



# America COMPETES Act and the FY2010 Budget

**John F. Sargent Jr.**  
Specialist in Science and Technology Policy

September 16, 2010

Congressional Research Service

7-5700

[www.crs.gov](http://www.crs.gov)

R40519

## Summary

The America COMPETES Act (P.L. 110-69) became law on August 9, 2007. The act is intended to increase the nation's investment in research and development (R&D), and in science, technology, engineering, and mathematics (STEM) education. It is intended to address two concerns believed to influence U.S. competitiveness: the adequacy of R&D funding to generate sufficient technological progress, and the adequacy of the number of American students proficient in STEM or interested in STEM careers relative to other countries.

The act authorizes funding increases for the National Science Foundation (NSF), National Institute of Standards and Technology (NIST) laboratories, and the Department of Energy Office of Science (DOE SC) over FY2008-FY2010. If the rate of increase provided for in the act were maintained, funding for these agencies would double, in nominal terms, in seven years. The act establishes the Advanced Research Projects Agency – Energy (ARPA-E) within DOE to support transformational energy technology research projects to enhance U.S. economic and energy security. A new program, Discovery Science and Engineering Innovation Institutes, is intended to support the establishment of multidisciplinary institutes at DOE national laboratories to apply fundamental science and engineering discoveries to technological innovations.

Among the act's education activities, many of which are focused on high-need school districts, are programs to recruit new K-12 STEM teachers, enhance existing STEM teacher skills, and provide more STEM education opportunities for students. The new Department of Education (ED) Teachers for a Competitive Tomorrow and the existing NSF Robert Noyce Teacher Scholarship programs provide opportunities, through institutional grants, for students pursuing STEM degrees and STEM professionals to gain teaching skills and teacher certification, and for current STEM teachers to enhance their teaching skills and STEM knowledge. The act also authorizes a new program at NSF that would provide grants to create or improve professional science master's degree (PSM) programs that emphasize practical training and preparation for the workforce in high-need fields.

The America COMPETES Act provides authorization levels through FY2010. New programs established by the act will not be initiated, and authorized increases in appropriations for existing programs will not occur, unless funded through appropriation acts. The 110<sup>th</sup> Congress provided FY2008 appropriations to establish ED's Teachers for a Competitive Tomorrow program, and NIST's Technology Improvement Program (TIP), which replaced the agency's Advanced Technology Program. The 111<sup>th</sup> Congress provided FY2009 appropriations, supplemented by the American Recovery and Reinvestment Act (ARRA), to establish DOE's ARPA-E and NSF's PSM program.

Congress has completed action on the regular FY2010 appropriations acts, providing funding for some programs authorized under the America COMPETES Act through two acts. Some America COMPETES Act research and STEM education programs received appropriations at authorized levels in FY2010, others did not. FY2010 funding for programs at the Department of Commerce, National Science Foundation, and Department of Education is provided by the Consolidated Appropriations Act, 2010 (P.L. 111-117). Funding for Department of Energy programs is provided by the Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85). Several programs newly authorized in the act have never been appropriated funds, nor did President Obama seek funding for them in his FY2010 budget request. Congress is considering reauthorizing the America COMPETES Act.

## **Contents**

Overview of the America COMPETES Act .....	1
Overview of FY2008 and FY2009 Appropriations.....	1
The President’s FY2010 Budget Request.....	3
Research .....	3
Science, Technology, Engineering, and Mathematics (STEM) Education.....	4
Congressional Actions.....	6
Budget Resolution.....	6
Appropriations Status.....	7
Commerce, Justice, Science, and Related Agencies .....	8
Energy and Water Development .....	10
Labor, Health and Human Services, Education, and Related Agencies .....	11
Issues for Congress .....	11

## **Figures**

Figure 1. Obama Administration Plan for Science and Innovation, FY2006-2016 .....	3
Figure 2. President Obama’s FY2010 Budget Request for STEM Education Programs .....	5
Figure 3. Comparison of America COMPETES Act Authorizations and Appropriated/Requested Funding for Selected Agencies/Offices/Accounts .....	6

## **Tables**

Table 1. America COMPETES Act Programs and Appropriations Status.....	12
---	----

## **Contacts**

Author Contact Information .....	21
----------------------------------	----

Congress passed the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act (P.L. 110-69), known as the America COMPETES Act, in August 2007. In response to concerns about U.S. competitiveness, the act provides for investments in science and engineering research and science, technology, engineering, and mathematics (STEM) education to foster U.S. competitiveness.

The purpose of this report is to provide information on the President's FY2010 budget request and the status of congressional budget and appropriation activities regarding that budget relative to the America COMPETES Act.<sup>1</sup> For more general information on the America COMPETES Act, see CRS Report RL34328, *America COMPETES Act: Programs, Funding, and Selected Issues*, by Deborah D. Stine, and for information on the FY2009 budget, see CRS Report RL34396, *The America COMPETES Act and the FY2009 Budget*, by Deborah D. Stine.

## Overview of the America COMPETES Act

The America COMPETES Act was a response to concerns about the potential erosion of U.S. industrial competitiveness and global technological leadership. Many believe that investments in science and engineering research, STEM education, and STEM workforce development can contribute to U.S. competitiveness. The act mainly addresses concerns about the adequacy of investment in these areas.

The America COMPETES Act authorizes an increase in federal science and engineering research funding and support for STEM education from kindergarten through the postdoctoral level. The act authorizes funding increases through FY2010 for the National Science Foundation (NSF), the National Institute of Standards and Technology (NIST) laboratories,<sup>2</sup> and the Department of Energy Office of Science (DOE SC). The act also authorizes within DOE the establishment of the Advanced Research Projects Agency – Energy (ARPA-E)<sup>3</sup> and Discovery Science and Engineering Innovation Institutes. In addition, the act authorizes new STEM education programs at DOE, the Department of Education (ED), and NSF, and increases the authorization levels for several existing NSF STEM education programs.

The America COMPETES Act is an authorization act. New programs authorized by the act will not be established unless funded through subsequent appropriations acts. Similarly, realization of the higher authorization levels of existing programs in the act depends on subsequent appropriations.

## Overview of FY2008 and FY2009 Appropriations

The America COMPETES Act was passed after much of the FY2008 appropriations process had already taken place during the 110<sup>th</sup> Congress. Although America COMPETES Act programs were not funded at their FY2008 authorized levels, the 110<sup>th</sup> Congress did provide FY2008

---

<sup>1</sup> This report was originally written by Deborah D. Stine.

<sup>2</sup> The NIST laboratories are funded under the Scientific and Technical Research and Services (STRS) account.

<sup>3</sup> For more information on ARPA-E, see CRS Report RL34497, *Advanced Research Projects Agency - Energy (ARPA-E): Background, Status, and Selected Issues for Congress*, by Deborah D. Stine.

appropriations to establish ED's Teachers for a Competitive Tomorrow program, and NIST's Technology Improvement Program (TIP), which replaced the agency's Advanced Technology Program.

The 111<sup>th</sup> Congress provided funding in FY2009 for R&D and STEM education through the Omnibus Appropriations Act, 2009 (P.L. 111-8) and the American Recovery and Reinvestment Act (P.L. 111-5). Some America COMPETES Act programs were funded at authorized levels; others were not. The following activities were funded at or above authorized levels:

- NIST's Scientific & Technical Research and Services (STRS) and Construction and Maintenance;
- DOE's Office of Science; and
- NSF's Research and Related Activities, Major Research Instrumentation, Major Research Equipment and Facilities Construction, Professional Science Master's program, Robert Noyce Teacher Scholarship program, and Graduate Research Fellowship program.

