

1341 G Street, NW Eighth Floor Washington, DC 20005 t: 202.289.7475 f: 202.289.7454 www.lewis-burke.com lba@lewis-burke.com

Summary and Analysis of the FY 2009 Omnibus Appropriations Bill: Research and Education Programs

Prepared by Lewis-Burke Associates LLC February 23, 2009

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INTRODUCTION AND OVERVIEW

A little over a week after passage of the \$789.5 billion economic stimulus bill, Congress today unveiled the final details of a \$410 billion omnibus appropriations bill, finally concluding the FY 2009 appropriations process. The bill contains funding for all federal agencies and programs except the Departments of Defense, Veterans Affairs, and Department of Homeland Security, whose appropriations bills were signed into law last fall.

In describing the achievements of the omnibus bill, Congressman David Obey (D-WI), Chairman of the House Appropriations Committee, focused on eight key areas; scientific research and education funding were included, as were renewable energy and energy efficiency efforts.

For research programs, significant increases are provided for the National Science Foundation and the Department of Energy's Office of Science. In addition, the National Institutes of Health receives its largest increase since fiscal year (FY) 2003 after several years of not keeping pace with inflation. The Department of Education's student aid, higher education and research programs also generally fare well in the bill.

The omnibus bill is scheduled to be considered on the House floor this week and will be taken up by the Senate after the House completes its consideration. The current Continuing Resolution, which provides funding for programs at their FY 2008 levels, expires on March 6^{th} .

Details of the omnibus bill funding recommendations for programs of interest to the research and education communities are described below.

NATIONAL SCIENCE FOUNDATION

The omnibus appropriations bill provides NSF with \$6.49 billion for FY 2009; this is 7.6 percent (or \$458 million) above the FY 2008 level. This is \$364 million below the House and Senate levels, which were the same as the amount requested by President Bush; that level would have been a 13.6 percent increase over FY 2008. The Research and Related Activities account gets significantly less than what was proposed by President Bush, while the Education and Human Resources directorate receives significantly more.

Research and Related Activities: The omnibus bill includes \$5.18 billion for Research and Related Activities, the account that funds the NSF disciplinary research programs. This is an increase of 7.5 percent, or \$362 million, over FY 2008. Congress does not provide specific allocations for the individual research directorates, but does direct NSF to provide for a balanced program across all science disciplines. NSF is also directed to invest in cost-effective and innovative cyberinfrastructure, such as grid computing.

The bill also emphasizes the importance of public awareness and access to NSF research; specifically stressing that NSF and its grantees should work to raise the visibility of NSF's high-risk, high-reward research and that NSF should maximize open exchange of data and results, consistent with existing Federal laws.

Specific program allocations made by the bill within the Research and Related Activities account are:

- An additional \$19.5 million above the request for the Experimental Program to Stimulate Competitive Research (EPSCoR), bringing the total to \$133 million. In addition, NSF is directed to expend a total of at least \$660 million (across all programs) in EPSCoR jurisdictions in FY 2009.
- The requested level, \$101.2 million, for the Plant Genome Research Program.
- The requested level, \$49.79 million, for the National Radio Astronomy Observatories.
- An additional \$2.5 million above the request for design work on the Advanced Technology Solar Telescope.
- \$2.5 million for IceCube operations and maintenance costs.
- An additional \$3 million above the request to establish a mathematical institute devoted to the identification and development of mathematical talent.

Education and Human Resources: The omnibus bill provides \$845.3 million for the Education and Human Resources directorate, an increase of 17 percent, or \$120 million, over its FY 2008 level. Adjustments to the budget request levels include:

- \$10 million for climate change education.
- An additional \$43.4 million above the request for the Robert Noyce Fellowship Program (bringing the total to \$55 million).
- An additional \$10 million above the request for the Math and Science Partnerships.
- An additional \$500 thousand above the request for the Graduate K-12 Teaching Fellowships.
- An additional \$650 thousand for programs for the Historically-Black Colleges and Universities Undergraduate Program and the Tribal Colleges and Universities Program.
- A decrease of \$9.7 million for the Graduate Research Fellowship program.

