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FOURTH SEMIANNUAL REPORT OF ACTIVITIES

OF THE

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY U.S. HOUSE OF REPRESENTATIVES

FOR THE

ONE HUNDRED TWELFTH CONGRESS

JANUARY 2, 2013

JANUARY 2, 2013.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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112TH CONGRESS, SECOND SESSION

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LETTER OF TRANSMITTAL

January 2, 2013

Honorable Karen L. Haas
Clerk
U.S. House of the House of Representatives
Washington, DC 20515

Dear Ms. Haas:

Pursuant to Clause (1)(d)(1) of Rule XI and Rule X of the Rules of the House of Representatives, I hereby submit the fourth Semiannual Report of Activities for the Committee on Science, Space, and Technology for the *112th* Congress.

This fourth semiannual report provides an overview of the legislative and oversight activities conducted by the Committee, as defined by Rule X Clause 1(p) and Clause 3(k) of the Rules of the House of Representatives, a summary of actions taken and recommendations made with respect to the Committee's oversight plan and a summary of hearings held pursuant to clauses 2(n), (o), and (p) of Rule XI.

This document is intended as a general reference tool and not as a substitute for the hearing records, reports, and other files.

Sincerely,

Ralph M. Hall

Ralph M. Hall
Chairman

Enclosure

CONTENTS

Fourth Semiannual Report of Activities
Committee on Science, Space, and Technology
112th Congress, 2012

	Page
Letter of Transmittal	VII
Overview	1

Full Committee

Legislative and Administrative Activities	4
Other Legislative Activities	21
Oversight, Investigation, and Other Activities	40

Subcommittee on Energy and Environment

Oversight Investigation, and Other Activities, Including Selective Legislative Activities	52

Subcommittee on Investigations and Oversight

Oversight Activities	61

Subcommittee on Research and Science Education

Oversight, Investigation, and Other Activities, Including Selective Legislative Activities	71

Subcommittee on Space and Aeronautics

Oversight, Investigation, and Other Activities, Including Selective Legislative Activities	77

Subcommittee on Technology and Innovation

Oversight, Investigation, and Other Activities, Including Selective Legislative Activities	84

Oversight Plan Including Appendices

Transmittal Letter	96
Summary of Oversight Plan, Including Accomplishments To Date	97
Jurisdiction	114
Hearings Held Pursuant to Rule XI Clauses 2(n), (o), and (p)	115
Committee Oversight Correspondence	123
Summary of GAO High Risk Topics	136
GAO Request	139

Appendix

Transmittal Letter for Views and Estimates for FY 2012	152

Page

Views and Estimates of the Committee on Science, Space, and Technology for FY 2012 153
Additional Views 167
Minority Views and Estimates for FY 2012 173
Additional Minority Views 179
Transmittal Letter for Views and Estimates for FY 2013 183
Views and Estimates of the Committee on Science, Space, and Technology for FY 2013 184
Additional Views 208
Minority Views and Estimates for FY 2013 215
Additional Minority Views 229
History of Appointments, Committee on Science, Space, and Technology 233
Rules Governing Procedure, Committee on Science, Space, and Technology for the 112th Congress 236
List of Publications of the Committee on Science, Space, and Technology, 112th Congress, 1st Session & 2nd Session 248

Union Calendar No. 547

112TH CONGRESS, 2d Session } HOUSE OF REPRESENTATIVES { REPORT 112–745

FOURTH SEMIANNUAL REPORT OF ACTIVITIES—COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

JANUARY 2, 2013.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

MR. HALL, from the Committee on Science, Space, and Technology, submitted the following

R E P O R T

OVERVIEW

The Committee on Science, Space, and Technology met on February 10, 2011 for an organizational meeting and adoption of the Committee on Science, Space, and Technology Oversight Plan for the 112th Congress under the direction of Ralph M. Hall, Chair. The Committee Membership was 40 Members with 23 Republicans (one vacancy) and 17 Democrats.

The Committee established five subcommittees: Energy and Environment (Andy Harris, Chair); Investigations and Oversight (Paul Broun, Chair); Research and Science Education (Mo Brooks, Chair); Space and Aeronautics (Steven Palazzo, Chair); and Technology and Innovation (Benjamin Quayle, Chair). Representative F. James Sensenbrenner appointed Full Committee Vice Chair.

The jurisdiction of the Committee on Science, Space, and Technology, as prescribed by Clauses 1(p) and 3(k) of Rule X of the Rules of the House of Representatives is as follows:

HOUSE RULE X
LEGISLATIVE AND OVERSIGHT JURISDICTION OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

1. There shall be in the House the following standing committees, each of which shall have the jurisdiction and related functions assigned by this clause and clauses 2, 3, and 4. All bills, resolutions, and other matters relating to subjects within the jurisdiction of the standing committees listed in this clause shall be referred to those committees, in accordance with clause 2 of rule XII, as follows:

* * * * * * *

(p) Committee on Science, Space, and Technology.

(1) All energy research, development, and demonstration, and projects therefor, and all federally owned or operated nonmilitary energy laboratories.

(2) Astronautical research and development, including resources, personnel, equipment, and facilities.

(3) Civil aviation research and development.

(4) Environmental research and development.

(5) Marine research.

(6) Commercial application of energy technology.

(7) National Institute of Standards and Technology, standardization of weights and measures, and the metric system.

(8) National Aeronautics and Space Administration.

(9) National Space Council.

(10) National Science Foundation.

(11) National Weather Service.

(12) Outer space, including exploration and control thereof.

(13) Science scholarships.

(14) Scientific research, development, and demonstration, and projects therefor.

* * * * * * *

SPECIAL OVERSIGHT FUNCTIONS

3(k) The Committee on Science, Space, and Technology shall review and study on a continuing basis laws, programs, and Government activities relating to nonmilitary research and development.

ACTIVITIES REPORT
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY STATISTICS

112th Congress, First & Second Session
January 3, 2011 — January 2, 2013

Business Meetings Held – *3*

Bills and Resolutions Referred to the Committee – *164*

Hearings Held – *110*

Witnesses Appeared Before the Committee – *473*

Full Committee Markups Held – *7*

Subcommittee Markups Held – *4*

Reports Filed – *6*

Legislation Passed the House – *27*

FULL COMMITTEE LEGISLATIVE AND ADMINISTRATIVE ACTIVITIES

FEBRUARY 10, 2011—FULL COMMITTEE ORGANIZATIONAL MEETING

The Full Committee met to organize for the 112th Congress, established subcommittees, appointed subcommittee chairmen and ranking members, and adopted the Oversight Plan.

MARCH 17, 2011—MARKUP HELD ON H.R. 970, THE FEDERAL AVIATION RESEARCH AND DEVELOPMENT REAUTHORIZATION ACT OF 2011

Background and Need

The purpose of H.R. 970 is to reauthorize research and development activities at the Federal Aviation Administration for fiscal years 2011–2014 and to add specific direction to existing programs to enhance the research that is currently being performed. Additionally the bill requires an assessment of existing research and development activities in a number of programs to encourage coordination and streamlining of research to discourage duplication.

The Federal Aviation Administration (FAA) was created to develop the nation's air commerce system and promote aviation safety. As part of the Airport Development and Airway Trust Fund established by Congress in 1982, a comprehensive research and development program was put in place to maintain a safe and efficient air transportation system. In 2003, Congress passed Vision 100- Century of Aviation Reauthorization Act (P.L. 108–176) that authorized funding for FAA's activities, including research and development, for fiscal years 2003–2007. P.L. 108–176 also established the Next Generation Air Transportation System's Joint Planning and Development Office (JPDO) in Title VII, Aviation Research, to manage work related to planning, research, development and creation of a transition plan for the implementation of the Next Generation Air Transportation System.

Since 2007 Congress has attempted without success to complete legislative work on a comprehensive FAA reauthorization, including these programs. As civil aviation is such a critical element of our economy, FAA's research and development program plays a crucial role ensuring that the agency's modernization and safety programs are properly focused and well planned. H.R. 970 reauthorizes appropriations for the Federal Aviation Administration's research and development programs for fiscal year 2011–2014.

Legislative History

H.R. 970 was introduced by Representative Ralph Hall on March 9, 2011 and referred to the Committee on Science, Space, and Technology. On March 17, 2011, the Committee met to consider the bill. The Committee voted to report the bill, as amended, to the House by a vote of 17 yeas and 13 nays on March 17, 2011.

The Committee on Science, Space, and Technology reported H.R. 970, as amended, to the House on April 4, 2011 (H. Rept. 112–52)

and placed on the Union Calendar (Union Calendar No. 26). No further legislative action was taken on H.R. 970. However, the substance of H.R. 970 passed the House as a component (Title X) of H.R. 658, the FAA Reauthorization and Reform Act of 2011, which became P.L. 112–95.

MAY 4, 2011—MARKUP HELD ON H.R. 1425, THE CREATING JOBS THROUGH SMALL BUSINESS INNOVATION ACT OF 2011

Background and Need

The purpose of H.R. 1425 is to reauthorize the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs through Fiscal Year 2014, to increase SBIR and STTR award sizes to reflect changes in inflation, to allow small businesses with majority venture capital backing to compete for a limited percentage of awards, and to collect better data on the SBIR and STTR programs to evaluate the effectiveness of the programs and to prevent fraud, waste, and abuse.

The Small Business Innovation Research (SBIR) program was originally established when the Congress passed the Small Business Innovation Development Act in 1982 (P.L. 97–219).

The original objectives of the SBIR program included:

- Stimulation of technological innovation in the small business sector;
- Increased use of the small business sector to meet the government's research and development (R&D) needs;
- Additional involvement of minority and disadvantaged individuals in the process; and
- Expanded commercialization of the results of federally funded R&D.

The 1992 SBIR reauthorization (P.L. 102–564) placed greater emphasis on the objective of commercialization of SBIR projects.

Current law requires that every federal department with an extramural R&D budget of $100 million or more establish and operate an SBIR program. Eleven federal departments have SBIR programs, including the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, and Transportation; the Environmental Protection Agency, the National Aeronautics and Space Administration (NASA); and the National Science Foundation (NSF). Under the program, each qualifying federal department is mandated to set aside 2.5 percent of its applicable extramural R&D for the SBIR program. Cumulatively, the SBIR program makes almost $2 billion in awards to small businesses annually.

The Small Business Technology Transfer (STTR) program was created in 1992 to provide federal R&D funding for research proposals that are developed and executed cooperatively between a small firm and a scientist in a nonprofit research organization, and fall under the mission requirements of the federal funding agency. Federal departments with annual extramural research budgets over $1 billion must set aside 0.3 percent for STTR programs.

Currently, the Departments of Energy, Defense, and Health and Human Services, as well as NASA and NSF participate in the STTR program. Across the participating agencies, approximately $800 million in STTR awards are made annually.

The SBIR and STTR programs have been operating under temporary extensions since their authorizations expired in 2008 and 2009, respectively. This bill will increase the size guidelines for award amounts for Phase I and Phase II SBIR and STTR awards, will enable majority venture capital backed firms to compete for a limited percentage of SBIR awards, and will improve evaluation of the programs through greater data collection, sharing of best practices, and increased efforts to prevent fraud, waste, and abuse. H.R. 1425 will reauthorize the SBIR and the STTR programs through Fiscal Year 2014.

Legislative History

On April 7, 2011, H.R. 1425, the Creating Jobs Through Small Business Innovation Act of 2011 was introduced by Rep. Renee Ellmers (R–NC 2). H.R. 1425 was referred to the Committee on Small Business and the Committee on Science, Space, and Technology and the Committee on Armed Services. On April 13, 2011 the Subcommittee on Technology and Innovation met to consider H.R. 1425 and ordered it favorably reported to the Full Committee, as amended, by voice vote. On May 4, 2011 the Committee on Science, Space, and Technology met in open markup session and ordered H.R. 1425, favorably reported to the House, as amended, by voice vote. On May 11, 2011 the Committee on Small Business met to consider the bill. The Committee voted to report the bill, as amended to the House by voice vote. The bill was reported to the House by Committee on Science, Space, and Technology on May 26, 2011 (H. Rept. 112–90, Part I). On July 1, 2011 the Committee on Small Business reported the bill to the House (H. Rept. 112–90, Part II) and the Committee on Armed Services discharged. H.R. 1425 was placed on the Union Calendar, Calendar No. 85. No further action was taken on H.R. 1425

On December 1, 2011 the Senate laid before it H.R. 1540, the National Defense Authorization Act for Fiscal Year 2012, struck all after the enacting clause and substituted the language of S. 1867, the National Defense Authorization Act for Fiscal Year 2012, as amended. The Senate insisted on its amendment and asked for a conference, including in the Senate amendment, as passed, as Division E, the text of S. 493, the SBIR/STTR Reauthorization Act of 2011.