Other programs were funded either below authorized levels or not funded. The acts funded the establishment of DOE's ARPA-E and NSF's PSM program. Also, portions of the P-16 Alignment of Secondary School Graduation Requirements with the Demands of 21<sup>st</sup> Century Postsecondary Endeavors and Support for P-16 Education Data Systems were funded through the ARRA.

The Obama Administration contends that the following America COMPETES Act programs correspond to existing DOE programs:

- Summer Institutes (§5003) to the pre-existing DOE Academies Creating Teacher Scientists program (DOE ACTS);
- Early Career Awards for Science, Engineering, and Mathematics Researchers (§5006) to the pre-existing High Energy Physics Outstanding Junior Investigator, Nuclear Physics Outstanding Junior Investigator, Fusion Energy Sciences Plasma Physics Junior Faculty Development; Advanced Scientific Computing Research Early Career Principle Investigator; and the Office of Science Early Career Scientist and Engineer Award programs;
- Discovery Science and Engineering Innovation Institutes (§5008) to the pre-existing Bioenergy Research Centers, SciDAC Institutes, and the Energy Frontier Research Centers; and
- Protecting America's Competitive Edge (PACE) Graduate Fellowship Program (§5009) to the pre-existing Computer Science Graduate Fellowships; Graduate Research Environmental Fellowships; American Meteorological Society/Industry/Government Graduate Fellowships; Spallation Neutron Source Instrumentation Fellowships, and the Fusion Energy Sciences Graduate Fellowships.<sup>4</sup>

---

<sup>4</sup> According to an email communication between CRS and the Bush Administration OMB and OSTP received on October 14, 2008, and between CRS and the Obama Administration OSTP on May 19, 2009.

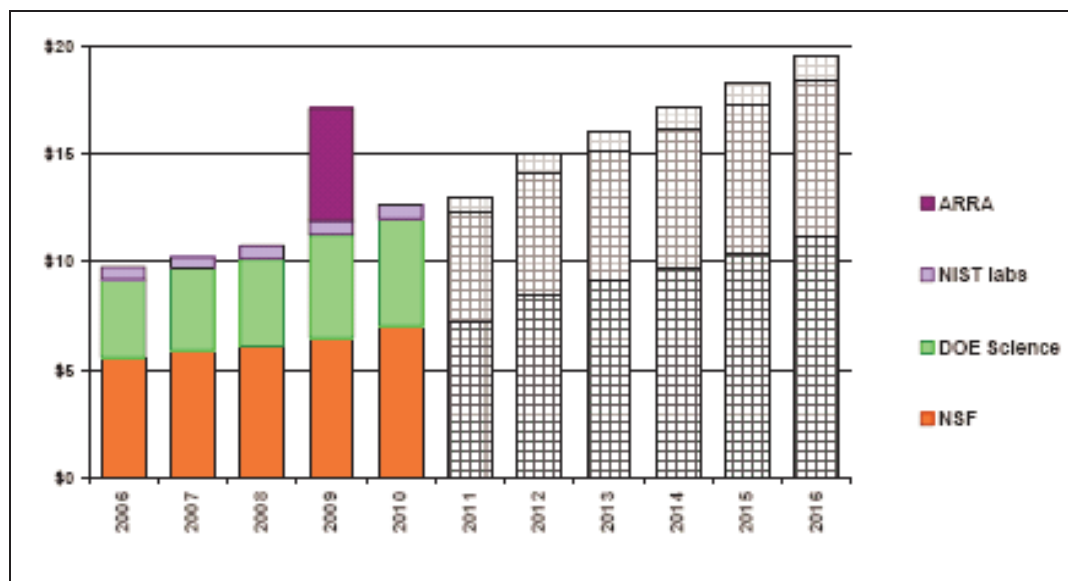
## The President's FY2010 Budget Request

This section provides an overview of President Obama's FY2010 budget request for research and STEM education activities as they relate to the America COMPETES Act. **Table 1** (located at the end of this report) provides a program-specific comparison of the President's FY2010 budget request, America COMPETES Act authorization levels, and congressional actions.

### Research

The President's FY2010 budget request stated that the President planned to double funding for the NSF, NIST laboratories, and DOE SC between 2006 and 2016 (see **Figure 1**). President Obama's proposed plan is consistent with President Bush's American Competitiveness Initiative (ACI)<sup>5</sup> which also sought to double these agencies' budgets over 10 years. President Obama's plan proposes a slower doubling path than that laid out in the America COMPETES Act which placed these same agencies on a track to double their budgets over seven years.<sup>6</sup>

**Figure 1. Obama Administration Plan for Science and Innovation, FY2006-2016**  
Budget Authority in Billions of Current Dollars



**Source:** Office of Science and Technology Policy, The White House, *A Renewed Commitment to Science and Technology: Federal R&D, Technology, and STEM Education in the 2010 Budget*, May 2009 at <http://www.ostp.gov/galleries/budget/FY2010RD.pdf>.

**Notes:** 2006-2009 figures are enacted budget authority; 2011-2016 figures are projections in the 2010 budget.

<sup>5</sup> U.S. President (G.W. Bush), *American Competitiveness Initiative*, Domestic Policy Council/Office of Science and Technology Policy, February 2006, p. 19, at <http://www.ostp.gov/pdf/acibooklet.pdf>.

<sup>6</sup> Both the America COMPETES Act and President Obama seek to double the research budgets of these agencies in nominal terms, i.e., not in inflation adjusted terms.

President Obama's FY2010 request for NSF's Research and Related Activities (R&RA) was \$5,733.2 million, \$667.8 million below the authorized level of \$6,401.0 million. Within the R&RA account, the President requested funding at the authorized level of \$203.8 million for the NSF Faculty Early Career Development (CAREER) program. The President's FY2010 request also included \$147.1 million for NSF's Experimental Program to Stimulate Competitive Research (EPSCoR), similar to its authorized level of \$147.8 million. The request also included \$19.4 million for R&RA's portion of NSF's Graduate Research Fellowship (GRF) program, above its authorized level of \$11.1 million, though the Education and Human Resources (EHR) Directorate portion of GRF proposed funding of \$102.6 million is below the authorized level of \$119.0 million. No FY2010 funding was requested for NSF's Professional Science Master's (PSM) program, newly established in FY2009 through ARRA funding.

President Obama's FY2010 request for DOE SC was \$4,941.7 million, below the authorization level of \$5,814.0 million. In addition, the President requested \$10.0 million in FY2010 for DOE's ARPA-E. Congress appropriated \$415.0 million for ARPA-E in FY2009 (\$15.0 million as part of the regular FY2009 appropriation and \$400.0 million under the ARRA). The America COMPETES Act authorizes "such sums as are necessary" for ARPA-E in FY2010.

President Obama's FY2010 request for NIST STRS was \$534.6 million, \$50.2 million below the authorization level of \$584.8 million. The President requested FY2010 funding of \$69.9 million for the NIST TIP program, less than half the authorization level of \$140.5 million. The FY2010 request for MEP was \$124.7 million, \$7.1 million below the authorization level of \$131.8 million. The President's FY2010 request for the NIST construction and maintenance account was \$116.9 million, more than double the authorization level of \$49.7 million.