Major Research Equipment and Facilities Construction: The omnibus bill provides \$152 million for the Major Research Equipment and Facilities Construction (MREFC) account. This level provides funding at the full request level for three ongoing MREFC projects—the Atacama Large Millimeter Array (ALMA), the Advanced Laser Interferometer Gravitational Wave Observatory (AdvLIGO), and the IceCube Neutrino Observatory. The bill also and provides \$7 million for a new MREFC project, the Advanced Technology Solar Telescope (ATST). No mention is made of NSF's general request to allow the use of MREFC funds for late-stage design work, but ATST design funding is explicitly included in the Research and Related Activities instead of MREFC.

Other Accounts: The remainder of the NSF funding goes to Agency Operations and Award Management (\$294 million), the Office of the Inspector General (\$12 million), and the National Science Board (\$4 million).

NATIONAL INSTITUTES OF HEALTH

The omnibus appropriations bill provides NIH with \$30.317 billion in FY 2009, which is \$937.5 million above the FY 2008 level (a 3.2 percent increase) and \$1.087 billion above the budget request. While President Bush proposed to flat fund NIH in his FY 2009 budget request, the discrepancy between NIH's FY 2008 funding level and the President's FY 2009 budget request is due to the \$150 million additional base-funding for NIH that was included in last summer's FY 2008 supplemental bill. This funding level for NIH represents the largest increase for the agency since FY 2003.

For reference purposes (and prior to the \$150 million add-on for NIH that was included in the FY 2008 supplemental bill), the Senate Appropriations Committee had proposed \$30.2 billion for NIH for FY 2009, approximately \$1 billion or 3.4 percent above the FY 2008 enacted level and the President's FY 2009 request, and the House Labor, Health and Human Services, Education and Related Agencies Appropriations Subcommittee recommended \$30.4 billion for NIH, which represented an increase of about \$1.2 billion or 4.1 percent over the FY 2008 funding level and the President's FY 2009 budget request.

Global HIV/AIDS Transfer: The bill includes continuation of the \$300 million annual transfer to the Global HIV/AIDS, Malaria and Tuberculosis Fund. This money is typically appropriated to the National Institute of Allergy and Infectious Diseases and then transferred out.

NIH Common Fund: The NIH Common Fund is funded at \$541 million. This represents an increase of \$45.5 million over the FY 2008 level.

Clinical and Translational Science Awards: Within the National Center for Research Resources (NCRR), the bill includes \$474.9 million for the Clinical and Translational Science Awards (CTSAs) program, a \$3 million or 0.6 percent increase. NCRR is receiving a larger percentage increase than the other institutes and centers; however this due to some of the costs of the CTSAs shifting from the Common Fund to NCRR. The report divides the funding for CTSAs as follows: \$421.7 million from NCRR and \$53 million from the Common Fund.

Institutional Development Awards: Also within NCRR, the Institutional Development Awards (IDeA) program receives \$224 million in the bill.

Salary Cap: The bill maintains the NIH extramural investigator salary cap at Executive Level I.

Public Access: The bill includes language requiring NIH-funded authors to submit their final, peer-reviewed manuscripts to the National Library of Medicine's PubMed Central within 12 months of publication, and in a manner consistent with copyright law.

DEPARTMENT OF ENERGY

For the Department of Energy (DOE), the omnibus bill includes a total of \$27 billion, which represents an increase of approximately \$2.5 billion above FY 2008.

Office of Science: For DOE's Office of Science, the omnibus bill includes \$4.8 billion, an increase of \$755 million (18.8 percent) above the FY 2008 level. The final bill is \$50.7 million above the President's request and overall achieves the increased levels authorized as part of the American COMPETES Act to double research in the physical sciences over the next several years. Of the \$755 million increase for the Office of Science, approximately 12 percent (\$94 million) is for congressionally earmarked projects.

Within the Office of Science, Advanced Scientific Computing Research receives \$368.8 million, which is the same as the budget request and \$17.6 million above the current level. Biological and Environmental Research (BER) is slated for \$601.5 million, an increase of approximately \$23 million above the budget request. Basic Energy Sciences (BES) receives \$1.6 billion, approximately \$300 million above the FY 2008 level. Significant funding is restored to both Fusion Energy Sciences and High Energy Physics. Fusion Energy Sciences receives \$402.5 million, including \$124 million for the International Thermonuclear Experimental Reactor (ITER). High Energy Physics receives \$795.7 million, which is about \$50 million above the current level.