On December 7, 2011 the House moved without objection to disagree to the Senate amendment and agree to a conference. The Speaker appointed conferees, naming Messrs. Hall, Quayle and Ms. Johnson, for the consideration of sections 911 and 1098 of the House bill, and sections 885, 911, 912, and Division E of the Senate amendment (SBIR/STTR) and modifications committed to conference.

On December 12, 2011 the conference report (112–329), including conferenced language reauthorizing SBIR/STTR was filed. The House considered the conference report, subject to a rule (H. Res. 493) on December 15, 2011, and the report passed by: Y–283, N–136 (Roll Call No. 932). The Senate considered the conference re-

port on December 15, 2011 and the conference report passed the Senate on December 15, 2011, by: Y–86, N–13 (Record Vote No. 230). The bill was signed into law by the President on December 31, 2011, and became Public Law 112–81.

JUNE 22, 2011—FULL COMMITTEE BUSINESS MEETING

The Committee met to adopt the First Semiannual Report of Activities of the Committee on Science, Space, and Technology for the 112th Congress. The Report was adopted and reported to the House by voice vote.

JULY 21, 2011—MARKUP HELD ON H.R. 2096, THE CYBERSECURITY ENHANCEMENT ACT OF 2011

Background and Need

The purpose of H.R. 2096 is to improve cybersecurity in the Federal, private, and public sectors through: coordination and prioritization of federal cybersecurity research and development activities; strengthening of the cybersecurity workforce; coordination of Federal agency engagement in international cybersecurity technical standards development; and the reauthorization of cybersecurity related programs at the National Science Foundation (NSF) and the National Institute of Standards and Technology (NIST).

According to the Office of Management and Budget, Federal agencies spent $8.6 billion in FY 2010 on cybersecurity, and the Federal government has spent more than $600 billion on information technology in the last decade. In addition, the Federal government funds nearly $400 million in cybersecurity research and development each year.

In January 2008, the Bush Administration established, through a series of classified executive directives, the *Comprehensive National Cybersecurity Initiative* (CNCI). The Obama Administration continued this initiative, with the goal of securing Federal systems and fostering public-private cooperation. In February 2009, the Obama Administration called for a 60-day review of the national cybersecurity strategy. The President's review required the development of a framework that would ensure that the CNCI was adequately funded, integrated, and coordinated among Federal agencies, the private sector, and state and local authorities.

On May 29, 2009, the Obama Administration released its Cyberspace Policy Review. The Review recommended an increased level of interagency cooperation among all departments and agencies, highlighted the need for information sharing concerning attacks and vulnerabilities, and highlighted the need for an exchange of research and security strategies essential to the efficient and effective defense of Federal computer systems. Furthermore, it stressed the importance of advancing cybersecurity research and development, and the need for the Federal Government to partner with the private sector to guarantee a secure and reliable infrastructure. The Review also called for increased public awareness, improved education and expansion of the number of information technology professionals.

In June 2009, GAO found that the Federal agencies responsible for protecting the U.S. Information Technology (IT) infrastructure

were not satisfying their responsibilities, leaving the Nation's IT infrastructure vulnerable to attack. In an effort to strengthen the work of those Federal agencies, the U.S. House of Representatives passed the *Cybersecurity Enhancement Act of 2010* (H.R. 4061) in the 111th Congress by a vote of 422–5.

H.R. 4061 required increased coordination and prioritization of Federal cybersecurity research and development activities, and the development and advancement of cybersecurity technical standards. It also strengthened cybersecurity education and talent development and industry partnership initiatives. The Senate did not act on the legislation.

The task of coordinating unclassified cybersecurity research and development (R&D) lies with the Networking and Information Technology Research and Development (NITRD) program, which was originally authorized in statute by the High-Performance Computing Act of 1991 (P.L. 102–194). The NITRD program, which consists of 15 Federal agencies, coordinates a broad spectrum of R&D activities related to information technology. It also includes an interagency working group and program component area focused specifically on cybersecurity and information R&D. However, many expert panels, including the President's Council of Advisors on Science and Technology, have argued that the portfolio of Federal investments in cybersecurity R&D is not properly balanced and is focused on short-term reactive technologies at the expense of long-term, fundamental R&D.

With a budget of $127 million for FY 2010, NSF is the principal agency supporting unclassified cybersecurity R&D and education. NSF's cybersecurity research activities are primarily funded through the Directorate for Computer & Information Science & Engineering (CISE). CISE supports cybersecurity R&D through a targeted program, Trustworthy Computing, as well as through a number of its core activities in Computer Systems Research, Computing Research Infrastructure, and Network and Science Engineering. In addition to its basic research activities, NSF's Directorate for Education & Human Resources (EHR) manages the Scholarship for Service program which provides funding to colleges and universities for the award of 2–year scholarships in information assurance and computer security fields.

NIST is tasked with protecting the federal information technology network by developing and promulgating cybersecurity standards for federal non-classified network systems (Federal Information Processing Standards [FIPS]), identifying methods for assessing effectiveness of security requirements, conducting tests to validate security in information systems, and conducting outreach exercises. Experts have stated that NIST's technical standards and best practices are too highly technical for general public use, and making this information more usable to average computer users with less technical expertise will help raise the base level of cybersecurity knowledge among individuals, business, education, and government.

Currently, the United States is represented on international bodies dealing with cybersecurity by an array of organizations, including the Department of State, Department of Commerce, Federal Communications Commission, and the United States Trade Representative without a coordinated and comprehensive strategy or

plan. The Cyberspace Policy Review called for a comprehensive international cybersecurity strategy that defines what cybersecurity standards we need, where they are being developed, and ensures that the United States Federal government has agency representation for each. Recognizing that private sector standards development organizations also are engaged in international standards work, in some scenarios a nonfederal entity may be best equipped to represent United States interests, and coordination is necessary.

In the 107th Congress, the Science and Technology Committee developed the Cyber Security Research and Development Act (P.L. 107–305). The bill created new programs and expanded existing programs at NSF and NIST for computer and network security. The authorizations established under the Cyber Security Research and Development Act expired in fiscal year 2007.

Legislative History

On June 2, 2011 Representative Michael T. McCaul (R–TX) for himself and Representative Daniel Lipinski (D–IL) introduced H.R. 2096, the Cybersecurity Enhancement Act of 2011. H.R. 2096 was referred to the Committee on Science, Space, and Technology. On July 21, 2011, the Full Committee met in open markup session to consider the bill and ordered H.R. 2096 favorably reported to the House, as amended, by voice vote.

The Committee on Science, Space, and Technology reported H.R. 2096, as amended, to the House on October 31, 2011 (H. Rept. 112–264) and it was placed on the Union Calendar (Union Calendar No. 177). On April 27, 2012 Mr. McCaul moved to suspend the rules and pass the bill, as amended. The bill passed the House, by Y–395, N–10 (Roll Call No. 193). On May 7, 2012, the bill as passed by the House was received in the Senate and read twice and referred to the Committee on Commerce, Science, and Transportation.

JULY 28, 2011—MARKUP HELD ON H.R. 2484, THE HARMFUL ALGAL BLOOMS AND HYPOXIA RESEARCH AND CONTROL AMENDMENTS ACT OF 2011

Background and Need

The purpose of H.R. 2484 is to reauthorize the Harmful Algal Bloom and Hypoxia Research and Control Act of 1998 to include a comprehensive and integrated strategy to address harmful algal blooms and hypoxia; to provide for the development and implementation of a comprehensive research plan and action strategy to reduce harmful algal blooms and hypoxia.

A harmful algal bloom (HAB) is a bloom, or rapid overproduction of algal cells, that produces toxins, which are detrimental to plants and animals. These outbreaks are commonly referred to as "red" or "brown" tides. Blooms can kill fish and other aquatic life by decreasing sunlight available to the water and by depleting the available oxygen in the water, causing hypoxia. The produced toxins accumulate in shellfish, fish, or through the accumulation of biomass that affect other organisms and alter food webs. In recent years, many of the nation's coastlines, near shore marine waters, and

freshwaters have experienced an increase in the number, frequency, duration, and type of HABs.

Harmful algal blooms are one of the most scientifically complex and economically significant coastal management issues facing the nation. In the past, only a few regions of the United States were affected by HABs, but now almost all states have reported blooms. In severe cases, these phenomena can have serious environmental, economic, and human health impacts.

In 1998, Congress passed the Harmful Algal Bloom and Hypoxia Research and Control Act (HABHRCA, Public Law 105–83), which established an Interagency Task Force to develop a national HABs assessment and authorized funding for existing and new research programs on HABs. Funding supported the development of a national scientific research, development, demonstration, and technology transfer program at the National Oceanic and Atmospheric Administration (NOAA) that focused on HABs and included the Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program and the Monitoring and Event Response for Harmful Algal Blooms (MERHAB) program. The program at NOAA involves federal, state, and academic partners and supports interdisciplinary extramural research studies to address the issues of HABs in an ecosystem context.

In 2004, HABHRCA was reauthorized in Public Law 108–456. The reauthorized Act required assessments of HABs in different coastal regions and in the Great Lakes and included plans to expand research to address the impacts of HABs. The law also authorized research, education, and monitoring activities related to the prevention, reduction, and control of harmful algal blooms and hypoxia and reconstituted the Interagency Task Force on HABs and Hypoxia.

The 2004 reauthorization also directed NOAA to produce several reports and assessments, which have since been completed, including:

- The Prediction and Response Report (September 2007) addressed both the state of research and methods for HAB prediction and response, especially at the federal level.
- The 2008 National Scientific Research, Development, Demonstration, and Technology Transfer Plan for Reducing Impacts from Harmful Algal Blooms (RDDTT Plan) established research priorities to develop and demonstrate prevention, control and mitigation methods to advance current prediction and response capabilities.
- The Scientific Assessment of Marine Harmful Algal Blooms (December 2008) described the state of the science with respect to: understanding HABs causes and controls and developing predictive models; developing detection methods for cells and toxins; characterizing toxins and impacts; HAB impacts on food webs and fisheries; and assessing public health, economic and socio-cultural impacts.
- The 2008 Scientific Assessment of Freshwater Harmful Algal Blooms released in 2008 described the state of the knowledge of HABs in U.S inland and freshwaters and presented a plan

to advance research and reduce the impacts on humans and the environment.

- The Scientific Assessment of Hypoxia in U.S. Coastal Waters (September 2010) assessed the prevalence of low-oxygen "dead-zones", or hypoxic zones, in U.S. coastal waters and outlined a series of research steps needed to address these occurrences.

Additionally, the 2004 reauthorization directed NOAA, in coordination with the Task Force, to conduct local and regional scientific assessments if requested by state, tribal, or local governments or for affected areas identified by NOAA. Funding was also authorized for ongoing and new programs and activities such as: competitive, peer-reviewed research through the ECOHAB program; freshwater harmful algal bloom research added to the research priorities of ECOHAB; a competitive, peer-reviewed research program on management measures to prevent, reduce, control, and mitigate harmful algal blooms supported by the MERHAB program, and; activities related to research and monitoring of hypoxia supported by the Northern Gulf of Mexico program and Coastal Hypoxia Research Program.