## **Science, Technology, Engineering, and Mathematics (STEM) Education**

President Obama did not request funding in FY2010 to establish the new STEM education programs authorized in the America COMPETES Act. Although no new funding was requested for America COMPETES Act STEM education programs at ED, the President's request funded ED's Teachers for a Competitive Tomorrow program at its FY2009 enacted level of \$2.2 million. The President requested funding for NSF's Advanced Technological Education (ATE) program at its authorized level of \$64 million. The President's request for each of the other NSF STEM programs was below the America COMPETES Act FY2010 authorization levels. No funding was requested for the NSF Laboratory Science Pilot program which was authorized by the act "to improve laboratories and provide instrumentation as part of a comprehensive program to enhance the quality of science, technology, engineering, and mathematics instruction at the secondary school level." The President requested no funding for any of the DOE STEM education programs authorized under the America COMPETES Act.

However, as shown in **Figure 2**, the President requested funding for other STEM education programs not part of the America COMPETES Act. For example, the President proposed a new DOE-NSF initiative called "REgaining our ENERGY Science and Engineering Edge" (RE-ENERGYSE) to encourage American students to pursue STEM careers, particularly in clean energy, requesting DOE funding of \$115.0 million. As a point of comparison, the total FY2010 authorization level for all the DOE STEM education programs authorized in the America COMPETES Act was \$117.5 million.

**Figure 2. President Obama's FY2010 Budget Request for STEM Education Programs**  
Budget Authority in Millions

	FY 2008 Enacted	FY 2009 Enacted	FY 2009 ARRA 1/	FY 2010 Budget	Change FY 09-10 2/	
					Amount	Percent
Corporation for Nat'l & Community Service	3	7	0	7	0	0.0%
Agriculture	44	47	0	88	41	87.2%
Commerce	47	50	43	36	-14	-28.0%
Defense	209	218	0	229	11	5.0%
Education	708	850	0	763	-87	-10.2%
Energy	20	24	13	148	124	516.7%
Health and Human Services	837	845	0	853	8	0.9%
Homeland Security	93	99	0	106	7	7.1%
Labor	0	10	0	0	-10	-100.0%
Interior	23	24	0	26	2	8.3%
Transportation	158	159	0	174	15	9.4%
Environmental Protection Agency	10	10	0	11	1	10.0%
NASA	147	169	0	126	-43	-25.4%
National Science Foundation	1,013	1,066	220	1,109	43	4.0%
<b>Total STEM Education</b>	<b>3,312</b>	<b>3,578</b>	<b>276</b>	<b>3,676</b>	<b>98</b>	<b>2.7%</b>

**Source:** Office of Science and Technology Policy, The White House, *A Renewed Commitment to Science and Technology: Federal R&D, Technology, and STEM Education in the 2010 Budget*, May 2009 at <http://www.ostp.gov/galleries/budget/FY2010RD.pdf>.

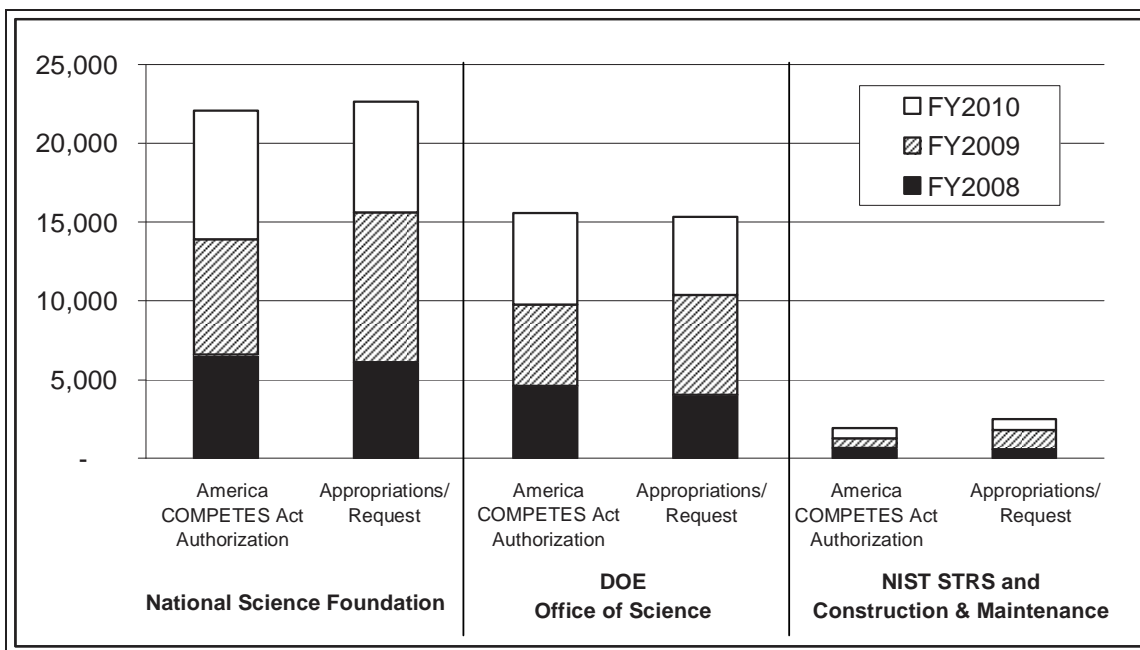
**Notes:** (1) Based on preliminary allocations of Recovery Act (P.L. 111-5) appropriations. These figures may change. (2) Excludes Recovery Act appropriations. Change is regular FY2009 appropriations to FY2010 request.

Also, although the appropriation levels requested by the President for these agencies were below that authorized in the America COMPETES Act for FY2010, some analysts noted that the total funds appropriated in FY2008 (regular and supplemental) and FY2009 (regular and ARRA) and requested for FY2010 by the President for NSF and the NIST laboratories and construction accounts exceed the aggregate funding authorized for these agencies/accounts during this period under the America COMPETES Act. For DOE SC, the appropriated/requested funding was slightly below the authorization level for this period. As shown in **Figure 3**, the total authorization for NSF under the America COMPETES Act for FY2006-FY2008 was \$22,058 million, while the total appropriated/requested was \$22,665 million, \$607 million above the aggregate authorized level. The total authorization for the NIST STRS and Construction accounts during this period was \$1,916 million, while the funding appropriated/requested was \$2,477 million, \$561 million above the authorized level. For DOE SC, the total authorized for this period was \$15,600 million, while the total appropriated/requested was \$15,335 million, \$265 million below the authorized level.

However, examining the FY2010 figures separately shows the President's FY2010 budget request for NSF to have been \$1,087 million below the America COMPETES Act authorization level, and \$872 million below the authorization level for DOE SC. The President's NIST STRS/Construction request for FY2010 was \$17 million more than the FY2010 America COMPETES Act authorization level. If Congress chooses to remain on the seven-year doubling path for research initiated by the America COMPETES Act, large dollar and percentage increases would be required in FY2011 for NSF and DOE SC.



**Figure 3. Comparison of America COMPETES Act Authorizations and Appropriated/Requested Funding for Selected Agencies/Offices/Accounts**  
(in millions of dollars)



Source: Congressional Research Service.

Notes: DOE = Department of Energy Office of Science. NIST = National Institute of Standards and Technology. STRS = Scientific and Technical Research and Services. FY2008 and FY2009 are as appropriated by Congress. FY2010 is as requested by the President. This analysis does not take inflation into account.

