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Rep. Udall Introduces Legislation to Preserve U.S. Prominence in Aeronautics

(Washington, DC) America's aeronautics research and development is an enterprise in crisis. Confirmed by numerous studies and reviews over the last few years – most recently by expert witnesses before the House Science Committee on March 16, 2005 – the need for a strong and innovative U.S. aeronautics R&D program is greater than ever.

"Progress in aeronautics is crucial to the health of the nation's air transportation industry, an industry that is vital to the continued strength of our domestic economy and our international competitiveness," stated Rep. Mark Udall (D-CO), ranking Member of the Subcommittee on Space and Aeronautics. "And progress is possible only when we make a real commitment to aeronautics research."

Today, Rep. Udall introduced legislation aimed at reinvigorating U.S. aeronautics research. The Aeronautics Research and Development Revitalization Act of 2005 intends to reverse the decline in NASA's aeronautics program and set it on a productive course for the future.

At that March Space Subcommittee hearing, the chairman of the National Research Council committee asked to review NASA's Aeronautics Technology Program testified that as a result of declining budgets and changing priorities within NASA, the agency's aeronautics program "is on its way to becoming irrelevant to the future of aeronautics in this country, and perhaps in the world."

"The need for a strong and innovative aeronautics R&D program is greater than ever," added Rep. Udall. "Given the increasing international challenges to U.S. preeminence in aeronautics, the concern for our quality of life and the pending threat to the viability of the nation's air transportation system due to anticipated growth in travel demand over the next 20 years, this bill provides guidance that is long overdue."

"I believe that Congress needs to send a clear signal that we consider NASA's aeronautics program to be critically important to the future of the nation. It is time for Congress to articulate a national policy for aeronautics R&D," continued Rep. Udall. "My legislation provides such a policy."

"We're not going to have a vital NASA aeronautics program if its budgets continue to decline, but I don't think it will take massive infusions of new money over the near term to rejuvenate this important program," concluded Rep. Udall. "This bill is a responsive approach both to current fiscal realities and the need to invest wisely in an aeronautics program that meets critical societal needs. I hope that this legislation can serve as a catalyst for a renewed national commitment to a vibrant, cutting-edge aeronautics R&D enterprise, and I intend to work for its expeditious enactment into law."

A summary of the bill's main provisions follows.

Summary of "Aeronautics Research and Development Revitalization Act of 2005"

Purpose

The purpose of the bill is to reinvigorate the Nation's aeronautics R&D enterprise in order to maintain U.S. leadership in aeronautics and aviation, improve the quality of life for American citizens, support economic growth, and promote the security of the Nation.

Provisions

The legislation includes the following provisions:

TITLE I: Establishes a national policy for aeronautics R&D, namely that: *"It shall be the policy of the United States to reaffirm the National Aeronautics and Space Act of 1958 and its identification of aeronautical research and development as a core mission of NASA. Further, it shall be the policy of the United States to promote aeronautical research and development that will expand the capacity, ensure the safety, and increase the efficiency of the Nation's air transportation system, promote the security of the Nation, protect the environment, and retain the leadership of the United States in global aviation."*

TITLE II: Establishes breakthrough R&D initiatives with the objective of achieving significant advances within the next 10 or 20 years in the following three areas:

1. Technologies to enable environmentally desirable commercial aircraft with significantly lower takeoff and approach noise, lower energy consumption, and lower emissions compared to aircraft currently in commercial service.
2. Technologies to enable commercial supersonic transport flight over populated areas.
3. Technologies to enable rotorcraft and other runway-independent air vehicles that are significantly safer, quieter, more environmentally compatible than current vehicles.

The legislation would also direct NASA to have the National Research Council provide continuing oversight and evaluation of NASA's progress in each of the R&D areas.