The 2004 HABHRCA authorized funds to conduct research and reduce HABs and hypoxia in U.S. marine waters, estuaries and the Great Lakes. In its role as a task force participant, the Environmental Protection Agency (EPA) has signed Memorandums of Understanding to fund competitive research into the occurrence of HABs in these areas. However, since the completion of the freshwater report in 2008, EPA has ceased participation in HABHRCA for freshwater HAB research and mitigation activities. As a result, although EPA oversees a wide array of programs specifically designed to protect and preserve freshwater sources and the coastal and marine waters of the United States, including watershed protection programs and an array of regulatory programs, the agency currently has no research and development effort that directly addresses freshwater harmful algal blooms.

EPA and NOAA work together to lead a Federal Workgroup of thirteen federal agencies committed to supporting the Gulf of Mexico Alliance, a partnership formed by the five Gulf State Governors. In addition, EPA is also the lead agency of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force.

The 2004 HABHRCA reauthorization expired in 2008, however, the Consolidated Appropriations Act of 2008 (P.L. 110–161) provided an authorization of appropriations through FY 2010. H.R. 2484 would reauthorize the Act with the primary goal of H.R. 2484 being advancing the body of knowledge of HABs and hypoxia to begin to enable development of solutions for communities affected by these events. By requiring greater Interagency Task Force involvement and a Comprehensive Research Plan and Action Strategy, H.R.2484 seeks to coordinate efforts across the Federal government. Although there have been long-term strategies in place attempting to mitigate the occurrence of HABs, such strategies take years, even decades, to bear fruit. In the meantime, States and communities are dealing with increasing occurrences of HABs and hypoxia, indicating a greater need for near-term solutions.

Accordingly, H.R.2484 shifts the focus of the current program to technological research, development, and demonstration, encouraging a move toward finding such near-term solutions through technological innovation.

Legislative History

On July 11, 2011 Representative Andy Harris (R–MD) introduced, H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011. H.R. 2484 was referred to the Committee on Science, Space, and Technology and in addition the Committee on Natural Resources. On July 14, 2011 the Subcommittee on Energy and Environment met to consider H.R. 2484 and ordered it favorably forwarded to the Full Committee, as amended, by voice vote. On July 28, 2011 the Committee on Science, Space, and Technology met in open markup session and ordered H.R. 2484, favorably reported to the House, as amended, by a record vote of 20 Yeas to 15 Nays. The bill was reported, as amended, to the House by Committee on Science, Space, and Technology on December 16, 2011 (H. Rept. 112–333, Part I). On February 9, 2012, the Committee on Natural Resources discharged and the bill was placed on the Union Calendar (Calendar No. 271).

DECEMBER 1, 2011—MARKUP HELD ON H.R. 3479, NATURAL HAZARDS RISK REDUCTION ACT OF 2011

Background and Need

Congress created the National Earthquake Hazards Reduction Program (NEHRP) in 1977 with the passage of the Earthquake Hazards Reduction Act (P.L 95–124). Created largely in response to the 1964 Alaska Earthquake and the San Fernando Earthquake of 1971, the original program called on 10 federal agencies to coordinate research and development activities to implement an earthquake prediction system; develop design and construction methods for earthquake resilience; identify seismic hazards, and make model building code and land-use recommendations; increase the understanding of earthquake risks; and educate the public about earthquakes. The 1980 reauthorization of the program designated the Federal Emergency Management Agency (FEMA) as the lead agency.

The 2004 reauthorization of NEHRP (P.L 108–360) changed the lead agency from FEMA to the National Institute of Standards and Technology (NIST). This change reflected concern that FEMA, newly located in the Department of Homeland Security (DHS), was focused on broader threats, rather than national hazard mitigation. In addition, the legislation established an Interagency Coordinating Committee composed of the directors of NIST, FEMA, the National Science Foundation (NSF), the United States Geological Survey (USGS), the Office of Science and Technology Policy (OSTP), and the Office of Management and Budget (OMB). To ensure coordination, the Interagency Committee was required to meet annually and to develop a strategic plan and coordinated inter-agency budget.

Over the past 30 years, NEHRP activities have been instrumental in research and development to advance earthquake knowl-

edge, establish seismic model building codes, and raise the awareness of officials and the general public about earthquake hazards.

The National Windstorm Impact Reduction Program (NWIRP) was established in the National Windstorm Impact Reduction Act of 2004. The legislation directed the National Oceanic and Atmospheric Administration (NOAA), NIST, NSF, and FEMA to support activities to improve the understanding of windstorms and their impacts, and to develop and encourage the implementation of cost-effective mitigation measures to reduce these impacts. The program was authorized for three years through FY 2008.

OSTP submitted a NWIRP implementation plan in April 2006, which assessed programs relevant to the goals of NWIRP across eight federal agencies and identified important areas of research that were not covered by current activities. The knowledge gaps identified in the implementation plan covered the three broad categories of research authorized in the original NWIRP Act: understanding windstorms; assessing the impacts of windstorms; and mitigating against the effects of windstorms. The implementation plan also recommended a continued role for an Interagency Working Group within the National Science and Technology Council's (NSTC) Committee on Environment and Natural Resources, Subcommittee on Disaster Reduction.

The legislation defines NEHRP and NWIRP activities, including research and development to reduce the risk of hazards to the built environment; identifies the agencies that make up the programs; assigns responsibilities to the agencies; and authorizes funding for the programs from FY 2012 through FY 2014.

Legislative History

On November 18, 2011 Representative Judy Biggert (R–IL) introduced the Natural Hazards Risk Reduction Act of 2011. H.R. 3479 was referred to the Committee on Science, Space, and Technology and in addition to the Committees on Transportation and Infrastructure and Natural Resources. H.R. 3479 contained the text of H.R. 3272, the National Windstorm Impact Reduction Act Reauthorization of 2011 as introduced by Representative Neugebauer (R–TX).

On November 15, 2011 the Subcommittee on Technology and Innovation met to consider the Committee Print of the Natural Hazards Risk Reduction Act of 2011 and ordered it favorably forwarded to the Full Committee, as amended, by a record vote of 10 Yeas to 4 Nays. On November 18, 2011 Representative Biggert introduced the Committee Print, as amended, (becoming H.R. 3479). On December 1, 2011 the Full Committee met in open markup session and ordered H.R. 3479, favorably reported to the House, as amended, by a record vote of 21 Yeas to 12 Nays.

On March 20, 2012 Chairman Hall of the House Committee on Science, Space, and Technology, and Chairman Mica of the House Committee on Transportation and Infrastructure exchanged correspondence in which the Committee on Transportation and Infrastructure waived further consideration of H.R. 3479.

On September 12, 2012, the Committee on Science, Space, and Technology reported the bill, H.R. 3479, as amended, (H. Rept. 112– 666, Part I). On September 12, 2012, both the Committee on Transportation and the Committee on Natural Resources dis-

charged the legislation and it was placed on the Union Calendar (Calendar No. 480).

FEBRUARY 7, 2012—MARKUP HELD ON H.R. 3834 ADVANCING AMERICA'S NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT ACT OF 2012

Background and Need

The purpose H.R. 3834 is to advance America's networking and information technology research and development by updating the High Performance Computing Act of 1991. H.R. 3834 requires the development and periodic update of a strategic plan for the federal government Networking and Information Technology Research and Development (NITRD) program and codifies work currently conducted by the National Coordination Office (NCO) of the NITRD program. The bill requires the NCO Director to convene a university/industry taskforce to explore mechanisms for carrying out collaborative research and development activities for cyber-physical systems. Additionally, the bill requires the NCO Director to convene an interagency working group to examine issues around cloud computing services.

Federal support for research and development (R&D) in networking and information technology (NIT) originally stemmed from an interest in and the challenge of developing computers capable of addressing complex problems, primarily those focused on national security and global competition. Today, NIT encompasses a broad array of technologies from smart phones to digital libraries and cloud computing. Having changed the way we listen to music, drive our cars, and communicate with each other, this ever-growing field has led to the creation of many of the technologies and systems we rely on daily.

The NITRD program is the main Federal R&D investment portfolio in networking, computing, software, cyber security, and related information technologies. NITRD coordinates this unclassified R&D across 14 contributing federal agencies. A number of additional agencies do not contribute funding, but also participate in NITRD planning activities.

The Subcommittee on NITRD of the National Science and Technology Council (NSTC) is the internal deliberative organization for NITRD policy, program, and budget guidance. The NITRD Subcommittee includes representatives from each participating agency, as well as the Office of Management and Budget (OMB). The Subcommittee coordinates the planning, budgeting, implementation, and reviews of NIT R&D across the NITRD member agencies to help assure continued U.S. leadership, satisfy the needs of the federal government for advanced IT capabilities, and accelerate development and deployment of new technologies.

The NITRD NCO provides staff support for the NITRD program. The NCO provides program and financial management services, technical and subject matter expertise in facilitation, strategic planning, technical writing, networking and information technology services, and administrative staff support for the NITRD Subcommittee and other NITRD subgroups. The National Science Foundation (NSF) serves as the host agency for the NCO.

Congress originally authorized the Networking and Information Technology Research and Development (NITRD) program in the High-Performance Computing Act of 1991 (P.L. 102–194), after recognizing that a number of federal agencies had ongoing high-performance computing programs without a coordinating body. The Act established that coordinating body to improve interagency coordination, cooperation, and planning among those agencies with high-performance computing programs. In addition, it authorized a multi-agency research effort, called the High-Performance Computing and Communications program, to accelerate progress in the advancement of computing and networking technologies and to support leading edge computational research in a range of science and engineering fields. The statute established a set of mechanisms and procedures to provide for the interagency planning, coordination, and budgeting of the research and development activities carried out under the program. The Act has since been amended through the Next Generation Internet Research Act of 1998 and the *America COMPETES Act* of 2007.

In December 2010, the President's Council of Advisors on Science and Technology (PCAST) completed a legislatively required report on NITRD. The report, *Designing a Digital Future: Federally Funded Research and Development in Networking and Information Technology*, found that "NITRD is well coordinated and that the U.S. computing research community, coupled with a vibrant Networking and Information Technology (NIT) industry, has made seminal discoveries and advanced new technologies that are helping meet many societal challenges."

The 2010 report made several assessments about the role of the NIT field in answering the Nation's challenges and priorities:

- Advances in NIT are a key driver of economic competitiveness. They create new markets and increase productivity.
- Advances in NIT are crucial to achieving our major national and global priorities in energy and transportation, education and life-long learning, healthcare, and national and homeland security.
- Advances in NIT accelerate the pace of discovery in nearly all other fields.
- Advances in NIT are essential to achieving the goals of open government.

Stressing the need that federal investments be in NIT basic research, since the private sector is heavily involved in the development side, the report suggests that an investment of at least $1 billion annually will be required for new, potentially transformative research. The report also recognizes that in the current economic uncertainty, repurposing and reprioritization of funding will be necessary, but does not rule out new funding and indicates a lower level of investment "could seriously jeopardize America's national security and economic competitiveness."

The PCAST report includes recommendations for increased investments in long-term, multi-agency research initiatives in health, energy, transportation, and cybersecurity. It emphasizes, "Where fundamental NIT advances are needed to support these initiatives, mission agencies should invest in fundamental research in NIT, ei-

ther alone or in collaboration with NSF, and should not limit their programs to application-specific research."

The report also calls for exercising leadership to bring about changes in K–12 STEM education; enhancing the effectiveness of government coordination of NIT research and development; and redefining NITRD budget categories to separate NIT infrastructure for R&D in other fields from NIT R&D.

In February 2011, NITRD released its Supplement to the President's Budget request. The Supplement is a summary of the NITRD research activities planned and coordinated for Fiscal Year 2012 (FY12) for each of the participating agencies. The NITRD request totals $3.9 billion for FY12, a 1.9 percent increase from FY10 expenditures, and reflects many spending priorities recommended in the PCAST report.

In February 2012, NITRD released its Supplement to the President's Budget request for FY13. The NITRD request totals $3.8 billion, a 1.8 percent increase from FY11 expenditures, and continues to reflect the spending priorities in the PCAST report.

Legislative History

On January 27, 2012 Representative Ralph M. Hall (R–TX) introduced the Advancing America's Networking and Information Technology Research and Development Act of 2012 along with Representatives Eddie Bernice Johnson (D–TX), Mo Brooks (R–AL), Daniel Lipinski (D–IL), Judy Biggert (R–IL), and Ben Ray Lujan (D–NM). H.R. 3834 was referred to the Committee on Science, Space, and Technology.