## Congressional Actions

Following release of the President’s FY2010 budget request, Congress passed a budget resolution that sets the budgetary spending amounts for each functional category of the budget.<sup>7</sup> The budget resolution does not allocate funds among specific programs or accounts. Major program assumptions underlying the functional amounts, however, are often discussed in the reports accompanying the resolution. These program assumptions and budget functions are not binding, although congressional action has been taken.<sup>8</sup>

## Budget Resolution

In April 2009, the House and Senate agreed to the concurrent budget resolution (S.Con.Res. 13), which stated, in part:

<sup>7</sup> CRS Report 97-684, *The Congressional Appropriations Process: An Introduction*, by Sandy Streeter.

<sup>8</sup> CRS Report 98-721, *Introduction to the Federal Budget Process*, by Robert Keith. This process is set forth in the Congressional Budget Act, Titles I-IX of the Congressional Budget and Impoundment Control Act of 1974 (P.L. 93-344; July 12, 1974; 88 Stat. 297-339), as amended and codified at 2 U.S.C. 621-692.

SEC. 603. SENSE OF THE CONGRESS ON PROMOTING AMERICAN INNOVATION AND ECONOMIC COMPETITIVENESS.

It is the sense of the Congress that—

(1) the Congress should provide sufficient investments to enable our Nation to continue to be the world leader in education ,innovation, and economic growth as envisioned in the goals of the America COMPETES Act;

(2) this resolution builds on significant funding provided in the American Recovery and Reinvestment Act for scientific research and education in Function 250 (General Science, Space and Technology), Function 270 (Energy), Function 300 (Natural Resources and Environment), Function 500 (Education, Training, Employment, and Social Services), and Function 550(Health);

(3) the Congress also should pursue policies designed to ensure that American students, teachers, businesses, and workers are prepared to continue leading the world in innovation, research, and technology well into the future; and

(4) this resolution recognizes the importance of the extension of investments and tax policies that promote research and development and encourage innovation and future technologies that will ensure American economic competitiveness.

## Appropriations Status

In both the House and Senate, jurisdiction for funding the programs addressed by the America COMPETES Act is divided among multiple appropriations subcommittees.<sup>9</sup> As a result, funding for these programs was contained in multiple FY2010 regular appropriations bills, adding to the complexity Congress faces in addressing these programs as part of a single initiative, as well as in tracking program funding. **Table 1** summarizes the FY2010 appropriations status of the America COMPETES Act programs.

Appropriations for America COMPETES Act programs are included in three regular appropriations bills:

- Commerce, Justice, Science, and Related Agencies (CJS), for NSF and NIST programs;
- Energy and Water Development (Energy-Water), for DOE programs;
- Labor, Health and Human Services, Education, and Related Agencies (Labor-HHS-Education), for ED programs.

Typically, the appropriations subcommittees in the House and Senate review the President's budget request and each provides recommendations to its respective Committee on Appropriations.<sup>10</sup> The following sections summarize final FY2010 appropriations for America COMPETES Act programs.

---

<sup>9</sup> It is important to note that the House and Senate Parliamentarians are the sole definitive authorities on questions relating to the jurisdiction of congressional committees and should be consulted for a formal opinion on any specific jurisdictional question.

<sup>10</sup> For additional information on the appropriations process, see CRS Report 97-684, *The Congressional Appropriations* (continued...)

## **Commerce, Justice, Science, and Related Agencies**

The House approved the CJS Act (H.R. 2847) on June 18, 2009. The Senate Committee on Appropriations CJS subcommittee made its report (S.Rept. 111-34) providing funding recommendations to the full committee on June 24, 2009. The Senate Appropriations Committee reported the bill on June 25, 2009. Ultimately, regular appropriations for FY2010 for activities funded in the CJS Appropriations Act were included as Division B in the Consolidated Appropriations Act, 2010 (P.L. 111-117), which was signed into law on December 16, 2009.

### *National Institute of Standards and Technology, U.S. Department of Commerce*

**Scientific and Technical Research Services.** P.L. 111-117 includes \$515.0 million for the NIST STRS account for FY2010, \$43.0 million (9.1%) above the FY2009 regular appropriation (\$472.0 million), below the President's request (\$534.6 million), and below the America COMPETES Act FY2010 authorization level (\$584.8 million).

**Construction and Maintenance.** Funding for the NIST Construction and Maintenance account for FY2010 is \$147.0 million, above the President's request (\$116.9 million) and the America COMPETES Act FY2010 authorization level (\$49.7 million), but \$25.0 million (14.5%) below the FY2009 regular appropriation (\$172.0 million).

**Technology Innovation Program.** The NIST TIP program is funded at \$69.9 million in FY2010, equal to the President's request, \$4.9 million (7.5%) above the FY2009 regular appropriation (\$65.0 million), but less than half the America COMPETES Act FY2010 authorization level (\$140.5 million).

**Manufacturing Extension Partnership.** The NIST MEP program is funded at \$124.7 million for FY2010, equal to the President's request, \$14.7 million (13.4%) above the FY2009 regular appropriation (\$110.0 million), but below the America COMPETES Act FY2010 authorization level (\$131.8 million).

### *National Science Foundation*

**Research and Related Activities.** FY2010 funding for the NSF R&RA account is \$5,617.9, \$115.3 million (2.0%) below the President's request (\$5,733.2 million), \$434.8 million (8.4%) above the FY2009 regular appropriation (\$5,183.1 million), but \$783.1 million (12.2%) below the America COMPETES Act FY2010 authorization level of \$6,401.0 million.

Several America COMPETES Act programs included in the President's budget under the R&RA account were not included<sup>11</sup> in P.L. 111-117, including: Faculty Early Career Development, Research Experiences for Undergraduates, Integrative Graduate Education and Research Traineeship (R&RA portion), and Graduate Research Fellowship (R&RA portion) programs.

---

(...continued)

*Process: An Introduction*, by Sandy Streeter.

<sup>11</sup> As used in this report, "not included" means that these programs were not specifically identified in the bill or report, but it does not necessarily mean no funding is being provided for these programs.

The President requested \$100 million for the Major Research Instrumentation program for FY2010. Funding is not included in P.L. 111-117 for this program. The report accompanying the House passed version of the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2010 (H.Rept. 111-149) stated that no funds were being provided for the Major Research Instrumentation program due to new solicitations in FY2009 totaling \$400 million but expects to resume funding in FY2011; the Senate report stated that “The Committee expects the NSF to fully fund world-class scientific research facilities and instruments” commensurate with the increase in the number of research grants that it anticipates will result from increased FY2009 funding.

With respect to the Experimental Program to Stimulate Competitive Research (EPSCOR), funding is provided at the requested level of \$147.1 million, approximately equal to the authorized level. The President did not request funds for the Professional Science Master’s Degree Program, authorized at \$15.0 million, and no funds are included in P.L. 111-117; S.Rept. 111-34 stated that “the Committee strongly encourages NSF to continue support” for the PSM program and “strongly recommends that NSF incorporate requests for funding in fiscal year 2011 budget and beyond.”

Funding for the Graduate Research Fellowship program is not included in P.L. 111-117. The House report stated that an additional \$14.0 million was provided in the House bill above the President’s request (for a total of \$33.4 million) to enable NSF to select and support 2,000 new fellows in FY2010; neither the Senate bill nor its accompanying report referenced the program.

**Education and Human Resources.** P.L. 111-117 provides \$872.8 million for the NSF EHR account, \$72.5 million (3.3%) above the FY2009 regular appropriation (\$845.3 million), \$15.0 million (1.7%) above the President’s request (\$857.8 million), and \$231.2 million (20.9%) less than the America COMPETES Act FY2010 authorization level of \$1,104.0 million.