ARPA-E: The bill provides \$15 million to establish the ARPA-E program.

Energy Efficiency and Renewable Energy: The omnibus bill provides \$1.9 billion for DOE Energy Efficiency and Renewable Energy (EERE) programs, an increase of \$206.1 million (12 percent) above the FY 2008 level. Most of this increase goes to congressionally directed projects totaling \$228.8 million to promote renewable energy development and energy efficiency within these programs. Congress continues to emphasize renewable energy and concerns about energy security and climate change. The final bill includes \$217 million for biomass and biorefinery systems R&D; \$175 million for solar energy; \$44 million for geothermal technology; \$55 million for wind energy; \$169 million for hydrogen; \$40 million for water power energy R&D; \$273.2 million for vehicle technologies; \$140 million for building technologies, and \$90 million for the industrial technologies program.

For DOE Electricity Delivery and Energy Reliability, a total of \$137 million is included, which is slightly below the current level. Congress sets aside \$19.6 million for congressionally earmarked projects within this program.

Fossil Energy: For Fossil Energy programs, a total of \$876.3 million is approved, which is \$133.5 million over the FY 2008 level. Approximately \$44 million of this amount is for congressionally directed projects. The bill provides no new funding for the FutureGen initiative. There is \$73 million in unobligated funding in the FutureGen

account should the Administration revisit prior-year FutureGen agreements. Congress restores funding reduced by the Administration for natural gas and petroleum technologies, providing \$20 million and \$5 million, respectively.

DEPARTMENT OF EDUCATION

In the FY 2009 omnibus appropriations bill, higher education programs in the Department of Education see a gain, although not as high as the increases included in the House version of the FY 2009 bills. The House Labor-HHS-Education markup included higher increases for education, while the Senate Labor-HHS-Education markup included higher increases for HHS. Overall, the omnibus splits the difference on the higher education programs between increases included in the House and Senate bills.

Student Aid

The FY 2009 omnibus would fund the maximum Pell Grant at \$4,860. This is a \$119 increase in discretionary funds over the maximum Pell Grant in FY 2008 and includes \$500 included in 2009-2010 mandatory funding for Pell in the College Cost Reduction Act (CCRA). President Bush and the Senate mark had requested an increase of \$69 to the maximum Pell Grant and the House bill had included an increase of \$169 in discretionary funds. When combined with the funds included in the American Recovery and Reinvestment Act (AARA) economic stimulus bill, the maximum Pell will be \$5,350 for award year 2009-2010.

The final omnibus includes \$757 million for Federal Supplemental Educational Opportunity Grants (SEOG), which is level with FY 2008 funding. Both the House and Senate had rejected President Bush's request to zero out the program. Federal Work Study would be level funded at \$980.5 million, which was supported by the House and Senate marks. The Federal Perkins Loan program, which has not received any additional funds for Capital Contributions in several years, would receive an increase of \$2.8 million for loan cancellations, bringing the total to \$67.16 million in FY 2009. The LEAP program would be level funded at \$63.8 million, with the final omnibus rejecting President Bush's request to zero out the program.

International Programs

Title VI International programs would receive an increase of \$9.89 million over FY 2008 funding, with the increase directed to domestic and overseas programs. Domestic programs, which includes international business programs and the National Resource Centers, are funded at \$102.3 million (same as the House mark) an increase of \$8.4 million over FY 2008 funding. Language in the report directs the increase to be used to increase the number of individuals receiving foreign language and area studies fellowships. The Senate mark included level funding for the Domestic Programs and President Bush had requested a \$1 million increase.

The overseas programs, which include the Department of Education Fulbright programs, receive an increase of \$1.33 million over FY 2008 for a total of \$13.37 million in FY

2009. This is level with FY 2008, the Senate mark and President Bush's request, but \$1.3 million below the amount included in the House bill.

Graduate Programs

The FY 2009 omnibus includes \$9.68 million for the Javits Fellowship program. This is a slight increase over FY 2008 (\$157,000), while the House mark included \$9.8 million and the Senate mark level funded the program. Graduate Assistance in Areas of National Need (GAANN) is funded at \$31.03 million, an increase of \$1.48 million over FY 2008. The House mark included \$32.5 million (an increase of \$3 million) and the Senate level funded the program at \$29.5 million.