On February 7, 2012 the Committee on Science, Space, and Technology met in open markup session and adopted H.R. 3834, as amended by voice vote. Further, the Committee ordered H.R. 3834 favorably reported to the House, as amended by voice vote. The Committee reported H.R. 3834, as amended, to the House on March 22, 2012 (H. Rept. 112–420) and it was placed on the Union Calendar (Calendar No. 289). On April 27, 2012, the House suspended the rules and voted to pass H.R. 3834, as amended, by a voice vote. H.R. 3834 was received in the Senate on May 7, 2012 and referred to the Committee on Commerce, Science, and Transportation.

FEBRUARY 7, 2012—MARKUP HELD ON H.R. 3199, TO PROVIDE A COMPREHENSIVE ASSESSMENT OF THE SCIENTIFIC AND TECHNICAL RESEARCH ON THE IMPLICATIONS OF THE USE OF MID-LEVEL ETHANOL BLENDS, AND FOR OTHER PURPOSES

Background and Need

In 1978, the Environmental Protection Agency (EPA) approved the use of ten percent ethanol blended gasoline (E10) under section 211(f) of the Clean Air Act (CAA).

The Energy Independence and Security Act of 2007 (Pub. L. 110–140, or EISA) created the Renewable Fuels Standard (RFS II), an expansion on the Renewable Fuels Standard (RFS) established by the Energy Policy Act of 2005 (Pub. L. 109–58, or EPAct05). This expansion mandated the use of 15 billion gallons of renewable fuel

in 2012 and 36 billion gallons by 2022. As the result of increased ethanol fuel consumption driven by these requirements and the limited use of E85, the U.S. has approached the so-called "blend wall" for ethanol. According to the United States Energy Information Administration, the "national share of ethanol in gasoline reached ten percent in June 2011" and "the blend wall has been reached in most areas" of the United States.

Section 211(f) of the CAA requires that the Administrator of the EPA may not grant a waiver for any fuel or fuel additive that is "not substantially similar" to the existing certification fuel. The current certification fuel is E0 (regular unleaded gasoline without ethanol added). However, in making this determination under Section 211(f), the Administrator may waive the substantially similar requirement in 211(f)(1) if the Administrator determines the fuel or fuel additive will "not cause or contribute to a failure of any emission control device or system (over the useful life of the motor vehicle, motor vehicle engine, nonroad engine or nonroad vehicle in which such device or system is used)."

In March of 2009 a coalition of ethanol supporters applied to EPA for a waiver to increase the maximum allowable amount of ethanol in gasoline from ten percent to 15 percent (E15). In October of 2010 and January of 2011, EPA partially approved two such waivers. The October partial waiver authorized the use of E15 gasoline in model year 2007 and newer light-duty motor vehicles (cars, light-duty trucks and medium-duty passenger vehicles), while the January partial waiver extended E15 use to model year 2001–2006 light-duty motor vehicles. These decisions relied primarily upon a test program conducted by the United States Department of Energy in 2010 and 2011. Vehicles older than model year 2001, as well as other gasoline-powered engines such as those for outdoor equipment and recreation vehicles, were not approved for E15 use.

In February of 2012, the Agency announced that information submitted by the Renewable Fuels Association and Growth Energy would satisfy the emissions and health effects information requirements for any future E15 registration application. On April 2, 2012, EPA approved the first applications for registering E15. In late April, the Agency approved a required fuel survey funded by ethanol producers. Preliminary results from a comprehensive study conducted by the Coordinating Research Council, a nonprofit research organization that is sustained by the petroleum and automotive industries, indicated mechanical damage from the use of E15 in vehicles covered by the partial waiver. The final results of this study were released on May 16, 2012.

EPA's actions resulted in two overarching technical and practical concerns: (1) the potential for E15 to damage onroad vehicle engines for all model years, as well as off-road engines; and (2) the potential of a newly bifurcated fueling system to result in widespread misfueling of engines (i.e. owners of model year 2000-and-older cars as well as nonroad vehicles and equipment, filling tanks with unapproved E15 gasoline blends).

The purpose of H.R. 3199 is to provide a comprehensive assessment of the scientific and technical research on the implications of the use of mid-level ethanol blends. The bill directs the EPA Administrator, acting through the Assistant Administrator of the Office of Research and Development, to enter into an agreement, not

later than 45 days after enactment, with the National Academy of Sciences to provide this assessment prior to the implementation of any waiver, partial waiver, or decision pursuant to current law. The assessment is required to compare mid-level ethanol blends to gasoline blends containing both 10 and zero percent ethanol.

Legislative History

On October 13, 2011, Rep. James Sensenbrenner introduced H.R. 3199. H.R. 3199 was referred to the Committee on Science, Space, and Technology.

On February 7, 2012, the Committee on Science, Space, and Technology met in open markup session and adopted H.R. 3199, as amended, by a record vote of 19 yeas to 7 nays. Further, the Committee ordered H.R. 3199 favorably reported to the House, as amended, by voice vote.

JUNE 28, 2012—FULL COMMITTEE BUSINESS MEETING

The Committee met to adopt the Third Semiannual Report of Activities of the Committee on Science, Space, and Technology for the 112th Congress. The Report was adopted and reported to the House by voice vote.

SEPTEMBER 19, 2012—H.R. 4158, TO CONFIRM FULL OWNERSHIP RIGHTS FOR CERTAIN UNITED STATES ASTRONAUTS TO ARTIFACTS FROM THE ASTRONAUTS' SPACE MISSION

Background and Need

Throughout the Mercury, Gemini, and Apollo programs (including Skylab and the Apollo-Soyuz Test Project), NASA managers routinely allowed astronauts, at the conclusion of a mission, to keep mementos, pieces of hardware, and personal equipment (e.g., space suit emblems, food, hand controllers, and checklists) from the spacecraft. In some cases, these artifacts have been in the possession of an astronaut for almost forty years.

Beginning in the mid-2000s, NASA began to challenge the ownership of these artifacts by Apollo-era astronauts in some cases. As a result of the actions by NASA, rightful ownership of artifacts still in the astronauts' possession—as well as those donated to colleges and museums, transferred to family members, or privately sold—has been brought into question, exposing astronauts to possible (and significant) damages if ownership is not clearly established.

H.R. 4158 grants full ownership rights of the artifacts, mementos, and hardware from the Mercury, Gemini, Apollo and Apollo-Soyuz Test Project missions, received by the astronauts, and to those individuals to whom they gave, transferred, or sold the items. The bill specifically excludes lunar rocks and material from the definition of artifacts that astronauts would be entitled to keep.

Legislative History

The legislation was introduced by Committee on Science, Space, and Technology Chairman Ralph Hall and Ranking Member Eddie Bernice Johnson on March 7, 2012 and shares strong bipartisan support (33 bipartisan cosponsors, including 25 Committee Mem-

bers). CBO estimated that implementing H.R. 4158 would have no significant impact on the federal budget.

H.R. 4158 was considered under suspension of the rules on September 19, 2012 and was agreed to by voice vote. The legislation was received in the Senate on September 20, 2012. On September 22, 2012, H.R. 4158 passed the Senate without amendment by Unanimous Consent. The legislation was signed by the President on October 5, 2012 and became P. L. 112–185.

NOVEMBER 13, 2012—H.R. 6586, TO EXTEND THE APPLICATION OF CERTAIN SPACE LAUNCH LIABILITY PROVISIONS THROUGH 2014

Background and Need

The commercial space transportation risk-sharing and liability regime, which was established in the Commercial Space Launch Amendments Act of 1988 (PL 100–657), requires all commercial launch operators to purchase a fixed amount of insurance to cover any injuries or property damage to the uninvolved public, or "third parties." As a part of this program, the government agrees to assume a portion of liability above the level of coverage purchased by the launch/reentry vehicle operator. If federal coverage were ever to be triggered, it would require the Administration to request federal indemnification, and a separate bill appropriating funding to be passed by Congress. The Office of Commercial Space Transportation has set a threshold of losses with a probability of occurrence of no less than one in ten million launches.

Since establishing the risk-sharing and liability regime over 200 launches have been licensed without any claims for federal coverage for loss of life, serious injuries, or significant property damage to the general public. The ability of the government to assume some financial responsibility for losses to third parties allows a developing space launch industry to continue to grow.

The authority of the government to provide payment of claims exceeding the maximum probable loss ("indemnification") expires at the end of this year, Dec. 31, 2012. The program has been extended five times, and H.R. 6586 would extend the current regime for two years until Dec. 31, 2014.

Legislative History

The bipartisan bill was introduced by Representative Steven Palazzo, Chairman of the Subcommittee on Space and Aeronautics of the Committee on Science, Space, and Technology, as well as several Members of the Committee on Science, Space, and Technology on November 9, 2012. CBO estimates that implementing H.R. 6586 would not impact direct spending or revenues.

On November 13, 2012 H.R. 6586 was considered under suspension of the rules. A motion to suspend the rules and pass the bill was agreed to by voice vote on November 13, 2012. On November 14, 2012 H.R. 6586 was received in the Senate.

On January 1, 2013, H.R. 6586 passed the Senate with an amendment by Unanimous Consent. The House concurred in the Senate amendment to H.R. 6586 by Unanimous Consent on January 2, 2013.

DECEMBER 31, 2012—H.R. 6612, TO REDESIGNATE THE DRYDEN FLIGHT RESEARCH CENTER AS THE NEIL A. ARMSTRONG FLIGHT RESEARCH CENTER AND THE WESTERN AERONAUTICAL TEST RANGE AS THE HUGH L. DRYDEN AERONAUTICAL TEST RANGE

Background and Need

The Dryden Flight Research Center is NASA and the Nation's premier flight research facility. Many of our country's most iconic high performance aircraft, notably including the X–15 were flown from the Center. Neil Armstrong worked at the Center for seven years and during the course of his career flew the X–15 seven times, including a flight that reached over 207,000 feet in altitude. Neil Armstrong died on August 25, 2012. Hugh L. Dryden earned his undergraduate and Ph.D. degrees in physics from Johns Hopkins University and became Director of Aeronautical Research at the National Advisory Committee for Aeronautics, the predecessor of NASA. Dr. Dryden was appoint Deputy Administrator of NASA in 1958 and remained in that position until his death on December 2, 1965.

H.R. 6612 renames NASA's Dryden Flight Research Center as the Neil Armstrong Flight Research Center and designates the Western Aeronautical Test Range, located at Dryden, as the Hugh L. Dryden Aeronautical Test Range.

Legislative History

On November 29, 2012, Rep. Kevin McCarthy introduced H.R. 6612. H.R. 6612 was referred to the Committee on Science, Space, and Technology. Cosponsors of the legislation included Rep. Adam Schiff, Rep. Buck McKeon, Rep. Ken Calvert, Rep. Steven Palazzo, Rep. Dana Rohrabacher, and Rep. Ralph Hall. On December 31, 2012, H.R. 6612 was considered under suspension of the rules. A motion to suspend the rules and pass the bill was agreed to on December 31, 2012 by a vote of Y–404, N–0 (Roll Call No. 653). On January 1, 2013, H.R. 6612 was received in the Senate.

FULL COMMITTEE OTHER LEGISLATIVE ACTIVITIES

H.R. 658, THE FAA REAUTHORIZATION AND REFORM ACT OF 2011

Background and Summary of Legislation

The purpose of H.R. 658 is to authorize appropriations for the Federal Aviation Administration for fiscal years 2011 through 2014, to streamline programs, create efficiencies, reduce waste, and improve aviation safety and capacity, and to provide stable funding for the national aviation system. Provisions within the jurisdiction of the Committee on Science, Space, and Technology include those in Title II, NextGen Air Transportation System and Air Traffic Control Modernization; Title III, Subtitle B, Unmanned Aircraft Systems; Title X, the Federal Aviation Research and Development Reauthorization Act of 2011, incorporating the text of H.R. 970, as reported by the Committee on Science, Space, and Technology on March 17, 2011 (H. Rept. 112–52); and Title XIII, Commercial Space, postponing for eight years after the first licensed commercial launch of a space flight participant the authority to propose, without regard to specified constraints, regulations governing the design or operation of a launch vehicle to protect the health and safety of crew and space flight participants, except in response to specific incidents of accident, injury, or death.

