National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

Dr. William S. Smith
President
Association of Universities for Research in Astronomy - Gemini
Suite 350
1200 New York Ave
Washington, DC 20005

Dear Bill:

As I have mentioned on various occasions over the past six months, the Division of Astronomical Sciences is beginning the process of a "Senior Review" of its portfolio of facilities. This review, a recommendation of the most recent Decade Survey, is motivated at this particular time by a combination of the current Federal budget outlook, the ambitions of the astronomical community as evidenced in the Decade Survey and other reports such as "Connecting Quarks with the Cosmos," and by the growth in the AST budget over the past five years.

This review is designed to examine the balance of our investments in the various facilities that we support. The primary goal of the review and the adjustment of balance that will result is to enable progress on the recommendations of the Decade Survey, including such things as operations funds for ALMA, and other priorities. At the same time we must preserve, indeed grow, a healthy core program of astronomical research. We regard this as essential to support the scientific programs that will be undertaken with the new facilities, to seed the next generation of capability, and to attract, train, and retain the next generation of astronomical researchers.

We have adopted the following boundary conditions for the review:

- The assumption is that the AST budget will grow no faster than inflationary increases for the remainder of the decade

- In concert with the advice of every community advisory body that we have asked (and in keeping with our own evaluation of balance and need), we will not use resources from the unrestricted grants programs (AAG) to address the challenges of facility operations or the design and development costs for new facilities of the scale of LSST, GSMT, SKA, etc.

- No facilities will be considered to be "off the table."

- The process and the adjustments in balance that may result must be realistic and realizable

- Recommendations should be based on well-understood criteria

- There should be ample opportunity for community input at all stages.

The specific goal of the review is to examine the impact and the gains we might experience by redistributing $30M of annual spending from Division funds. These funds would be obtained by selective reductions in the operations of existing facilities. The near-term needs for new investment have lead us to conclude that we must try to generate the $30M in annual redistributed funding by the end of FY2011. Even with this, there will be challenges to be met to satisfy projected need in FY2007-2008.

Over the past several months, we have considered a number of different ways that we might approach gathering the input necessary to estimate the impact of various decisions, so that we can then present a few different scenarios to a committee representing the community for their comment and advice. Our target is to have the advice of the committee in hand by September of this year.

In order to treat each of NRAO, NOAO, NSO, Gemini, and NAIC on an equal footing and to obtain an in-depth understanding of the contributions that each of our facilities makes, component by component, we are adopting a "zero-base" approach. For Gemini, given the decisions of the partnership to date and the proposal currently under review for 2006-2010, the "zero-base" should be taken as the 2005 budget level. Under this approach, we ask that AURA consider and document:

- The case for, and priority of, each component of Gemini (on-going operations, facility enhancements, Aspen instrumentation program, etc.) within the U.S. astronomy program, along with a defensible cost for each.

- In doing so, build the case for a forward-looking observatory operation, the highest priority components of which would exist in 2011

- Provide as realistic an estimate as possible of the cost and timescale that would be associated with divestiture of each component

We expect that your deliberations will:

- Be based on extensive consultation with your user community

- Involve evaluation of component facilities and capabilities using well-defined and carefully documented metrics to define productivity, cost effectiveness, and future utility. We will work with all facilities managers to arrive at a common set of metrics so various components can be compared.

- Take into consideration systemic issues such as complementing observations at other wavelengths, filling critical niches in the overall U.S. system, role in training and technical innovation, impact on shared infrastructure.

- Explore opportunities to deliver scientific knowledge at reduced cost or increased efficiency through new operating modes

We would like to have your input in hand by July 31, 2005.

With this information in hand from all of the facilities that we support, and with our best understanding of the needs for development and future programs, we will then present a number of scenarios to the senior review committee for their comment and advice. These scenarios will necessarily trade progress on the various recommendations before us against preservation of existing capability. The challenge will be to strike an acceptable balance.

We recognize that this will be a difficult task and that the end result may well be that some facilities are judged to be no longer viable under the circumstances. We also recognize that the landscape of U.S. astronomy could almost certainly change dramatically as a result of some these actions. The question for all of us is to judge whether these changes are viable and lead to a vital and sustainable future, or whether the pace and scope of change necessary to realize the cumulative aspirations of the community under severely constrained budgets are too drastic.

We are ready and willing to interact with you and with your communities as this process gets underway. We welcome comments on our assumptions and on the tasks set for you above. However, as I have said on numerous occasions, I do not see any way to avoid this review or the difficult judgments that will be required. Done properly and wisely, I believe it can result in a healthier program in the long-term, and one that is poised to take advantage of improving outlooks when they occur.

Sincerely,

G. Wayne Van Citters, Director
Division of Astronomical Sciences