TRIO and GEAR UP

TRIO programs receive \$848.1 million in the FY 2009 omnibus, which is an increase of \$19.9 million over FY 2008. The House had requested \$858 million and the Senate had requested \$838.2 million. Language included in the omnibus report directs \$7.7 million of the increase to be directed to the Student Support Services program, which will be recompeted for FY 2009. The language also directs increases to the Upward Bound and McNair programs, with any additional funds to fund high ranking applicants from the 2007 competition that did not receive an award. Language also states that the Department will not obligate any funds to an evaluation of the Upward Bound program until the Department submits a report including the specifications of the evaluation and briefs the relevant congressional committees.

GEAR UP receives \$313.2 million, an increase of \$9.78 million over FY 2008 funding. The House had included \$318 million and the Senate had included \$308.4 million. Language is included that states that the Department shall give favorable consideration to GEAR UP Partnership Grant applicants that guarantee college scholarships to GEAR UP students.

Hispanic Serving Institutions

Hispanic Serving Institutions programs within the Department are funded at \$93.26 million, an increase of \$18.8 million over President Bush's request and the Senate mark and level with FY 2008 funding and the House mark.

Institute for Education Sciences (IES)

The Institute for Education Sciences (IES) receives \$617.17 million in the FY 2009 omnibus, an increase of \$71 million over FY 2008, but \$41 million below President Bush's request of \$658.2 million. The increase included in the omnibus is split over Research, Development, and Dissemination (\$7.5 million), Statistics (\$10 million), Regional Education Laboratories (\$2 million), Statewide Data Systems (\$16.7 million), and National Assessment (\$34.8 million). Funding for the Statewide Data Systems was also included in the recent American Recovery and Reinvestment Act (AARA) economic stimulus bill.

Language is included in the omnibus report that states that IES should be mindful that the methodology employed for any program evaluation or assessment of evidence regarding the effectiveness of education interventions must be "beyond reproach."

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

The omnibus bill includes a total of \$4.365 billion for the National Oceanic and Atmospheric Administration (NOAA), which is about \$465 million or 12 percent above the enacted FY 2008 level and about \$265 million or 6.5 percent above the President's request. While the President's budget request sought an increase of about \$200 million for NOAA for FY 2009, the entire increase was to be spent on NOAA satellite projects. The omnibus bill includes funding for satellites while also increasing NOAA research and operations funding.

The report accompanying the bill directs NOAA to track the division of research funds being distributed between intramural and extramural programs and to "state clearly its expected research outcomes and available funding in order to provide transparency into the competitive grant process for extramural researchers." The report continues:

"By not providing enough extramural research funding, NOAA risks discouraging extramural involvement in NOAA's research programs and the concomitant leveraging of external funds in support of mission-oriented research. Thus, NOAA is encouraged to provide additional extramural funding in future budget requests."

Consistent with the House bill from the 110th Congress, the omnibus calls on NOAA to make atmospheric sciences a priority with the resources provided in this bill and to request additional resources in subsequent years.

Below is a breakdown of NOAA funding in the omnibus bill:

National Ocean Service: The omnibus includes \$497 million for the National Ocean Service (NOS), which is about \$30 million or 6 percent above the enacted FY 2008 level. This includes \$26.5 million for the Integrated Ocean Observing System (IOOS).

National Marine Fisheries Service: The bill includes a total of \$753 million for the National Marine Fisheries Service (NMFS), an increase of about \$45 million or 6 percent. The bill provides full funding (\$155 million) for activities supporting the mandates of the Magnuson-Stevens Fishery Conservation and Management Act. It also includes \$4 million for aquaculture activities.

Oceanic and Atmospheric Research: The omnibus includes \$396 million for Oceanic and Atmospheric Research (OAR), as recommended by the House. This is a 2 percent or \$8 million increase over the FY 2008 level. It includes \$194 million for climate research (including \$53 million for climate research cooperative institutes and \$132 million for the Competitive Research Program), \$57 million for weather and air quality research programs (including \$49 million for cooperative institutes, \$5.5 million for U.S. Weather Research Program, and \$2.9 million for Tornado Severe Storm Research/Phased Array Rader), and \$109 million for ocean, coastal and Great Lakes Research (including \$24 million for cooperative institutes, \$55 million for the National Sea Grant College Program, \$18.5 million for the Ocean Exploration and Research program, \$8.8 million for the National Undersea Research Program, and \$1.6 million for marine aquaculture research).

