An unfortunate coincidence of cuts to fundamental rotorcraft research was part of the U.S. fiscal 2013 budget submitted to Congress in February. The headquarters of both NASA and the Army decided to slash funding for basic research efforts that are vitally important to developing future technologies for vertical flight. These proposed reductions to NASA’s Subsonic Rotary Wing project and the Army’s funding of the joint National Rotorcraft Technology Center (NRTC) program would hobble these already underfunded efforts and significantly set back future technology advancements.

During the 1990-2002 timeframe, NASA’s overall budget was $12-14B; it then continued to grow as part of the initiative to go to the Moon and Mars, peaking at nearly $19B in 2010. Over this same time, NASA’s Aeronautics Research Mission was reduced from $1.5B in 1994 to $551.5M for 2013, about where it has remained for the past several years. Furthermore, the 1990s budget number included salaries, whereas today’s does not. When salaries and inflation are considered, the buying power is only about 15% of what it once was.

At a time when the agency was growing over the past few years, the Aeronautics budget remained stagnated at less than $600M, while funding for rotorcraft was actually being reduced. Going back further, NASA had actually zeroed out funding for rotorcraft in 2002; AHS, working with Congress and industry, was instrumental in restoring funding. Subsequently, when NASA closed its National Full Scale Aerodynamics Complex in 2003, AHS championed the transfer of the NFAC to the U.S. Air Force and assisted in restoring funding for its operations.

Since this time, funding for NASA rotorcraft research had been a very modest $30M. Unfortunately, this was reduced to $28M in 2012 and now would be cut to $24M for 2013 – a 16% cut since last year and 30% from prior years. Over these same three years, NASA’s Aeronautics budget went up 6% in 2012 and then down 3% in 2013. So, whether the Aeronautics budget went up or down, Subsonic Rotary Wing continued to get cut, like a perennial punching bag. While it might be understandable if these latest cuts to rotorcraft were in the spirit of the budget-cutting imperative that has been recognized by Congress and the America people, NASA’s overall budget is essentially flat (just a 0.3% reduction).

NASA states that its rotary wing funding “radically improves the civil effectiveness of rotary wing vehicles by increasing speed, range, and payload while decreasing noise and emissions.” NASA still has world-class vertical flight scientists and facilities, but the paltry amount of funding will have limited ability to make significant progress towards these objectives. If NASA is to continue to provide outstanding research such as the recent UH-60A airloads wind tunnel data or the foundations of new technology like face gears (now being fielded), this funding trend must be reversed. NASA should triple its investments in vertical flight research to have a truly substantive impact, or the rest of the world will pass it by.

Meanwhile, the U.S. Army decided on a 52% cut to the applied research funding for the National Rotorcraft Technology Center, from $8.2M in 2012 to $3.9M in 2013, and has also withheld $2M of the 2012 funds. NRTC is funded 50/50 between the government and industry and is an excellent example of the government leveraging industry investments to advance the state-of-the-art of vertical lift technology. As a result, these cuts end up being twice as deep, since industry matches the government funding. This reduction essentially puts an end to much of the research that has just gotten underway in 2012.

NRTC is a joint effort with the Army, Navy, NASA, industry and academia. NASA contributes expertise and in-kind...
The impact of these latest reductions in funds to NASA and NRTC, if not reversed, will continue to reverberate in the years and decades to come.

This is a critical time where investing in applied research could have major impacts on the Joint Multi-Role (JMR)/Future Vertical Lift (FVL). While Army Aviation funds many other initiatives in rotorcraft science and technology – on the order of $100M a year – the NRTC program is the only pre-competitive effort that pools the talents and resources of government, industry and academia. The Army needs to allocate more funds overall to Army Aviation science and technology – and keep vital initiatives like NRTC strong and active.

The Department of Defense has depended heavily on modern vertical flight technology in the conflicts of the past decade. In light of the capability gaps that they have shown, instead of cuts, the Army should triple the amount of funds allocated towards science and technology initiatives like NRTC.

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