The America COMPETES Act provided appropriations authorizations for six EHR programs. While P.L. 111-117 only specifies the funding level for the Robert Noyce Teacher Scholarship Program, the conference report (H.Rept. 111-366) indicates that the act fully funds the President’s request (as well as providing \$15 million for activities not covered by the America COMPETES Act) which was made at the following levels: Mathematics and Science Education Partnership, \$58.2 million; Robert Noyce Teacher Scholarship Program, \$55.0 million; Science, Mathematics, Engineering, and Technology Talent Expansion, \$31.5 million; Advanced Technological Education, \$64.0 million; Integrative Graduate Education and Research Traineeship, \$29.9 million; and Graduate Research Fellowship, \$102.6 million.

**Major Research Equipment and Facilities Construction.** P.L. 111-117 provides \$117.3 million for the NSF MREFC account, equal to the President’s request, \$34.7 million (22.8%) below the FY2009 regular appropriation (\$152.0 million), and less than half the level authorized under the America COMPETES Act (\$280.0 million).

**Agency Operation and Award Management.** P.L. 111-117 provides \$300 million for the NSF Agency Operation and Award Management account, \$6.0 million (2.0%) above the FY2009 regular appropriation (\$294.0 million), \$18.4 million less than the President’s request (\$318.4 million), and \$29.5 million less than authorized under the America COMPETES Act (\$329.5 million).

**National Science Board.** P.L. 111-117 provides \$4.5 million for the National Science Board, \$0.5 million (12.5%) above the FY2009 regular appropriation (\$4.0 million), and \$0.2 million more than the President's request (\$4.3 million) and the amount authorized under the America COMPETES Act (\$4.3 million).

**Inspector General.** P.L. 111-117 provides \$14.0 million for the NSF Inspector General, \$2.0 million (16.7%) above the FY2009 regular appropriation (\$12.0 million), equal to the President's request (\$14.0 million), and \$0.8 million (6.1%) above the level authorized in the America COMPETES Act (\$13.2 million).

## **Energy and Water Development**

P.L. 111-85, the Energy and Water Development and Related Agencies Appropriations Act, 2010, was signed into law on October 28, 2009.

### *Department of Energy*

**Office of Science.** P.L. 111-85 provides \$4,903.7 million for the Office of Science, \$146.1 million (3.1%) above the FY2009 regular appropriation (\$4,757.6 million), \$38.0 million (0.8%) less than the President's request (\$4,941.7 million), and \$910.3 million (15.7%) below the level authorized in the America COMPETES Act (\$5,814.0 million).

**Advanced Research Projects Agency – Energy (ARPA-E).** P.L. 111-85 provides no funds for the Advanced Research Projects Agency – Energy in FY2010. The report accompanying the House-passed version of the bill (H.Rept. 111-203) states that funding provided in the FY2009 regular appropriation (\$15.0 million) and in the ARRA (\$400.0 million) will allow ARPA-E to fund its first round of awards in FY2010, and adds: "The decision not to provide any additional funding for ARPA-E in fiscal year 2010 beyond the funding already provided does not in any way suggest a lack of commitment to this new program by the Committee." The President had requested \$10.0 million for ARPA-E in FY2010.<sup>12</sup>

**Other Department of Energy Programs Authorized Under the America COMPETES Act.** Twelve new DOE research and education programs authorized in the America COMPETES Act have not been funded in previous years, received no request for funding in the President's FY2010 budget, and are not included in P.L. 111-85. They include: Pilot Program of Grants to Specialty Schools for Science and Mathematics; Experiential Based Learning Opportunities; Summer Institutes; National Energy Education Development; Nuclear Science Program Expansion Grants for Institutions of Higher Education; Nuclear Science Competitiveness Grants for Institutions of Higher Education; Hydrocarbon Systems Science Program Expansion Grants for Institutions of Higher Education; Hydrocarbon Systems Science Competitiveness Grants for Institutions of Higher Education; Early Career Awards for Science, Engineering, and Mathematics Researchers; Discovery Science and Engineering Innovation Institutes; Protecting America's Competitive Edge (PACE) Graduate Fellowship Program; and Distinguished Scientist Program. Total authorized FY2010 funding for these programs under the America COMPETES Act

---

<sup>12</sup> The President's request for ARPA-E is referred to as the "Energy Transformation Acceleration Fund" in DOE's budget request.

exceeds \$200 million. White House officials have stated that several of these programs are similar to existing programs that receive support in the President's budget.<sup>13</sup>

## **Labor, Health and Human Services, Education, and Related Agencies**

The Labor-HHS Act (H.R. 3293) was included as Division D of the Consolidated Appropriations Act, 2010 (P.L. 111-117). P.L. 111-117 was signed into law on December 16, 2009.

### *Department of Education*

**Advanced Placement and International Baccalaureate Programs.** P.L. 111-117 provides \$45.8 million for the Advanced Placement and International Baccalaureate Programs, \$2.3 million (5.3%) more than the President's FY2010 request. The America COMPETES Act authorizes "such sums as may be necessary."

**Teachers for a Competitive Tomorrow.** P.L. 111-117 provides \$1.1 million for the Teachers for a Competitive Tomorrow: Baccalaureate Degrees and \$1.1 million for the Teachers for a Competitive Tomorrow: Master's Degrees programs, both equal to the President's request and to their FY2009 funding level. The America COMPETES Act FY2010 authorization level for these programs is \$151.2 million for the baccalaureate level and \$125.0 million for the master's level.

**Other Department of Education Programs Authorized Under the America COMPETES Act.** P.L. 111-117 does not provide funding for five new Department of Education programs authorized in the America COMPETES Act: Math Now, Summer Term Education Programs, Math Skills for Secondary School Students, Advancing America Through Foreign Language Partnership Program, and Mathematics and Science Partnership Bonus Grants. These programs were not funded in previous years and received no request for funding in the President's FY2010 budget. Funding for a sixth program authorized under the America COMPETES Act, P-16 Alignment of Secondary School Graduation Requirements with the Demands of 21<sup>st</sup> Century Postsecondary Endeavors and Support for P-16 Education Data Systems, is ambiguous. According to the Department of Education, this program is similar to a program established in 2005 focused on P-12 data systems, but which has since expanded to include P-16 education data systems per the intent of the America COMPETES Act.<sup>14</sup> The America COMPETES Act authorizes \$95 million in FY2010 for the Math Skills for Secondary School Students program and "such sums as may be necessary" for each of the other programs.

## **Issues for Congress**

As Congress deliberates the FY2010 budget, an issue for Congress is what level, if any, will it appropriate funding for America COMPETES Act programs. Several new programs authorized in the act have never been funded. An issue for these programs is whether or not they will receive the funding necessary to establish them. The America COMPETES Act provides authorization levels only through FY2010.

---

<sup>13</sup> According to an email communication between CRS and the Bush Administration OMB and OSTP received on October 14, 2008, and between CRS and the Obama Administration OSTP on May 19, 2009.

<sup>14</sup> Private communication between CRS and the Department of Education, January 22, 2010.

