With 2012 budgets set, the outlook for R&D clouds up

US federal science and technology budgets squeaked by mostly in the black as Congress wrapped up the fiscal year 2012 appropriations process in December. But with mandatory spending cuts due to take hold in January 2013, the outlook for next year is for level or declining R&D spending, no matter what President Obama may propose when he sends his FY 2013 request to Capitol Hill on 6 February.

For the current year, NSF fared best among the science and technology agencies; its 3.3% increase of $173 million above its FY 2011 level propelled its budget above the $7 billion mark for the first time. At the other end of the scale, NASA took an overall 3.7%, $648 million hit, leaving it with $17.8 billion. Most of the reduction was due to the ending of the space shuttle program; NASA's science programs rose nearly 3%, to $5.1 billion.

The Department of Energy's Office of Science, which supports basic research and the nonweapons national labs, got $4.9 billion, an increase of $28 million from last year. But that was well below the Obama administration's original request of $5.4 billion. Spending for energy efficiency and renewable energy will increase by 1.6% over last year, to $1.8 billion, but that's 43% less than the president had sought. Funding for high-energy physics declined by $3.7 million, to $792 million, and nuclear physics increased $10 million, to $550 million. The Advanced Research Projects Agency–Energy, DOE's newest unit, received $275 million, an increase of more than 50%.

The R&D budgets for DOE's nuclear weapons and nonproliferation programs will increase 8.2% from last year, to $4.2 billion, the American Association for the Advancement of Science estimated. The Obama administration had requested $4.5 billion for those programs.

Overall, Department of Defense R&D will decline 3.2%, or $2.5 billion, from last year, to $75.5 billion. The bulk of that money, however, is devoted to the development of individual weapons systems; the small basic-research portion of Pentagon spending jumps by 8.7%, or $169.4 million, to $2.1 billion.

The R&D budget for the Department of Homeland Security declined by 1.1%, to $566 million. NIST received $751 million, up by $33 million from last year. Lawmakers slashed the budget of the Office of Science and Technology Policy by nearly one-third after OSTP director John Holdren clashed with House Appropriations subcommittee chairman Frank Wolf (R-VA) over US–China scientific relations.

With this year's budget set, attention turns to the FY 2013 budget proposal to be unveiled this month. Yet to be resolved is how Congress will implement the spending cuts that were mandated in last year's Budget Control Act and how much flexibility the administration and the agencies will have in deciding how to apportion the reductions. With the failure by the congressional budget supercommittee to deliver an agreement on how those cuts would be made, the law requires Congress to come up with $1.2 trillion in spending reductions over nine years, beginning in FY 2013.

The law further requires that half of the cuts be carved from the defense budget. Defense Secretary Leon Panetta, for one, is counting on Congress to give him maximum flexibility on where to make the hundreds of billions in cuts that will be needed to comply with last year's law. Whether he gets that flexibility, and to what extent it might be extended to other agencies, will determine whether R&D could be shielded from the austerity that lies ahead.

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news notes

Official scientific integrity. In mid-December, 20 federal agencies and departments submitted scientific integrity policies to the White House's Office of Science and Technology Policy (OSTP). The various bodies are drafting independent policies to mesh with their own missions and cultures, but all are subject to certain minimum requirements.

Those requirements include facilitating the free flow of scientific and technological information; ensuring that research used to support policy decisions undergoes independent peer review; hiring people into S&T positions in the executive branch based on their knowledge, credentials, experience, and integrity; and implementing procedures to address lapses in scientific integrity