

TESTIMONY TO THE SENATE COMMITTEE ON COMMERCE,
SCIENCE AND TRANSPORTATION

SPACE AND SCIENCE SUBCOMMITTEE

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A. THOMAS YOUNG

Chairman Nelson and committee members, I am pleased to have the opportunity to comment on the proposed FY 2011 NASA Budget. As requested, I will concentrate on NASA's budget proposal beyond human spaceflight. I will also offer a few observations on human spaceflight at the conclusion of my remarks.

It is important to define the basis and criteria for my assessment. I believe what NASA does reveals much about us as a country. What NASA does is very much a part of what we believe to be important, our role in the world and our values. I have no doubt NASA's accomplishments in the past five decades, to use an Olympic analogy, have placed the United States at the center position on the podium. We must assure that our current decisions result in a continuation of this success. Greatness is determined by what one does during challenging times that is discretionary.

The operational elements of the NASA budget are science, aeronautics and space research and technology, and human spaceflight (exploration and space operations).

There is significant growth in the new science budget as compared to the FY 2010 budget. This growth is in Earth Science. Planetary Science and Astrophysics are largely unchanged with some decline in Heliophysics.

The National Academies produce Decadal Surveys that provide scientific basis and proposed priorities for each discipline of science. I have the privilege of serving as Vice Chairman of the Space Studies Board, which, along with the other boards, provides oversight of the Decadal Surveys. I am also a member of the committees currently conducting Astrophysics and Planetary Surveys. The Decadal Survey process is enormously comprehensive, representing the best in scientific debate and decision making. The result is a 10-year plan with extraordinary support and credibility.

The Earth Science Decadal has been available for a few years and provides a sound basis for the growth proposed in the FY 2011 budget. Astrophysics and Planetary Surveys are currently in development. While the proposed budget will support impressive Astrophysics and Planetary missions, there are extraordinary opportunities responsive to the most profound questions concerning our solar system and the universe that will not be affordable. I believe the same observations are true for Heliophysics, which is just beginning the next Decadal Survey process.

In summary, much can be accomplished within the proposed science budget that will contribute to our understanding of Earth, our solar system, and the universe. Although it is frustrating knowing that there are worthy opportunities that cannot be accomplished within the proposed budget, there is some consolation in knowing we will be implementing the best of the best.

The growth in Aeronautics and the new space technology line are most positive. It is difficult doing the things NASA does without a strong technology base. The proposed space technology line will strengthen this critical area. The growth in Aeronautics and the new space technology program should be strongly supported.

There is also considerable technology funding included in the Exploration budget. While significant benefits can be realized from the total proposed technology investments, we must recognize that lack of focus and identified mission uses can result in wasteful, nonproductive, "hobby-shop" activities. Much is yet to be done to structure a technology program that is properly focused.

That brings me to my overarching comments on human spaceflight. The Augustine Commission report had a subtitle that I believe deserves our attention: "A Human Space Program Worthy Of A Great Nation." I believe

the human spaceflight program contained in the proposed FY11 budget fails this test. My reasons for reaching this conclusion are:

1. I believe the reliance upon commercial human spaceflight for access to low earth orbit is a risk too high and is therefore not a responsible course. Nevertheless, I do hope the commercial endeavors are successful.
2. The absence of a clearly defined human exploration program with no expectation of any human exploration for decades is not consistent with my views of a great nation.

We can only hope that, by this time next year, we will recognize that our current course is not tenable, address those areas that need the most attention, and reestablish a human spaceflight program, once again, deserving of a great nation.

A. Thomas Young

A. Thomas Young is the former Director of the NASA Goddard Space Flight Center and President and Chief Operating Officer of Martin Marietta Corporation. Mr. Young retired from Lockheed Martin in 1995.

Mr. Young is a member of the Science Applications International Corporation (SAIC) Board of Directors. He is currently involved in various space advisory and review activities.

Mr. Young is a member of the National Academy of Engineering.