TITLE III: Establishes a number of other R&D thrusts within NASA's aeronautics program, including:

1. A Fundamental Research and Technology Base program that is not tied to specific development projects.
2. An Airspace Systems Research program that is to be aligned with the objectives of the Joint Planning and Development Office's (JPDO) Next Generation Air Transportation System Integrated Plan.
3. An Aviation and Security Research program that directly addresses the safety and security needs of the National Airspace System (NAS) and the aircraft that fly in it. Its activities shall also be aligned with the objectives of the JPDO.
4. Research programs directed towards developing and testing concepts for zero-emissions aircraft and for uncrewed aircraft that could operate in the atmosphere of Mars. Both research programs would be conducted by means of competitively awarded grants to teams of researchers that could include participants from universities, industry, and government.
5. A broad program of research in hypersonics.
6. A program of aeronautics scholarships for U.S. citizens who wish to pursue graduate work in aeronautical engineering.
7. Collaborative research with NOAA directed at significantly improving the reliability of two- to six-hour aviation weather forecasts.
8. University-based centers for research on aviation training.
9. An independent assessment of the Nation's wake turbulence R&D program

10. A policy for the operation of NASA's aeronautical test facilities, namely that users will be charged the costs associated with their tests, but that NASA shall not seek to recover the full costs of the operation of those facilities from the users. NASA shall establish a core funding account to maintain the operation and viability of NASA's aeronautical test facilities.

TITLE IV: Provides a five-year funding plan for NASA's aeronautics program. Restores aeronautics funding to its FY 2004 level for FY 2006 (\$1.057 billion) and increases funding by 3 percent per year through FY 2010 (to a level of \$1.19 billion).

Statement for the Record on the Introduction of the "Aeronautics Research and Development Revitalization Act of 2005"

**By
HON. MARK UDALL**

Mr. Speaker, I am today introducing the "Aeronautics Research and Development Act of 2005". Rep. Larson submitted legislation on this topic in the 108th Congress that has provided a solid foundation for my bill. I am pleased to be joined in this initiative by the following cosponsors of this legislation: Rep. Gordon, Rep. Jo Ann Davis, Rep. Kucinich and Rep. Bobby Scott. We would welcome additional Members joining us as sponsors once they have had a chance to review the legislation.

Mr. Speaker, progress in aeronautics is crucial to the health of the Nation's air transportation industry, which in turn is crucial both to the continued strength of our domestic economy and to our international competitiveness. In addition, aeronautical goods and services have long provided a major positive input to our balance of trade.

Yet progress in aeronautics is important for reasons beyond the health of our trade balance. Aeronautics R&D can enable advances in the capability of our nation's air transportation system to handle the enormous increases in air travel projected over the next twenty years. Aeronautics R&D can enable more environmentally compatible commercial aircraft, with significantly lower noise, emissions, and energy consumption compared to aircraft in commercial service today. Such new aircraft would not only improve the quality of life but would also open new markets. Aeronautics R&D can also enable new markets and services through the development of technologies that will allow supersonic commercial aircraft to fly over populated areas with no adverse environmental impacts, as well as the development of technologies that will greatly increase the capabilities of rotorcraft and other runway-independent air vehicles to serve civil needs. Finally, aeronautics R&D can lead to new concepts for protecting our Nation.

However, all of the new capabilities that I have described will only be possible if this Nation is committed to making the investments in aeronautics R&D that are necessary to achieve those goals. The unfortunate reality is that America currently is *not* investing enough in NASA's aeronautics program. Moreover, if nothing is done to correct the situation, NASA's aeronautics program is scheduled to suffer additional cuts over the next five years, cuts that will jeopardize the very foundations of our national aeronautics R&D capabilities.

You don't have to take my word for it - there have been a series of reports by independent committees over the last few years that have expressed deep concern over the state of the U.S. aeronautics R&D enterprise. In addition, the Space and Aeronautics Subcommittee, on which I am privileged to serve as Ranking Member, held a hearing on March 16th of this year at which all of the distinguished non-governmental witnesses expressed the view that aeronautics is at risk in the U.S. That hearing also highlighted the seriousness with which Europe is approaching future investments in aeronautical R&D. The European governments have made it clear that Europe seeks to become the world leader in aeronautics technology by 2020.

Yet it doesn't have to be that way. It's not inevitable that our national commitment to cutting-edge aeronautics R&D has to decline. We *can* have an exciting, robust NASA aeronautics program that meets important national needs. We just need to do two things: provide a clear direction for NASA's aeronautics activities and provide the resources necessary for NASA to maintain a world-class aeronautics R&D enterprise.