**Table I. America COMPETES Act Programs and Appropriations Status**  
(in millions of dollars)

<b>Programs with Specific Authorized Budgets in the America COMPETES Act</b>	<b>Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)</b>	<b>America COMPETES Act (P.L. 110-69) Authorization of Appropriation</b>	<b>President's Budget Request</b>	<b>House Passed</b>	<b>Senate Passed</b>	<b>FY2010 Estimate</b>
<b>National Institute of Standards and Technology (Sec. 3001)</b>						
—Scientific & Technical Research and Services (STRS) (Sec. 3001)	\$692.0 (472.0 omnibus + 220.0 ARRA)	\$584.8	\$534.6	\$510.0	\$520.3	\$515.0
—Construction & Maintenance (Sec. 3001)	532.0 (172.0 omnibus +360.0 ARRA)	49.7	116.9	76.5	163.9	147.0
—Technology Innovation Program (TIP) <sup>a</sup> (Sec. 3001/3012) [NEW]	65.0	140.5	69.9	69.9	69.9	69.9
—Manufacturing Extension Partnership (MEP) (Sec. 3001/3003)	110.0	131.8	124.7	124.7	124.7	124.7
<b>Department of Energy</b>						
<b>DOE Science, Engineering and Mathematics Programs (Sec. 5003)</b>						
—Pilot Program of Grants to Specialty Schools for Science and Mathematics (Sec. 5003) [NEW]	0.0	30.0	0.0	0.0	0.0	0.0
—Experiential Based Learning Opportunities (Sec. 5003) [NEW]	0.0	7.5	0.0	0.0	0.0	0.0
—Summer Institutes <sup>b</sup> (Sec. 5003) [NEW]	Not Included	25.0	Not Included	Not Included	Not Included	Not Included

<b>Programs with Specific Authorized Budgets in the America COMPETES Act</b>	<b>Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)</b>	<b>America COMPETES Act (P.L. 110-69) Authorization of Appropriation</b>	<b>President's Budget Request</b>	<b>House Passed</b>	<b>Senate Passed</b>	<b>FY2010 Estimate</b>
—National Energy Education Development (Sec. 5003) [NEW]	0.0	Such sums as necessary	0.0	0.0	0.0	0.0
<b>Nuclear Science Talent Expansion Program (Sec. 5004)</b>						
—Nuclear Science Program Expansion Grants for Institutions of Higher Education (Sec. 5004) [NEW]	Not Included	9.5	Not Included	Not Included	Not Included	Not Included
—Nuclear Science Competitiveness Grants for Institutions of Higher Education (Sec. 5004) [NEW]	Not Included	8.0	Not Included	Not Included	Not Included	Not Included
<b>Hydrocarbon Systems Science Talent Expansion Program (Sec. 5005)</b>						
—Hydrocarbon Systems Science Program Expansion Grants for Institutions of Higher Education (Sec. 5005) [NEW]	Not Included	9.5	Not Included	Not Included	Not Included	Not Included
—Hydrocarbon Systems Science Competitiveness Grants for Institutions of Higher Education (Sec. 5005) [NEW]	Not Included	8.0	Not Included	Not Included	Not Included	Not Included
<b>Office of Science (Sec. 5007) (as act amends the Energy Policy Act of 2005 for FY2010)</b>	6,357.6 4,807.2 <sup>c</sup> omnibus +1,632.9 ARRA	5,814.0	4,941.7	4,943.6	4,898.8	4,903.7



<b>Programs with Specific Authorized Budgets in the America COMPETES Act</b>	<b>Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)</b>	<b>America COMPETES Act (P.L. 110-69) Authorization of Appropriation</b>	<b>President's Budget Request</b>	<b>House Passed</b>	<b>Senate Passed</b>	<b>FY2010 Estimate</b>
—Early Career Awards for Science, Engineering, and Mathematics Researchers (Sec. 5006)[NEW]	Not Included	25.0	Not Included <sup>d</sup>	Not Included	Not Included	Not Included
<b>Discovery Science and Engineering Innovation Institutes</b> (Sec. 5008) [NEW]	Not Included	10.0-30.0 <sup>e</sup>	Not Included <sup>f</sup>	Not Included	Not Included	Not Included
<b>Protecting America's Competitive Edge (PACE) Graduate Fellowship Program</b> (Sec. 5009)[NEW]	Not Included	20.0	Not Included <sup>g</sup>	Not Included	Not Included	Not Included
<b>Distinguished Scientist Program</b> (Sec. 5011) [NEW]	0.0	30.0	0.0	Not Included	Not Included	0.0
<b>Advanced Research Projects Agency—Energy [ARPA-E]</b> (Sec. 5012) [NEW]	*415.0 (15.0 Omnibus + 400.0 ARRA)	Such sums as are necessary	10.0 <sup>h</sup>	0.0 <sup>i</sup>	0.0	0.0
<b>Department of Education</b>						
<b>Teachers for a Competitive Tomorrow: Baccalaureate Degrees</b> (Sec. 6113, 6115, 6116) [NEW]	*1.1	151.2	1.1	Not Included	Not Included	1.1i
<b>Teachers for a Competitive Tomorrow: Master's Degrees</b> (Sec. 6114-6116) [NEW]	*1.1	125.0	1.1	Not Included	Not Included	1.1i
<b>Advanced Placement and International Baccalaureate Programs</b> (Sec. 6121-6123) [NEW]	*0.0	Such sums as may be necessary	43.5	43.5	43.5	45.8i
<b>Math Now</b> (Sec. 6201) [NEW]	*0.0	Such sums as may be necessary	Not Included	Not Included	Not Included	0.0i
<b>Summer Term Education Programs</b> (Sec. 6202) [NEW]	Not Included	Such sums as may be necessary	Not Included	Not Included	Not Included	0.0i
<b>Math Skills for Secondary School Students</b> (Sec. 6203) [NEW]	Not Included	95.0	Not Included	Not Included	Not Included	0.0i

Programs with Specific Authorized Budgets in the America COMPETES Act	Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)	America COMPETES Act (P.L. 110-69) Authorization of Appropriation	President's Budget Request	House Passed	Senate Passed	FY2010 Estimate
<b>Advancing America Through Foreign Language Partnership Program<sup>k</sup></b> (Sec. 6301-6304) [NEW]	*0.0	Such sums as may be necessary	Not Included	Not Included	Not Included	0.0 <sup>i</sup>
<b>P-16 Alignment of Secondary School Graduation Requirements with the Demands of 21<sup>st</sup> Century Postsecondary Endeavors and Support for P-16 Education Data Systems</b> (Sec. 6401) [NEW]	Not Included <sup>l</sup>	Such sums as may be necessary	Not Included	Not Included	Not Included	Not Included
<b>Mathematics and Science Partnership Bonus Grants</b> (Sec. 6501) [NEW]	Not Included	Such sums as may be necessary	Not Included	Not Included	Not Included	0.0 <sup>i</sup>
<b>National Science Foundation</b> (Sec. 7002)	8,870.4 (6,468.8 omnibus +2,401.7 ARRA)	8,132.0	7,045.0	6,936.5	6,916.8	6,872.5 <sup>m</sup>
<b>Research and Related Activities (R&amp;RA)</b>	7,683.1 (5,183.1 omnibus +2,500.0 ARRA)	6,401.0	5,733.2	5,642.1	5,618.0	5,617.9
—Major Research Instrumentation (MRI) (Sec. 7002/Sec. 7036)	400.0 (100.0 omnibus +300.0 ARRA)	131.7	100.0	0.0	Not Included	Not Included
—Faculty Early Career Development (CAREER) (Sec.7002)	347.6 (182.6 omnibus +165.0 ARRA)	203.8	203.8	Not Included	Not Included	Not Included
—Research Experiences for Undergraduates (REU) (Sec.7002)	63.8	75.9	67.7	Not Included	Not Included	Not Included