National Weather Service: The bill includes \$848 million for the National Weather Service (NWS), an increase of \$43 million or 5 percent over the FY 2008 level. This includes \$601 million for local warnings and forecasts and \$100 million for systems operation and maintenance (including \$45 million for NEXRAD, and \$38 million for AWIPS).

National Environmental Satellite, Data and Information Service: The omnibus includes \$187 million for operations, research and facilities at the National Environmental Satellite, Data and Information Service (NESDIS), a 4 percent increase over the FY 2008 enacted level. In addition, \$990 million is included for NESDIS procurement, acquisition and construction, of which \$965 million is slated for geostationary and polar orbiting satellite programs and the restoration of climate sensors. This is a sizable increase of around \$200 million over the FY 2008 level. The report language states, "The impact of the GOES-R out-year costs on NOAA's traditional mission areas is troubling, as GOES-R demands an ever increasing percentage of NOAA's budget. If investments in necessary satellite infrastructure must be funded within NOAA's budget, those requirements should be accommodated in NOAA's budget requests without impinging on NOAA's other critical mission priorities."

NOAA Education: The bill includes \$32 million for NOAA education programs (a small decrease from FY 2008), which includes \$15 million for the Educational Partnership Program with Minority Serving Institutions and \$7.2 million for the BWET program. The report further directs NOAA to expand the BWET program to additional regions.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The omnibus bill provides NASA with \$17.782 billion for FY 2009, which is \$474 million above the enacted FY 2008 level, but \$14 million above and \$32 million below the House and Senate's respective proposed levels.

Science Mission Directorate: Within this total, \$4.503 billion is for the Science Mission Directorate, a reduction of \$200 million from the FY 2008 enacted level, but primarily consistent with House and Senate levels. In addition, this includes \$70 million in unallocated cuts which NASA can only take from programs not specifically highlighted by Congress (including the Earth Science Decadal missions, Landsat, Earth Science Applications, Mars, Deep Space Climate Observatory, Hubble, Outer Planets, Space

Interferometer Mission, and Solar Probes, among others) and the cuts cannot result in delays or cancellations of missions in development or the cancellation of any selected projects. Earth science funding is a major winner in the science portfolio and \$150 million is provided to advance the Earth Science Decadal Survey missions as outlined by the National Research Council in 2007.

Aeronautics Research: The bill also includes \$500 million for aeronautics research, which is \$125 million below the FY 2008 enacted level but consistent with the Senate level. Notably, the Congressional report directs NASA to ensure that some of this investment of funds is devoted to long-term, multi-year research and development activities to support NextGen technology needs and solutions and "green" aircraft.

Exploration: The bill includes \$3.505 billion for exploration activities, which is \$360 million above the FY 2008 level. The funding provided includes \$56 million for a lunar precursor robotic program.

Education: The final bill includes \$169.2 million for education which is \$10 million below the FY 2008 level. This amount includes \$40 million for the Space Grant program, which is consistent with the House funding.

In addition, the funds provided do not contain the same travel and conference restrictions as adopted by the 2009 NASA Authorization Act as long as NASA science, technology, engineering and mathematics (STEM) content is disseminated during the meeting or conference.

An additional \$67.5 million was included for Congressional Directed Projects.

NATIONAL INSTITUTE FOR STANDARDS AND TECHNOLOGY

The omnibus appropriations bill provides NIST with \$819 million, 8.4 percent (\$63 million) above the FY 2008 level; this is \$181 million above President Bush's budget request, which would have zeroed out funding for a number of existing NIST programs.

Extramural Grants for Research Facilities Construction: The bill provides \$30 million for the NIST Research Facilities Construction Grant Program, established in FY 2008. This is the same amount of funding as provided in FY 2008.