Legislative History

H.R. 658 was introduced by Representative John Mica (R–FL) on February 11, 2011 and referred to the Committee on Transportation and Infrastructure. On March 10, 2011 the bill was jointly and sequentially referred to the Committee on Science, Space, and Technology, and the Committee on the Judiciary. On March 23, 2011 the House Committee on Science, Space, and Technology and the Committee on the Judiciary discharged the bill and it was placed on the Union Calendar, Calendar No. 19. On April 1, 2011 the House considered the measure and it was passed, as amended, by: Y–223; N–196 (Roll Call No. 220). It was received in the Senate on April 4, 2011. On April 7, 2011 the Senate struck all after the enacting clause, substituted the language of S. 223, as amended, and passed by unanimous consent. On April 7, 2011 the Senate insisted on its amendment, asked for a conference, and appointed conferees. On January 31, 2012, Mr. Cravaack asked unanimous consent that the House disagree to the Senate amendment, and agree to a conference, the motion was agreed to without objection. On January 31, 2012, the Speaker appointed conferees from the Committee on Transportation and Infrastructure for consideration of the House bill and the Senate amendment, and modifications committed to conference; from the Committee on Science, Space, and Technology for consideration of sections 102, 105, 201, 202, 204, 208, 209, 212, 220, 321, 324, 326, 812, title X and title XIII of the House bill and sections 102, 103, 106, 216, 301, 302, 309, 320, 327, title VI, and sec. 732 of the Senate amendment, and modifications committed to conference; from the Committee on Ways and Means for consideration of title XI of the House bill and

titles VIII and XI of the Senate amendment, and modifications committed to conference.

On February 1, 2012 conference report, H. Rept. 112–381 was filed. The Committee on Rules filed Committee Report 112–382 on H. Res. 533 on February 1, 2012. On February 3, 2012, Mr. Mica brought up conference report H. Rept. 112–381 for consideration. The conference report was agreed to by a vote of Y–248, N–169 (Roll no. 33). On February 6, 2012, the Conference report was considered in the Senate. The Senate agreed to the conference report by a recorded vote of Y–75, N–20 (Record Vote No. 15). The bill was signed into law by the President on February 14, 2012. It became Public Law No. 112–95.

P.L. 112–10, DEPARTMENT OF DEFENSE AND FULL-YEAR CONTINUING APPROPRIATIONS ACT, 2011

Background and Summary

P.L. 112–10 appropriated funds for the remainder of FY 2011 to the Department of Defense and for continuing operations, projects, or activities which were conducted in 2010 and for which appropriations, funds or other authority were made available in the FY 2010 appropriations acts for the other various departments and agencies of the Federal government. The law appropriated resources to programs within the Committee on Science, Space, and Technology's jurisdiction, including the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), the National Institute of Standards and Technology (NIST), the Department of Energy (DOE), the Department of Homeland Security (DHS), the Department of Transportation, (DOT), the National Oceanic and Atmospheric Administration (NOAA), and the Environmental Protection Agency (EPA).

Key programs within the jurisdiction of the Committee on Science, Space, and Technology funded by P.L. 112–110 included, for example, at the DOE: Office of Science, APRA–E, Energy Efficiency and Renewable Energy, Nuclear Energy, Fossil Energy, Electricity Delivery and Energy Reliability, and the Title XVII Loan Guarantee Program. All of these programs received funding below FY 2010 levels. At the EPA and NOAA the overall funding levels for both, including programs in the Committee's jurisdiction were below FY 2010. At NIST several programs saw reductions from 2010 funding levels while the Hollings Manufacturing Extension Program Partnership received a slight increase over FY 2010 funding levels. The DHS' Science and Technology Directorate saw a reduction from FY 2010 levels, while the Fire Grants programs funding levels remained equal to the FY 2010 enacted levels.

P.L. 112–10 also legislated on a select number of areas within the Committee's jurisdiction. In regard to NASA, the bill required the submission to Congress of an operating plan within 60 days of enactment (June 15, 2011), eliminated language preventing NASA from canceling any Constellation related contracts, specified funding levels for the Multi-Purpose Crew Vehicle and Space Launch Systems, and banned NASA from funding collaboration with China.

Additionally, language included in P.L. 112–10 prohibits funding provided to NOAA under the legislation to be used to implement, establish, or create a NOAA climate service.

Legislative History

On April 11, 2011, Rep. Harold Rogers (R–KY), Chairman of the Committee on Appropriations, introduced H.R. 1473, which was referred to the Committees on Appropriations, Budget, and Ways and Means. On April 14, 2011, H.R. 1473 was considered by the House and passed by: Y–260, N–167 (Roll Call No. 268). H.R. 1473 was received in the Senate on April 14, 2011. It was considered and, without amendment, passed by: 81–Y, N–19 (Record Vote No. 61). It was signed into law by the President on April 15, 2010 and became Public Law No. 112–10.

H.R. 1540, THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2012

Background and Summary of Legislation

The purpose of H.R. 1540 is to authorize appropriations for the Department of Defense for fiscal year 2012. The Committee on Science, Space, and Technology has a jurisdictional interest in certain provisions of the bill dealing with the harmful interference of communication systems with Global Positioning Systems devices needed by the Department of Defense (Section 911 of H.R. 1540 as reported), the integration of unmanned aerial vehicles into the national airspace system (Section 1098 of H.R 1540 as reported), high performance computing, nuclear science, and the development of a national rocket propulsion strategy for the United States (Section 1096 of H.R. 1540 as reported). The Senate amendment to H.R. 1540 proposed a number of provisions that the Committee had jurisdiction over including: Extension and Expansion of Small Business Programs of the Department of Defense (Section 885 of the Senate amendment), Commercial Space Launch Cooperation (Section 911 of the Senate amendment), Authority to Designate Increments or Blocks of Space Vehicles As Major Subprograms Subject to Acquisition Reporting Requirements (Section 912 of the Senate amendment), and Reauthorization of SBIR and STTR programs (Division E of the Senate amendment).

Section 911 of the House bill restricts the ability of the Federal Communications Commission to permit operations of a space-based or terrestrial based communications system that may interfere with the Global Positioning Systems devices needed by the Department of Defense. NASA works in conjunction with the Department of Defense to operate satellite systems and maintain its GPS capabilities. Section 1096 requires the President to prepare and transmit a national rocket propulsion strategy for the United States to address the effects of the end of the space shuttle program and the termination of the Constellation program on multiple departments and agencies that rely on the solid rocket motor and liquid rocket engine industrial base. Section 1098 provides for the development and testing of unmanned aircraft systems through an FAA program utilizing six test ranges to test the safe operations and develop detection techniques for unmanned flight operations in the national airspace system and develop certification standards and air traffic requirements for unmanned flight operations at those ranges. Section 885 and Division E of the Senate amendment would alter current law with regard to the Small Business Innova-

tion Research program (SBIR) and the Small Business Technology Transfer (STTR) program. Section 911 of the Senate amendment allows the Secretary of Defense to assist the Secretary of Transportation in carrying out the responsibilities set forth in Titles 49 (Transportation) and 51 (National and Commercial Space Programs) with respect to private sector involvement in commercial space activities and public-private partnerships pertaining to space transportation infrastructure. Section 912 amends the acquisition reporting under Title 10 with regard to the purchase of space vehicles.

Legislative History

H.R. 1540 was introduced by Representative Buck McKeon (R–CA) by request on April 14, 2011 and referred to the Committee on Armed Services. On May 17, 2011 the Committee on Armed Services reported as amended H.R. 1540, filed H. Rept. 112–78, and the bill was placed on the Union Calendar, Calendar No. 39. On May 23, 2011 the Committee on Armed Services filed a supplemental report, H. Rept. 112–79, Part II. The Committee on Rules filed H. Rept. 112–86 on H. Res 269, providing for consideration of H.R. 1540. On May 26, 2011 the House passed H.R. 1540, as amended, by: Y–322, N–96 (Roll Call No. 375).

H.R. 1540 was received in the Senate on June 6, 2011 and referred to the Committee on Armed Services. On December 1, 2011 the Committee on Armed Services was discharged and a substitute amendment to H.R. 1540 was considered and passed in the Senate by unanimous consent. The Senate insisted on its amendment, asked for a conference, and appointed conferees.

A message on Senate action was sent to the House on December 5, 2011. On December 7, 2011 Chairman McKeon moved that the House disagree to the Senate amendment to H.R. 1540 and agree to a conference. The motion was agreed to without objection. From the Committee on Science, Space, and Technology, the Speaker appointed conferees, Chairman Ralph Hall, Technology and Innovation Subcommittee Chairman Ben Quayle, and Ranking Member Eddie Bernice Johnson, for consideration of sections 911 and 1098 of the House bill, and sections 885, 911, 912 and Division E of the Senate amendment, and modifications committed to conference.

On December 12, 2011 the conference report (112–239) was filed. The House considered the conference report, subject to a rule (H. Res. 493) on December 14, 2011, and the report passed by: Y–283, N–136 (Roll Call No. 932). The Senate considered the conference report on December 15, 2011 and the conference report passed the Senate on December 15, 2011, by: Y–86, N–13 (Record Vote No. 230) The bill was signed into law by the President on December 31, 2011, and became Public Law 112–81.

H.R. 672, TO TERMINATE THE ELECTION ASSISTANCE COMMISSION

Background and Summary of Legislation

The purpose of H.R. 672 is to terminate the Election Assistance Commission (EAC) as an agency and transfer certain key functions to other federal agencies to maintain those functions going forward.

In particular, the adoption of voluntary voting standards and the certification responsibilities for voting systems is transferred from the EAC to the Federal Election Commission (FEC).

The EAC was created by the Help America Vote Act of 2002 (HAVA). During the 107th Congress, H.R. 3295, which became HAVA, was referred to the Committee on House Administration and the Committee on Science and Technology and incorporated multiple provisions of H.R. 2275, the Voting Technology Standards Act of 2001.

These provisions included a process to ensure that proper technical standards would be developed to improve voting technology and that a reliable system would be set up to test equipment against those standards. These responsibilities have been assigned by HAVA to the National Institute of Standards and Technology (NIST). The Committee on Science, Space, and Technology continues as the Committee of jurisdiction over the scientific and technological aspects of voting reform including research, development, and testing of voting machine standards.

H.R. 672 would transfer the EAC's Office of Voting System Testing and Certification to the FEC while maintaining NIST's current role in the accreditation of laboratories to test voting equipment. The bill continues the formal mechanisms for input into the development of Voluntary Voting System Guidelines (VVSGs) by maintaining the current Technical Guidelines Development Committee (which NIST chairs) and replaces several committees with a streamlined 56-member Guidelines Review Board composed of state and local election officials and other key constituencies including federal representatives.

Legislative History

H.R. 672 was introduced by Representative Gregg Harper (R–MS) on February 11, 2011 and referred to the Committee on House Administration and in addition the Committee on Science, Space and Technology. On April 14 the Committee on House Administration held a legislative hearing, followed by a markup on May 25. On June 2, 2011 the Committee on House Administration reported H.R. 672, as amended, to the House (H. Rept. 112–100) and the Committee on Science, Space, and Technology discharged. H.R. 672 was placed on the Union Calendar, Calendar No. 55. On June 21, 2011, Chairman Lungren moved to suspend the rules and pass the bill, H.R. 672, and the motion failed by a vote of Y–235, N–187.