<b>Programs with Specific Authorized Budgets in the America COMPETES Act</b>	<b>Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)</b>	<b>America COMPETES Act (P.L. 110-69) Authorization of Appropriation</b>	<b>President's Budget Request</b>	<b>House Passed</b>	<b>Senate Passed</b>	<b>FY2010 Estimate</b>
—Experimental Program to Stimulate Competitive Research (EPSCoR) (Sec.7002)	183.0 (133.0 omnibus +50.0 ARRA)	147.8	147.1	147.1	Not included	147.1
—Integrative Graduate Education and Research Traineeship/R&RA (IGERT) (Sec.7002) <sup>n</sup>	52.2 (38.2 omnibus + 14.0 ARRA)	58.3	39.0	Not Included	Not Included	Not Included
—Graduate Research Fellowship/R&RA (GRF) (Sec.7002)	53.6 (8.1 omnibus +45.6 ARRA)	11.1	19.4	33.4	Not Included	Not Included
—Professional Science Master's Degree Program (Sec. 7002/7034) [NEW]	15.0 <sup>o</sup> (Not Included omnibus +15.0 ARRA)	15.0	0.0	Not Included	Not Included <sup>p</sup>	Not included
<b>Education and Human Resources (EHR)</b>	<b>945.3</b> (845.3 omnibus +100.0 ARRA)	<b>1,104.0</b>	<b>857.8</b>	<b>862.9</b>	<b>857.8</b>	<b>872.8</b>
—Mathematics and Science Education Partnership (MSP) (Sec.7002/7028)	86.0 (61.0 omnibus +*25.0 ARRA)	123.2	58.2	63.8	58.2	58.2
—Robert Noyce Teacher Scholarship Program (Sec.7002/7030)	115.0 (55.0 <sup>q</sup> omnibus +*60.0 <sup>r</sup> ARRA)	140.5	55.0	65.0	55.0	55.0
—Science, Mathematics, Engineering, and Technology Talent Expansion (Sec.7002/7025)	29.7	55.0	31.5 <sup>s</sup>	32.3	31.5	31.5
—Advanced Technological Education (ATE) (Sec.7002)	51.6	64.0	64.0	10.0 <sup>t</sup>	64.0	64.0
—Integrative Graduate Education and Research Traineeship/EHR (IGERT) (Sec.7002) <sup>n</sup>	25.0	33.4	29.9	29.9	29.9	29.9

Programs with Specific Authorized Budgets in the America COMPETES Act	Omnibus Appropriations Act, 2009 (P.L. 111-8); American Recovery and Reinvestment Act (ARRA; P.L. 111-5)	America COMPETES Act (P.L. 110-69) Authorization of Appropriation	President's Budget Request	House Passed	Senate Passed	FY2010 Estimate
—Graduate Research Fellowship/EHR (GRF) (Sec.7002)	107.0	119.0	102.6	102.6	102.6	102.6
<b>Major Research Equipment and Facilities Construction</b> (Sec.7002)	552.0 (152.0 omnibus, +400.0 ARRA)	280.0	117.3	114.3	122.3	117.3
<b>Agency Operations and Award Management</b> (Sec.7002)	294.0	329.5	318.4	299.9	300.4	300.0
<b>National Science Board</b> (Sec.7002)	4.0	4.3	4.3	4.3	4.3	4.5
<b>Inspector General</b> (Sec.7002)	14.0 (12.0 omnibus +2.0 ARRA)	13.2	14.0	13.0	14.0	14.0
<b>Laboratory Science Pilot Program</b> (Sec. 7026) [NEW]	0.0	Such sums as may be necessary	Not Included	Not Included	Not included	Not included

**Sources:** America COMPETES Act (P.L. 110-69); Omnibus Appropriations Act, 2009 (P.L. 111-8) and explanatory statement; American Recovery and Reinvestment Act of 2009 (P.L. 111-5); H.Rept. 111-16 and joint explanatory statement. FY2010 budget documents for the following agencies: NIST budget summary at [http://www.nist.gov/public\\_affairs/releases/approps-summary2008-2010.htm](http://www.nist.gov/public_affairs/releases/approps-summary2008-2010.htm); ED budget justification at <http://www.ed.gov/about/overview/budget/budget10/justifications/index.html>; DOE detailed budget justification (Volume 3 – ARPA-E; Volume 4- Science) at <http://www.cfo.doe.gov/budget/10budget/Start.htm#Detailed%20Budget%20Justifications>; and NSF budget request at <http://www.nsf.gov/about/budget/fy2010/toc.jsp>. Information in FY2010 House column is from H.R. 2847, H.Rept. 111-149, H.R. 3183, H.Rept. 111-203, H.R. 3293, H.Rept. 111-220, and House Committee on Appropriations, Subcommittee on Energy and Water Development, “FY 2010 Energy and Water Development Appropriations,” at [http://appropriations.house.gov/pdf/EW\\_FY\\_2010\\_SubC\\_Summary\\_Table-06-25-2009.pdf](http://appropriations.house.gov/pdf/EW_FY_2010_SubC_Summary_Table-06-25-2009.pdf). Information in Senate column is from S.Rept. 111-34, H.R. 3183, S.Rept. 111-45, H.R. 3293, and S.Rept. 111-66. Information in the “FY2010 Estimate” column is from P.L. 111-117, H.Rept. 111-266, P.L. 111-85, H.Rept. 111-278, and telephone and e-mail communications with agency legislative liaison offices.

**Notes:** Section numbers refer to the America COMPETES Act. “[NEW]” means a program that was not authorized prior to the America COMPETES Act. “Not Included” means that these programs were not specifically identified in the budget request, bill, act, or report, but it does not necessarily mean no funding is being provided for those programs. \* = as recommended in the committee’s report associated with that bill. All other appropriations are numbers from bill language or as reported by the agencies in their annual budget requests.

- a. The following statement is in the FY2009 Consolidated Appropriations Act joint explanatory statement: “Of the amounts provided to ITS [Industrial Technology Services], \$65,200,000 is for the Technology Innovation Program as authorized by P.L. 110-69 [the America COMPETES Act]. TIP is structured to fund high-risk, high reward research focused on broad national needs such as advanced automotive batteries, aquaculture, novel lightweight materials, and other emerging technologies. The funding provided for TIP will address mortgage

obligations relating to projects created under the Advanced Technology Program (ATP). The amended bill also includes language to allow the TIP immediate access to an additional \$5,000,000 from deobligations and prior-year recoveries from ATP.”

