The Senior Review Committee was a subcommittee of the MPS Advisory Committee, and with the receipt and acceptance of its report, the committee's work is over and it has been dismissed. We will consider their report in conjunction with other community recommendations and advice, and look forward to a continued dialog with Cornell and with the community as we plan for the future of ground-based astronomy within AST.

Sincerely,

Dr. G. Wayne Van Citters  
Director, Division Astronomical Sciences