H.R. 1309, THE FLOOD INSURANCE REFORM ACT OF 2011

Background and Summary

H.R. 1309, the Flood Insurance Reform Act, reauthorizes the National Flood Insurance Program (NFIP) through September 30, 2016, and amends the National Flood Insurance Act to address fiscal and administrative issues of the NFIP. The bill includes provisions to ensure the continued viability of the NFIP through encouraging broader participation in the program, increasing financial accountability, eliminating unnecessary rate subsidies, and updating the program to meet current needs. The key provisions of the bill include: 1) a five year reauthorization of the NFIP; 2) a three-year

delay in the mandatory purchase requirement for certain properties in newly designated Special Flood Hazard Areas (SFHS); 3) a phase-in of full-risk, actuarial rates for areas newly designated as Special Flood Hazard; 4) a reinstatement of the Technical Mapping Advisory Council; and 5) an emphasis on greater private sector participation in providing flood insurance coverage.

Legislative History

H.R. 1309 was introduced by Representative Judy Biggert (R–IL) on April 1, 2011 and referred to the House Committee on Financial Services. The Committee on Financial Services met to consider the bill, H.R. 1309, on May 13, 2011 and ordered the bill favorably reported to the House, as amended, by a vote of Y–54, N–0.

On June 2, 2011, Chairman Hall of the Committee on Science, Space, and Technology and Chairman Bachus of the Committee on Financial Services exchanged correspondence. Chairman Bachus acknowledged the jurisdictional interest of the Committee on Science, Space, and Technology in the bill, H.R. 1309, as amended and Chairman Hall agreed to waive a referral of the bill.

On June 9, 2011, the bill was reported to the House, as amended, by the Committee on Financial Services (H. Rept. 112–102). The House considered and passed H.R. 1309 on July 12, 2011 by a vote of Y–406, N–22 (Roll Call No. 562). H.R. 1309 was received in the Senate on July 27. Provisions of H.R. 1309 to reform and modernize flood insurance were included in H.R.4348, "MAP–21", which became P. L. 112–141.

P.L. 112–55, THE CONSOLIDATED AND FURTHER CONTINUING APPROPRIATIONS ACT, 2012

Background and Summary

P.L. 112–55 makes appropriations for Agriculture, Rural Development, Food and Drug Administration, and Related Agencies programs for the fiscal year ending September 30, 2012. The law appropriated funds for certain Federal government agencies for fiscal year 2012, including agencies within the jurisdiction of the Committee on Science, Space, and Technology. The law includes appropriations for fiscal year 2012 for the National Institute of Standards and Technology (NIST), the National Oceanic and Atmospheric Administration (NOAA), the Office of Science and Technology Policy (OSTP), the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the Department of Transportation (DOT), and made continuing appropriations for the Department of Homeland Security (DHS), the Department of Energy (DOE), and the Environmental Protection Agency (EPA).

NASA activities are funded in the law at $17.8 billion, a slight decrease from FY 2011. Laboratory research activities at NIST receive a $60 million increase above the FY 2011 levels, but overall funding at NIST is only slightly increased. The overall budget for NOAA increased by $306 million, or seven percent above FY 2011 levels; most of this increase is allocated for the National Weather Service and the Joint Polar Satellite System weather satellite program. The NSF is funded at $7 billion, which represents a modest

increase of $173 million over FY 2011, with an emphasis on funding for basic research activities. The OSTP is funded at $4.5 million under the law.

The law represents a prioritization of spending for programs within the jurisdiction of the Committee. While the law cut overall discretionary spending, it prioritizes basic research activities at NIST and NSF and minimized cuts to NASA. Additionally, the law specifically does not allocate spending for the establishment of a National Climate Service at NOAA as proposed by the Senate.

Legislative History

On June 3, 2011, Representative Jack Kingston(R–GA) introduced H.R. 2112, which was reported by the Committee on Appropriations and included appropriations for Commerce, Justice, Science and Related Agencies.

On June 14th, 15th, and 16th, the House of Representatives considered the bill, H.R. 2112. The bill passed the House of Representatives on June 16, 2011 by a vote of Y–217, N–203 (Roll Call No. 459). H.R. 2112 was received in the Senate on June 16, 2011, and referred to the Senate Committee on Appropriations. The bill was considered and passed by the Senate with an amendment on November 1, 2011 by a vote of Y–69, N–30.

On November 2, 2011 a message on Senate action was sent to the House of Representatives. On November 3, 2011 Chairman Rogers (R–KY) moved that the House disagree to the Senate amendments and request a conference, which was agreed to by unanimous consent. On November 14, 2011, the conferees agreed to file a conference report. The House of Representatives agreed to the conference report on November 17, 2011 by a vote of Y–298, N–121. The Senate agreed to the conference report on November 17, 2011 by a vote of Y–70, N–30. On November 18, 2011, the President signed the bill, which became P.L. 112–55.

H.R. 2693, THE "BUDGET CONTROL ACT OF 2011"

Background and Summary of Legislation

The bill would set discretionary spending limits for FY2012–FY2013, and makes it out of order for either house of Congress to consider any measure that would cause them to be exceeded. It also would establish the Joint Select Committee on Deficit Reduction to make recommendations that will significantly improve the short-term and long-term fiscal imbalance of the federal government, with the goal of reducing the federal deficit to 3% or less of Gross Domestic Product (GDP).

Finally, it would increase the U.S. public debt ceiling from $14.294 trillion to $16.994 trillion.

Legislative History

H.R. 2693 was introduced on July 28, 2011, and was referred to the Committee on Rules, and in addition to the Committees on the Budget, Energy and Commerce, Education and the Workforce, Ways and Means, and Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of

the committee concerned. On July 30, 2011, H.R. 2693 was considered under suspension of the rules. A motion to suspend the rules and pass the bill, as amended, failed by recorded vote (2/3 required), by Yeas–173, Nays–246 (Roll no. 682).

H.R. 3463, TO REDUCE FEDERAL SPENDING AND THE DEFICIT BY TERMINATING TAXPAYER FINANCING OF PRESIDENTIAL ELECTION CAMPAIGNS AND PARTY CONVENTIONS AND BY TERMINATING THE ELECTION ASSISTANCE COMMISSION

Background and Summary of Legislation

The bill would eliminate the Presidential Election Campaign Fund (PECF), terminate public financing of presidential campaigns, and return PECF funds to the general treasury for deficit reduction. In addition, the bill would terminate the Election Assistance Commission (EAC) and transfer its remaining operations to the Office of Management and Budget and the Federal Election Commission. Eliminating the PECF would immediately return $199 million to the public treasury for deficit reduction and would save taxpayers $447 million over five years.

Legislative History

On November 17, 2011, Representative Gregg Harper (R–MS) introduced H.R. 3463, which was referred to the Committee on House Administration, and in addition to the Committee on Ways and Means. H.R. 3463 was similar to H.R. 672, which was introduced earlier in the 112th Congress and failed to pass the House under a motion to suspend the rules. H.R. 672 was referred to the Committee on Science, Space and Technology Committee. In correspondence between Chairman Lungren of the Committee on House Administration and Chairman Hall of the Committee on Science, Space, and Technology, Chairman Lungren acknowledged the jurisdiction of the Committee over H.R. 3463 and Chairman Hall agreed to waive referral of the bill.

On December 1, 2011, H.R. 3463 was considered under a rule (H. Res. 477) allowing for one hour of general debate, equally divided and controlled. Mr. Bishop (GA) moved to recommit with instructions to House Administration, which failed by a vote of Y–190, N–236 (Roll Call No. 872). H.R. 3463 passed by a record vote: Y–235, N–190 (Roll Call No. 873). On December 5, 2011, the bill was received in the Senate and referred to the Committee on Rules and Administration.

H.R. 2105, THE IRAN, NORTH KOREA, AND SYRIA NONPROLIFERATION REFORM AND MODERNIZATION ACT OF 2011

Background and Summary of Legislation

H.R. 2105 provides for the application of measures to foreign persons who transfer to Iran, North Korea, and Syria certain goods, services, or technology. The legislation is intended to address the growing threats and compel the Iranian, North Korean, and Syrian regimes into abandoning destructive policies.

The legislation is aimed at expanding and strengthening existing sanctions on Iran and Syria and ensuring their full implementation and enforcement by the Executive Branch. H.R. 2105 attempts to compel Iran, North Korea, and Syria to stop activities that threaten our security, our interests, and our allies.

The legislation provides an integrated, cohesive strategy with the goal of preventing Iran, North Korea and Syria's development of nuclear and other non-conventional weapons and the missiles to deliver them and their sponsorship of terrorism and other activities that threaten Americans.

Legislative History

H.R. 2105 was introduced on June 3, 2011, and referred to the Committee on Foreign Affairs, and in addition to the Committees on Oversight and Government Reform; Judiciary; Ways and Means; Science, Space, and Technology; Financial Services; and Transportation and Infrastructure.

The Subcommittee on Terrorism, Nonproliferation, and Trade of the Committee on Foreign Affairs discharged the bill on November 2, 2011. The Full Committee on Foreign Affairs met to consider the bill on November 2, 2011 and ordered the bill favorably reported to the House, as amended, by voice vote.

On November 10, 2011, Chairman Hall of the Committee on Science, Space, and Technology and Chairman Ros-Lehtinen of the Committee on Foreign Affairs exchanged correspondence.

Chairman Ros-Lehtinen acknowledged the jurisdiction of the Committee on Science, Space, and Technology over provisions of H.R.2105 and Chairman Hall waived further consideration of the bill. On December 14, 2011, the House suspended the rules and passed H.R. 2105 by a recorded vote of Y–418, N–2 (Roll no. 928).

On December 14, 2011, the bill was received in the Senate and Read twice and referred to the Committee on Foreign Relations.

H.R. 2845, THE PIPELINE SAFETY, REGULATORY CERTAINTY, AND JOB CREATION ACT OF 2011

Background and Summary of Legislation

H.R. 2845 reauthorizes the federal pipeline safety programs administered by the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the U.S. Department of Transportation (USDOT) for fiscal years 2012 through 2015. H.R. 2845 provides for enhanced safety in pipeline transportation and provides for enhanced reliability in the transportation of the Nation's energy products by pipeline. The bill ensures regulatory certainty which will help create a positive environment for job development.

The federal pipeline safety programs were last authorized under the Pipeline, Inspection, Protection, Enforcement, and Safety Act of 2006 (P.L. 109–468), a four year authorization for fiscal years 2007 through 2010. The federal pipeline safety programs expired on September 30, 2010.

The bill increases the maximum amount of civil penalties the U.S. can seek from pipeline owners or operators who violate pipeline safety rules and regulations. H.R. 2845 requires states to eliminate most exemptions to their "Call Before You Dig" programs

in order to receive federal grant funding. The bill allows the Secretary to issue a rulemaking requiring the installation of automatic and remote-controlled shutoff valves on newly constructed transmission pipelines but does not require operators to retrofit existing pipelines.

H.R. 2845 requires the Secretary to study expanding pipeline integrity management requirements and leak detection systems, providing Congress the final say in whether or not the requirements should be expanded or the leak detection systems should be installed. Further, the bill requires USDOT and pipeline operators to provide information to first responders on the location of pipelines in their jurisdiction. USDOT is to review regulations regarding accident reporting requirements for pipeline operators.

H.R. 2845 authorizes funding for several pipeline safety programs including pipeline safety research and development.

The bill provides a continued roll for the National Institute of Standards and Technology in the development of ongoing research and development program plans as well as providing for a program-wide thirty percent non-Federal cost sharing requirement in the area of pipeline transportation research and development.

Legislative History

On September 7, 2011 Representatives Bill Shuster (R–PA) and John Mica (R–FL) introduced H.R. 2845, the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011. H.R. 2845 was referred to the Committee on Transportation and Infrastructure and in addition to the Committee on Energy and Commerce. On September 8, 2011 the Committee on Transportation and Infrastructure met and favorably reported H.R. 2845, as amended, by voice vote to the House. In an exchange, Transportation and Infrastructure Committee Chairman Mica acknowledged the jurisdictional interest of the Committee on Science, Space, and Technology in H.R. 2845. Chairman Hall agreed to waive a referral.

On February 3, 2011 Senator Lautenberg (D–NJ) introduced S. 275, the Pipeline Transportation Safety Improvement Act of 2011. The bill was referred to the Senate Committee on Commerce, Science, and Transportation. On July 7, 2011, the Committee met and reported the bill with an amendment and it was placed on the Senate Calendar. On October 17, 2011 the Senate agreed to the Committee substitute by unanimous consent and sent a message to the House. On October 21, 2011 S. 275 was received in the House and held at the desk.