- b. According to a personal communication between CRS and OSTP, the Obama Administration contends that Summer Institutes correspond to the pre-existing DOE Academies Creating Teacher Scientists program (DOE ACTS). DOE ACTS received \$4.1 million in FY2009; in FY2010, the President requested and Congress appropriated \$3.8 million.
- c. The P.L. 111-8 explanatory statement provides \$4,772.6 million for science at DOE with \$15.0 million of that total for the organizationally separate Advanced Research Projects Agency – Energy (ARPA-E) and the remainder for DOE Office of Science activities.
- d. According to a personal communication between CRS and OSTP, the Obama Administration contends that Early Career Awards for Science, Engineering, and Mathematics Researchers correspond to pre-existing High Energy Physics (HEP) Outstanding Junior Investigator, Nuclear Physics Outstanding Junior Investigator, Fusion Energy Sciences Plasma Physics Junior Faculty Development; Advanced Scientific Computing Research Early Career Principle Investigator; and the Office of Science Early Career Scientist and Engineer Award programs. The HEP Outstanding Junior Investigator Awards program received \$0.8 million in FY2009 and \$0.0 in FY2010. The Nuclear Physics Outstanding Junior Investigator Awards program received \$0.3 million in FY2009 and \$0.0 in FY2010. The Fusion Energy Sciences Plasma Physics Faculty Development Awards program received \$1.0 million in FY2009 and \$0.6 million in FY2010. The Advanced Scientific Computing Research Early Career Principle Investigator Awards program received no funding in FY2009 and FY2010. The Office of Science Early Career Scientist and Engineer Award program received \$1.5 million in regular FY2009 appropriations, \$85.0 million under ARRA, and \$1.8 million in FY2010.
- e. The Secretary of Energy can decide to establish up to three institutes per fiscal year. Each institute could receive \$10 million per year for three fiscal years.
- f. According to a personal communication between CRS and OSTP, the Obama Administration contends that Discovery Science and Engineering Innovation Institutes correspond with pre-existing Bioenergy Research Centers, SciDAC Institutes, and Energy Frontier Research Centers. Bioenergy Research Centers received \$75.0 million in regular FY2009 appropriations, \$13.5 million under ARRA, and \$75.0 million in FY2010. SciDAC Institutes received \$8.2 million in FY2009 and \$7.6 million in FY2010. Energy Frontier Research Centers received \$45.4 million in FY2009 and \$45.4 million in FY2010.
- g. According to a personal communication between CRS and OSTP, the Obama Administration contends that the Protecting America’s Competitive Edge (PACE) Graduate Fellowship Program corresponds to pre-existing Computer Science Graduate Fellowships program; the DOE Office of Science Graduate Fellowships program; Applied Mathematics/High Performance Computer Science Fellowships program; the Graduate Research Environmental Fellowships program; the American Meteorological Society Industry/Government Graduate Fellowships program; and the Fusion Energy Sciences Graduate Fellowship program. The Computer Science Graduate Fellowship program received \$5.0 million in FY2009 and \$6.0 million in FY2010. The American Meteorological Society Industry/Government Graduate Fellowships program received no funding in FY2009 and FY2010. The Fusion Energy Sciences Graduate Fellowships program received \$0.8 million in FY2009 and \$0.9 million in FY2010. The DOE Office of Science Graduate Fellowships program received \$0.1 million in regular FY2009 appropriations, \$12.5 million under ARRA, and \$5.0 million in FY2010. The Applied Mathematics/High Performance Computer Science Fellowships program received no funding in FY2009 and \$2.0 million in FY2010.
- h. Note that the funding request for ARPA-E is listed as “Energy Transformation Acceleration Fund,” in DOE’s budget request.
- i. H.Rept. 111-203 states that funding provided in the FY2009 regular appropriation (\$15.0 million) and in the ARRA (\$400.0 million) will allow ARPA-E to fund its first round of awards in FY2010. In addition, the report clarifies the Committee’s commitment to the program: “The decision not to provide any additional funding for ARPA–E in fiscal year 2010 beyond the funding already provided does not in any way suggest a lack of commitment to this new program by the Committee.”

- j. Telephone communication with Department of Education, January 21, 2009.
- k. The title for this program in the America COMPETES Act is the Foreign Language Partnership Program. The table uses the title for this program from the ED FY2009 congressional budget justification to help distinguish it from other ED foreign language programs such as the existing Foreign Language Assistance program.
- l. P.L. 111-5 indicates that part of the funding provided to States for Institutions of Higher Education as part of the State Fiscal Stabilization Fund (Title XIV) should be used for “IMPROVING COLLECTION AND USE OF DATA.—The State will establish a longitudinal data system that includes the elements described in section 6401(e)(2)(D) of the America COMPETES Act (20 U.S.C. 9871).” In addition, the State “will take steps to improve State academic content standards and student academic achievement standards consistent with 6401(e)(1)(A)(ii) of the America COMPETES Act.” No specific appropriation is noted for either purpose. Section 6401 of the America COMPETES Act addresses the “Alignment of secondary school graduation requirements with the demands of 21<sup>st</sup> century postsecondary endeavors and support for P-16 education systems.” With that Section, subsection (e)(2)(D) provides required elements of a statewide P-16 education data system such as demographic information, yearly test records, teacher identification information, and student-level transcripts and college readiness test scores. Section (e)(1)(A)(ii) discusses the use of grant funds for “identifying and making changes that need to be made to the State’s secondary school graduation requirements, academic content standards, academic achievement standards, and assessments preceding graduation from secondary school in order to align requirements, standards, and assessments with the knowledge and skills necessary for success in academic credit-bearing coursework in postsecondary education, in the 21<sup>st</sup> century workforce, and in the Armed Forces without the need for remediation.”
- m. NSF funding for FY2010 excludes a one-time appropriation transfer of \$54.0 million to U.S. Coast Guard per P.L. 111-117.
- n. Two directorates of the NSF manage the Integrative Graduate Education and Research Traineeship (IGERT) program—the Education and Human Resources Directorate (EHR) and the Research and Related Activities (R&RA) directorate. The America COMPETES Act and the NSF budget request both identify the allocations for each directorate.
- o. The America COMPETES Act provides the authorization amount within R&RA; however, the explanatory language for P.L. 111-5 places the program within EHR.
- p. The Senate Committee on Appropriations CJS subcommittee states the following in S.Rept. 111-34: “The Committee strongly encourages NSF to continue support for the Professional Science Master’s [PSM] degree programs funded through the American Reinvestment and Recovery Act (P.L. 111-5) as authorized in the America COMPETES Act (P.L. 110-69). To remain competitive in the global economy, America needs to develop more expertise in STEM fields; the PSM provides a pathway for students with undergraduate degrees in STEM fields and is a critical program for preparing future science professionals and leaders. The Committee strongly recommends that NSF incorporate requests for funding in fiscal year 2011 budget and beyond.”
- q. The explanatory statement indicates that “The increase provided in the bill for the Noyce Program is for the purpose of expanding participation in the grants program established in section 10 and section 10A of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n-1) as amended by the America COMPETES Act.”
- r. Of this \$40 million, \$20 million is for the general Robert Noyce Teacher Scholarship Program, and \$20 million is for the NSF Teaching Fellowships and Master Teaching Fellowships that are part of the Noyce program.
- s. An additional \$1 million is proposed for the R&RA portion of the program. According to NSF’s budget request, “The STEP Program seeks to increase the number of students receiving degrees in established or emerging fields within science, technology, engineering, and mathematics. Awards are made both to provide for implementation efforts at academic institutions and to support research degree attainment in STEM. The America Competes Act authorized the establishment of centers within this program, to be jointly funded with one or more disciplinary directorates, to explore fundamental changes in undergraduate practice that promise to significantly improve

recruitment and retention of students, and lead to improvement in their learning. The \$1.83 million increase will permit the establishment of two additional centers in FY 2010 in collaboration with the R&RA Directorates.”

- t. According to H.Rept. 111-149, “The recommendation supports continuation of all existing grants within the Advanced Technology Education Program but does not support any new grants. The Committee recommends that future requests for this program of training technicians to work in industry be made in more appropriated departments or agencies such as the Department of Education.”
- u. Although no funds are specifically designated for the Advanced Technological Education program, according to S.Rept. 111-34, “The education and human resources appropriation supports a comprehensive set of programs across all levels of education in science, technology, engineering and mathematics [STEM]. ... Undergraduate activities ... augment advanced technological education at 2-year colleges.”

## **Author Contact Information**

John F. Sargent Jr.  
Specialist in Science and Technology Policy  
jsargent@crs.loc.gov, 7-9147