Technology Innovation Program and Manufacturing Extension Partnership: The bill provides \$65 million, the same level as in FY 2008, for the Technology Innovation Program (grants for which universities, in partnership with small and mid-sized businesses, may apply); this program had its first competition in FY 2008. The bill also provides \$110 million, \$20 million above the FY 2008 level, for the Manufacturing Extension Partnership (MEP).

NIST Intramural Laboratories: The bill provides \$472 million for NIST's Scientific and Technical Research and Services, its intramural laboratory programs in Gaithersburg, Maryland and Boulder, Colorado. Emphasis is placed on support for NIST's work on measurements and standards for climate change and its Office of Law Enforcement Standards.

U.S. DEPARTMENT OF AGRICULTURE

The FY 2009 Omnibus Appropriations bill provides \$21.45 billion for discretionary spending at the U.S. Department of Agriculture (USDA). For the major research programs at USDA, the bill includes \$1.2 billion for the Agricultural Research Service (ARS) salaries and expenses. Funding for ARS is \$19.4 million higher than the FY 2008 enacted level. This funding supports research at the nation's research stations and ARS laboratories.

The bill includes a total of \$1.2 billion for the Cooperative State Research, Education, and Extension Service (CSREES) account. This is an increase of \$38.4 million over FY 2008. Within CSREES, \$691 million is for Research and Education Activities. The recommendation represents an increase of \$22.8 million over the FY 2008 enacted level. Within the Research and Education Activities account at CSREES, there is \$201 million for the Agriculture and Food Research Initiative (AFRI). A product of the 2008 Farm Bill, AFRI represents a restructuring of research at USDA. Specifically, AFRI is charged with funding research, education, and extension grants and integrated research, extension and education grants that address key problems of national, regional, and multi-state importance in sustaining all components of agriculture. Additionally, the bill provides significant funding for formula grant programs within CSREES. The Hatch Act is allocated \$207 million (\$10 million above the FY 2008 level) while the McIntire-Stennis Cooperative Forestry Program receives \$28 million.

A total of \$474 million is provided for extension activities within CSREES. This amount is \$21 million above the FY 2008 enacted level.

UNITED STATES GEOLOGICAL SURVEY

The omnibus appropriations bill provides \$1.044 billion for the United States Geological Survey (USGS), an increase of \$37 million over the 2008 level and \$75 million over President Bush's budget request.

Several reductions at USGS that were proposed by President Bush were rejected by Congress. Specifically, the proposed \$3 million reduction in earthquakes grants funding does not occur, and the Water Resources Research Institutes, which would have been eliminated, are funded at \$6.5 million or \$196,000 more than last year.

The funding provided to most USGS accounts is relatively flat compared to FY 2008. The Geologic Hazards, Resource and Processes account receives \$242.1 million, which is \$1.3 million less than the FY 2008 level. Within this account, the bill includes \$3 million for the earthquakes portion of the multi-hazards initiative, a \$1.5 million increase for the global seismographic network, and a \$2 million increase for volcano hazards research.

In the bill, Congress supports USGS's creation of a new Global Climate Change budget account. This account, created by transfers of activities from across USGS, is funded at \$40.6 million, an increase of \$33.2 million over the amount expended on climate change-related activities in FY 2008.

THE NATIONAL ENDOWMENT FOR THE HUMANITIES AND THE NATIONAL ENDOWMENT FOR THE ARTS

The omnibus includes \$155 million each for the National Endowment for the Humanities and the National Endowment for the Arts in FY 2009. Both of the Endowments had been funded at \$144.7 million in FY 2008. The House and Senate had not passed versions of the FY 2009 Interior Committee markups due to partisan arguments regarding oil drilling in Alaska. The recently passed American Recovery and Reinvestment Act (AARA) economic stimulus bill included \$50 million for NEA.

ENVIRONMENTAL PROTECTION AGENCY

The omnibus provides the Environmental Protection Agency (EPA) with \$7.6 billion, which is about \$174 million above the FY 2008 enacted level. The science and technology account receives \$790 million, approximately 4 percent over last year. This includes \$99 million for clean air research (\$18 million for Global Change Research); \$105 million for clean water research (\$47 million for Drinking Water Research, including \$2 million to continue research on the effects of carbon sequestration on groundwater sources), and \$228 million for human health and ecosystems research (including \$9.8 million for the STAR Fellowship Grants program).