On December 1, 2011 the Committee on Transportation and Infrastructure reported H.R. 2845 (H. Rept. 112–297, Part I) and the Committee on Energy and Commerce discharged. H.R. 2845 was placed on the Union Calendar (Calendar No. 197). On December 12, 2011 the House suspended the rules and passed H.R. 2845, as amended, by a voice vote.

On December 13, 2011, the bill was received in the Senate, read twice, considered, read a third time, and passed without amendment by Unanimous Consent. On January 3, 2012, the bill was signed into law by the President and became Public Law No. 112–90.

H.R. 4239, THE SURFACE TRANSPORTATION EXTENSION ACT OF 2012

Background and Summary of Legislation

H.R. 4239 provides an extension of Federal-aid highway, highway safety, motor carrier safety, transit, and other programs funded out of the Highway Trust Fund pending enactment of a multiyear law reauthorizing such programs. The bill establishes funding levels for the portion of FY 2012 from October 1, 2011 through June 30, 2012 for surface transportation programs, thereby extending funding for the programs through June 30, 2012. The Committee on Science, Space, and Technology has a jurisdictional interest in surface transportation research programs.

Legislative History

H.R. 4239 was introduced on March 22, 2012 and referred to the Committee on Transportation and Infrastructure, and in addition to the Committees on Ways and Means, Natural Resources, Science, Space, and Technology, and Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned. On March 27, 2012, Mr. Mica moved to suspend the rules and pass H.R. 4239, as amended. On March 29, 2012, the motion to suspend the rules and pass H.R. 4239, as amended, failed by a voice vote.

H.R. 4257, THE "FEDERAL INFORMATION SECURITY AMENDMENTS ACT OF 2012"

Background and Summary of Legislation

The Federal Information Security Amendments Act of 2012 (H.R. 4257) enhances the Federal Information Security Management Act (FISMA) of 2002 by improving the framework for securing federal information technology systems. H.R. 4257 updates and amends the activities required to secure federal information systems. It establishes a mechanism for improved oversight of federal agency information security programs and systems through a focus on automated and continuous monitoring of agency information systems, when possible, and through conducting regular threat assessments. The Committee on Science, Space, and Technology has a jurisdictional interest in H.R. 4257 due to the involvement of the National Institute of Standards and Technology (NIST) in developing and proposing both standards and guidelines for Federal government agencies to follow to ensure that the networks and information maintained by the Federal government agencies are secure. The language of H.R. 4257 seeks to amend the law in a number of different ways, all of which affect the role of NIST in the promulgation of standards and guidelines for information security within Federal agencies.

Legislative History

On March 26, 2012, Representative Issa introduced H.R. 4257. On April 18, 2012, the Committee on Oversight and Government Reform ordered H.R. 4257 to be reported, as amended, H.R. 4257,

filed H. Rept. 112–455, and the bill was placed on the Union Calendar, Calendar No. 318. On April 26, 2012, Chairman Hall of the Committee on Science, Space, and Technology and Chairman Issa of the Committee on Oversight and Government Reform exchanged correspondence. Chairman Issa acknowledged the jurisdictional interest of the Committee on Science, Space, and Technology in the bill, H.R. 4257, as amended, and Chairman Hall agreed to waive a referral of the bill. The exchange was included in the report on the bill, H. Rept. 112–455, as well as the Congressional Record on April 27, 2012. On April 26, 2012, Mr. Issa moved to suspend the rules and pass H.R. 4257, as amended, which was agreed to by voice vote. The bill was received in the Senate on May 7, 2012.

H.R. 4281, THE "SURFACE TRANSPORTATION EXTENSION ACT OF 2012"

Background and Summary of Legislation

H.R. 4281 provides an extension of Federal-aid highway, highway safety, motor carrier safety, transit, and other programs funded by the Highway Trust Fund pending enactment of a multiyear law reauthorizing such programs. The bill establishes funding levels for the portion of FY 2012 from October 1, 2011 through June 30, 2012 for surface transportation programs-resulting in an extension of funding for the programs through June 1, 2012. The Committee on Science, Space, and Technology has a jurisdictional interest in surface transportation research programs.

Legislative History

H.R. 4281 was introduced on March 28, 2012, and referred to the Committee on Transportation and Infrastructure, and in addition to the Committees on Ways and Means, Natural Resources, Science, Space, and Technology, and Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned. The Committee on Rules filed H. Rept. 112–424 on H. Res 600, providing for consideration of H.R. 4281. On March 29, 2012 the House passed H.R. 4281, as amended, by: Y–266, N–158 (Roll Call No. 147). H.R. 4281 was received in the Senate and passed without amendment by Voice Vote on March 29, 2012. On March 30, 2012, H.R. 4281 was signed by the President and became P. L. 112–102.

H.R. 4310, THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2013

Background and Summary of Legislation

H.R. 4310 authorizes appropriations for fiscal year 2013 for military activities of the Department of Defense and establishes military personnel strengths for fiscal year 2013. The Department of Defense programs were last authorized under the National Defense Authorization Act for Fiscal Year 2012 (P.L. 112–81). The Committee on Science, Space, and Technology has a jurisdictional interest in certain provisions of the bill, including, but not limited to, those provisions dealing with prohibiting the use of funds to imple-

ment an international agreement on space activities without ratification by the Senate or authorization in statute (Section 913 of H.R. 4310 as reported), authorizing a report on counter space technology (Section 915 of H.R. 4310 as reported), establishing an interagency council on the strategic capability of the National Laboratories (Section 1062 of H.R. 4310 as reported), the interagency collaboration on unmanned aircraft systems (Section 1074 of H.R 4310 as reported), an independent review and assessment of the technologies developed under the Small Business Innovation Research program (Section 1615 of H.R. 4310 as reported), management of research laboratories and entities utilized for civilian and defense projects, nuclear science, and the development of and demonstration of domestic national-security-related enrichment technologies.

Section 913 of the House bill prohibits the Secretary of Defense or the Director of National Intelligence to limit the activities of the Department of Defense or the intelligence community in outer space pursuant to an international agreement unless such agreement has been ratified by the Senate or authorized in statute. Additionally, this section requires a report on the progress of negotiations on an international agreement concerning outer space activities to the "appropriate congressional committees," including the Committee on Science, Space, and Technology. Section 915 requires a report describing key space technologies that could be used or are being sought by foreign countries with a counter space program. Section 1062 establishes an Interagency Council responsible for identifying and considering the science, technology, and engineering capabilities of the national labs that could be leveraged to support national security missions. Section 1074 provides interagency collaboration by DOD, the FAA, and NASA on research and solutions for the safe integration of unmanned aircraft systems into the National Airspace. Several provisions in H.R. 4310, as reported, would alter current law with regard to the Small Business Act; the Committee has jurisdiction over changes to the Small Business Act affecting the Small Business Innovation Research program (SBIR) and the Small Business Technology Transfer (STTR) program. Section 1615 requires an independent assessment of these programs related to the transition of technologies from these programs for use in DOD programs.

In addition to the provisions included in H.R. 4310, as reported, several amendments of interest to the Committee on Science, Space, and Technology were adopted on the House Floor, including, among others, a provision to amend Title 51 (National and Commercial Space Programs) to require the Secretary of Defense to take steps to maximize the use of the capacity of the space transportation infrastructure of the Department of Defense by the private sector in the United States, a provision to require the Secretary of Energy to establish a pilot program to accelerate technology transfer from the national labs to the marketplace, and a provision to remove satellites and related components and technology from the United States Munitions List.

Legislative History

H.R. 4310 was introduced by Representative Buck McKeon (R–CA) by request on March 29, 2012 and referred to the Committee on Armed Services. On May 9, 2012 the Committee on Armed Services reported, as amended, H.R. 4310, filed H. Rept. 112–479, and the bill was placed on the Union Calendar, Calendar No. 335. On May 15, 2012 the Committee on Armed Services filed a supplemental report, H. Rept. 112–479, Part II. The Committee on Rules filed H. Rept. 112–481 on H. Res 656, providing for consideration of H.R. 4310. On May 18, 2012 the House passed H.R. 4310, as amended, by: Y–299, N–120 (Roll Call No. 291).

On June 19, 2012, H.R. 4310 was received in the Senate and referred to the Committee on Armed Services. On June 4, 2012, the Senate Committee on Armed Services reported S. 3254, the National Defense Authorization Act for Fiscal Year 2013. Cloture invoked on S. 3254 on December 3, 2012 by Y–93, N 0 (Record Vote Number 218) and passed with amendments by Y–98, N–0 (Record Vote Number 221). Senate incorporated S. 3254 into H.R. 4310 as an amendment. On December 7, 2012 H.R. 4310 as amended by the Senate received in the House and held at the desk. On December 13, 2012 Chairman McKeon moved that the House disagree to the Senate amendment to H.R. 4310, and agree to the requested conference and appoint conferees. From the Committee on Science, Space, and Technology, the Speaker appointed conferees, Chairman Ralph M. Hall, Congresswoman Judy Biggert, and Ranking Member Eddie Bernice Johnson, for consideration of sections 916, 1074, 1603, 1617, 1661, and 3158 of the House bill, and sections 271, 912, 1046, title XVIII, sections 3153, 3159, and 3504 of the Senate amendment, and modifications committed to conference. Included in the final conference report were provisions reauthorizing the Assistance for Firefighting (AFG) and Staffing for Adequate Fire and Emergency Response (SAFER) grant programs, and the United States Fire Administration (USFA). The USFA reauthorization language was identical to H.R. 6229, introduced earlier in the session by Congresswoman Biggert. Also included in the final conference report was slightly modified language from S. 99, the American Medical Isotopes Production Act of 2011, which was passed in the Senate and referred to the Committee on Science, Space, and Technology on November 18, 2011.

On December 18, 2012, the conference report to H.R. 4310, H. Rept. 112–705, was filed. On December 19, 2012, the Committee on Rules filed H. Rept. 112–707 on H. Res. 840 providing for consideration of the conference report to H.R. 4310. On December 20, 2012, Mr. McKeon brought up the conference report for consideration. The conference report was agreed to by Y–315, N–107 (Roll Call No. 645).

H.R. 4348, THE "SURFACE TRANSPORTATION EXTENSION ACT OF 2012, PART II"

Background and Summary of Legislation

H.R. 4348 provides an extension of Federal-aid highway, highway safety, motor carrier safety, transit, and other programs funded out of the Highway Trust.

H.R. 4348 maintains funding pending enactment of a multiyear law reauthorizing such programs, includes provisions to require the

Federal Energy Regulatory Commission to issue a permit without additional conditions for the construction, operation, and maintenance of the Keystone oil pipeline, and requires a trust fund to be known as the "Gulf Coast Restoration Trust Fund" to be established in the Treasury of the United States. The legislation as introduced contained a number of provisions affecting surface transportation research programs in the jurisdiction of the Committee on Science, Space, and Technology.

After the House passed the legislation, the Senate considered the legislation. The Senate struck all of the legislative text included by the House and replaced the language with language from S. 1813 and requested a conference. Because both H.R. 4348 and S. 1813 included numerous provisions in the jurisdiction of the Committee on Science, Space, and Technology, conferees from the Committee were appointed by the Speaker. Provisions reauthorizing programs included in S. 1813 had also been included in two pieces of legislation in the House, H.R. 7, the "American Energy and Infrastructure Jobs Act of 2012," reported by the Committee on Transportation and Infrastructure, and H.R. 3833, the "Driving Research through Innovative Viable Economic Solutions Act of 2012" introduced by Chairman Hall.

The Committee was appointed conferees on numerous provisions affecting surface transportation research programs, environmental research programs, energy related research programs and various highway safety research programs. The Committee has jurisdiction over transportation-related research, development, and technology transfer programs at the Department of Transportation as well as the Bureau of Transportation Statistics. The Committee also has a jurisdictional interest in the establishment of a "Gulf Coast Ecosystem Restoration Council" that would conduct marine research and environmental research on effects on coastal wildlife and coastal ecosystems, and develop centers of excellence to focus on science, technology and monitoring of wildlife ecosystems, as well as research and technology to improve development of energy resources. Additional provisions of interest to the Committee in these bills include uranium enrichment research, research on transportation of hazardous materials, research to improve motor coach safety, and research to improve vehicle technology.