That is the intent of the bill that I am introducing today: the "Aeronautics Research and Development Revitalization Act of 2005".

This Act contains a number of important provisions. First, it states clearly and unambiguously that: *"It shall be the policy of the United States to reaffirm the National Aeronautics and Space Act of 1958 and its identification of aeronautical research and development as a core mission of NASA. Further, it shall be the policy of the United States to promote aeronautical research and development that will expand the capacity, ensure the safety, and increase the efficiency of the Nation's air transportation system, promote the security of the Nation, protect the environment, and retain the leadership of the United States in global aviation."* The bill starts with this policy statement because I believe that it is critically important that we have a national policy for aeronautics research and development - one that recognizes the importance of aeronautics R&D and gives some guidance for the conduct of that research.

The bill next establishes three "breakthrough" R&D initiatives in subsonic, supersonic, and rotorcraft and other runway-independent air vehicle aeronautics. The intent is to set some challenging R&D goals that will push the state of the art across a range of aeronautical science and engineering disciplines as well as deliver technologies that will change existing air transportation paradigms and help open new markets in an environmentally responsible manner.

The third Title of the bill focuses on ensuring the overall health of the nation's aeronautics research enterprise. To that end, it reestablishes a fundamental research and technology program within NASA that is not tied to specific development projects. NASA used to have such a program, and I believe that, properly managed, it can provide the foundation on which future progress in aeronautics will be based.

I also wanted to ensure that NASA maintains its involvement in Airspace Systems research and Aviation Safety and Security research, because I believe those are crucial to the development of a safe and efficient national air transportation system. At the same time, I want to make sure that NASA's efforts are appropriately aligned with the plans and objectives of the Joint Planning and Development Office (JPDO) - the interagency office that has responsibility for developing the next generation air transportation system. It is essential that the JPDO succeed, and I believe that NASA's research can play an important role in ensuring its success.

Next, I have included a provision that clearly defines a policy for the operation of NASA's aeronautical test facilities. As was noted at the recent Subcommittee hearing on aeronautics, NASA's full cost recovery policy has had a ruinous effect on the maintenance of its test facilities, and decisions to shut facilities down are being made for budgetary reasons instead of first addressing whether the facilities have strategic importance. This bill would undo that unwise policy.

The bill also highlights a number of other research areas that should be supported. These include hypersonics, a research area in which some exciting accomplishments have been made over the last several years that offer promise of significant future advances. In addition, the bill establishes speculative research initiatives to develop and test concepts for a zero-emissions aircraft and an uncrewed aircraft that could operate in the atmosphere of Mars. These are research initiatives that could help excite the next generation of aeronautics professionals if properly structured to allow significant involvement by the university research community.

With respect to that next generation, the bill recognizes the need to get more American students to pursue studies in aeronautical engineering. To that end, the bill establishes a program of graduate scholarships to encourage students to pursue aeronautical engineering careers.

Finally, we come to the question of funding the programs contained in this bill. While some would argue that we need to double the aeronautics budget immediately if we are to reverse the negative trends in the state of U.S. aeronautics R&D, I do not believe that such an increase is possible in the current fiscal environment. In addition, I do not believe it is necessary over the short term. Instead, I believe that the highest priority is to refocus and strengthen NASA's approach to aeronautics R&D by a combination of challenging R&D projects and wise stewardship of its workforce and facilities. A budget that returns NASA to its FY 2004 aeronautics funding level of \$1.057 billion for FY 2006 and provides modest annual increases over the next five years will do much to put NASA on a path that will allow it to put its aeronautics house in order and position it for a highly productive future.

Mr. Speaker, aeronautics R&D is important to the nation. NASA's aeronautics program has long been the centerpiece of those research efforts. We need keep NASA's aeronautics activities healthy and productive. I believe that the Aeronautics Research and Development Revitalization Act of 2005 can help strengthen the Nation's aeronautics R&D enterprise, and I hope that it will receive early consideration by this body.

Thank you.