Legislative History

H.R. 4348 was introduced by Representative Mica on April 16, 2012 and referred to the Committee on Transportation and Infrastructure, and in addition to the Committees on Ways and Means, Natural Resources, Science, Space, and Technology, and Energy and Commerce, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned. On April 17, 2012, the Committee on Rules filed H. Rept. 112–446 on H. Res. 619, providing for consideration of H.R. 4348. On April 18, 2012 the House passed H.R. 4348, as amended, by a vote of: Y–293, N–127 (Roll Call No. 170).

On April 19, 2012, H.R. 4348 was received in the Senate. On April 24, 2012, the measure was laid before the Senate. The Senate struck all after the Enacting Clause and substituted the language of S. 1813. The Senate insisted on its amendment, asked for a con-

ference, and appointed conferees. On April 25, 2012, Mr. Mica asked unanimous consent that the House disagree to the Senate amendment, and agree to a conference. The motion was agreed to without objection. On April 25, 2012 the Speaker appointed Chairman Hall, Ranking Member Eddie Bernice Johnson, and Rep. Chip Cravaack as conferees from the Committee on Science, Space, and Technology for consideration of secs. 121, 123, 136, and 137 of the House bill, and sec. 1534, subtitle F of title I of Division A, secs. 20013, 20014, 20029, 31101, 31103, 31111, 31204, 31504, 32705, 33009, 34008, and Division E of the Senate amendment, and modifications committed to conference.

On May 8, 2012 the first meeting of the Conference on H.R. 4348 was held.

On June 28, 2012 the Conferees agreed to file the conference report and the House proceeded with one hour of debate on the conference report to accompany H.R. 4348 on June 29, 2012. The House proceeded to consider the conference report H.Rept. 112–557 and agreed to the conference report by Y–373, N–52 (Roll Call no. 451). On June 29, 2012 the Senate agreed to the conference report by, Y–74, N–19. (Vote Number: 172). On July 6, 2012 H.R. 4348 was signed by the President and became P.L. 112–141.

H.R. 5325, THE "ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES APPROPRIATIONS ACT FOR FY 2013"

Background Information

H.R. 5325 appropriates resources for FY 2013 to Department of Energy programs within the Committee on Science, Space, and Technology's jurisdiction. Key programs within the jurisdictional interest of the Committee on Science, Space, and Technology funded by H.R. 5325 include: Office of Science, APRA–E, Energy Efficiency and Renewable Energy, Nuclear Energy, Fossil Energy, Electricity Delivery and Energy Reliability, and the Title XVII Loan Guarantee Program.

Legislative History

H.R. 5325 was introduced by Representative Frelinghuysen on May 2, 2012 and referred to the Committee on Appropriations. On May 2, 2012, the Committee on Appropriations reported an original measure, H.R. 5325, filed H. Rept. 112–462, and the bill was placed on the Union Calendar, Calendar No. 323. On May 31, 2012 the Committee on Rules filed H. Rept. 112–504 on H. Res. 667, providing for consideration of H.R. 5325. On June 6, 2012 the House passed H.R. 5325, as amended, by: Y–255, N–165 (Roll Call No. 342).

On June 11, 2012, H.R. 5325 was received in the Senate.

H.R. 5326, THE "COMMERCE, JUSTICE, SCIENCE, AND RELATED AGENCIES APPROPRIATIONS ACT FOR FY 2013"

Background and Summary of Legislation

H.R. 5326 appropriated funds for FY 2013 to agencies and programs within the Committee on Science, Space, and Technology's jurisdiction, including the National Science Foundation (NSF), the

National Aeronautics and Space Administration (NASA), the National Institute of Standards and Technology (NIST), and the National Oceanic and Atmospheric Administration (NOAA.

H.R. 5326 also sought to authorize in areas within the Committee's jurisdiction. In regard to NASA, the bill struck a provision in current law that prohibited NASA from making any reductions in force prior to FY 2014. The bill also authorized NASA to transfer money from refunds to its working capital fund.

Legislative History

H.R. 5326 was introduced by Representative Wolf on May 2, 2012 and referred to the Committee on Appropriations. On May 2, 2012, the Committee on Appropriations reported an original measure, H.R. 5326, filed H. Rept. 112–463, and the bill was placed on the Union Calendar, Calendar No. 324. On May 7, 2012, the Committee on Rules filed H. Rept. 112–464 on H. Res. 643, providing for consideration of H.R. 5326. On May 10, 2012, the House passed H.R. 5326, as amended, by: Y–247, N–163 (Roll Call No. 249).

On May 14, 2012, H.R. 5326 was received in the Senate.

H.R. 5855, THE "DEPARTMENT OF HOMELAND SECURITY APPROPRIATIONS ACT FOR 2013"

Background and Summary of Legislation

H.R. 5855 appropriated funds for FY 2013 for programs at the Department of Homeland Security (DHS) within the Committee on Science, Space, and Technology's jurisdiction, including the Science and Technology Directorate, which administers research and development programs for the Department of Homeland Security.

Legislative History

H.R. 5855 was introduced by Representative Aderholt on May 23, 2012 and referred to the Committee on Appropriations. On May 23, 2012 the Committee on Appropriations reported an original measure, H.R. 5855, filed H. Rept. 112–492, and the bill was placed on the Union Calendar, Calendar No. 345. On May 31, 2012 the Committee on Rules filed H. Rept. 112–504 on H. Res. 667, providing for consideration of H.R. 5855. On June 6, 2012, the bill H.R. 5855 was brought before the House for consideration. On June 7, 2012 the House passed H.R. 5855, as amended, by: Y–234, N–182 (Roll Call No. 370).

On June 11, 2012, H.R. 5855 was received in the Senate.

H.R. 6064, THE TEMPORARY SURFACE TRANSPORTATION EXTENSION ACT OF 2012

Background and Summary of Legislation

H.R. 6064 directs the Secretary of Transportation (DOT) to reduce the amount apportioned for a surface transportation program, project, or activity for FY2012 by amounts apportioned or allocated under the Surface Transportation Extension Act of 2012 for the period from October 1, 2011, through June 30, 2012.

It includes a special rule to provide that the amendments made by this Act shall cease to be effective upon enactment of the Moving Ahead for Progress in the 21st Century Act (MAP-21).

Title I addresses funding for Federal-Aid Highways. Section 101 amends the Surface Transportation Extension Act of 2011, Part II to continue through July 6, 2012, and authorizes appropriations through that date for, specified federal-aid highway programs. Funding for programs of interest to the jurisdiction of the Committee include: 1) the surface transportation research, development, and deployment program; 2) training and education; 3) the Bureau of Transportation Statistics; 4) university transportation research; and 5) intelligent transportation systems (ITS) research. It also provides an extension of Federal-aid highway, highway safety, motor carrier safety, transit, and other programs funded out of the Highway Trust Fund pending enactment of a multiyear law reauthorizing such programs.

Title II includes an extension of Highway Safety Programs. Section 201 amends SAFETEA-LU to extend, from October 1, 2011, through July 6, 2012, the authorization of appropriations for specified National Highway Traffic Safety Administration (NHTSA) safety programs, including programs of jurisdictional interest to the Committee on Science, Space, and Technology. Programs extended in this Title include (1) highway safety research and development, (2) the occupant protection incentive grant program, (3) the safety belt performance grant program, (4) state traffic safety information system improvements, (5) the alcohol-impaired driving countermeasures incentive grant program, (6) the National Driver Register, (7) the high visibility enforcement program, (8) motorcyclist safety, (9) the child safety and child booster seat safety incentive grant program, and (10) NHTSA administrative expenses.

Title III addresses the Public Transportation Programs. Section 301 extends from October 1, 2011, through July 6, 2012, the allocation of capital investment grant funds for federal transit programs, including the metropolitan planning program and the state planning and research program.

Title IV included a Highway Trust Fund Extension. Section 401 amends the Internal Revenue Code to extend through July 6, 2012, authority for expenditures from the: (1) HTF Highway and Mass Transit accounts, (2) Sport Fish Restoration and Boating Trust Fund, and (3) Leaking Underground Storage Tank Trust Fund.

Title V authorized the Secretary of Education to delay the origination and disbursement of Direct Stafford loans to undergraduate students under the Higher Education Act of 1965 until enactment of MAP–21, except that the Secretary may only delay the origination and disbursement until July 6, 2012.

Legislative History

H.R. 6064 was introduced on June 29, 2012, and referred to the Committees on Ways and Means, Natural Resources, Energy and Commerce, Science, Space, and Technology, Education and the Workforce, and Transportation and Infrastructure, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned. On June 29, 2012, H.R. 6064 was considered by unanimous consent by the House of Representatives and was

passed without objection. The bill was received in the Senate and passed without amendment by unanimous consent on June 29, 2012. H.R. 6064 was signed by the President on June 29, 2012 and became P.L. 112–140.

H.R. 6213, THE NO MORE SOLYANDRAS ACT

Background and Summary of Legislation

H.R. 6213 prohibits DOE from issuing any loan guarantees for applications submitted after December 31, 2011 and provides that loan guarantee applications submitted prior to December 31, 2011, remain eligible to receive a DOE loan guarantee if certain conditions are satisfied.

For any new guarantee issued, DOE must report to Congress on: (i)the review and decision-making process utilized by DOE in issuing the guarantee; (ii) the terms of the guarantee; (iii) the recipient; and (iv) the technology and project.

The legislation prohibits DOE from restructuring the terms of any guarantee unless it first consults with Treasury and prohibits the subordination of U.S. taxpayer dollars to any other financing.

Finally, H.R. 6213 subjects senior federal employees and federal appointees to remedial action, including suspension without pay and removal, for violations of any requirements of the Title XVII loan guarantee program.

Legislative History

H.R. 6213 was introduced on July 26, 2012 and referred to the Committee on Energy and Commerce, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned. On September 10, 2012, H.R. 6213 was reported as amended by the Committee on Energy and Commerce (H. Rept. 112–652, Part I). On September 10, 2012 in an exchange, Energy and Commerce Committee Chairman Upton acknowledged the jurisdiction of the Committee. Chairman Hall agreed to waive further consideration of H.R. 6213. The Committee on Science, Space, and Technology discharged and the legislation was placed on the Union Calendar (Calendar No. 470) on September 10, 2012.

On September 12, 2012 the Committee on Rules filed H. Rept. 112–31 on H. Res. 779, providing for consideration of H.R. 6213. On September 14, 2012 the bill H.R.6213 was brought before the House for consideration. The House passed H.R. 6213, as amended, by: Y–245 N–161 (Roll Call No. 584). On September 19, 2012, H.R. 6213 was received in the Senate.

FULL COMMITTEE OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES

February 17, 2011—An Overview of The Administration's Federal Research and Development Budget for Fiscal Year 2012 (Hearing Volume No. 112–2)

On Thursday, February 17, 2011, the Committee on Science, Space, and Technology held an oversight hearing to examine the Administration's research and development budget proposal for fiscal year 2012. The Committee received testimony from Dr. John P. Holdren, Assistant to the President for Science and Technology and Director of the Office of Science, and Technology Policy.

March 2, 2011—The National Aeronautics and Space Administration Fiscal Year 2012 Budget Request (Hearing Volume No. 112–3)

On March 2, 2011 the Committee held an oversight hearing on the National Aeronautics and Space Administration's (NASA) fiscal year 2012 budget request. The hearing examined the Administration's proposed NASA budget and its prioritization of the Agency's investments in human space flight relative to the priorities outlined by Congress in the NASA Authorization Act of 2010 (P.L. 111–267). Over the next two years (FY2012–FY2013) the Administration's budget request underfunds development of the Multi-Purpose Crew Vehicle and Space Launch System/Heavy Lift Launch Vehicle by more than $2.4 billion, a 31 percent decline relative to the authorization levels in P.L. 111–267. Over the same two year period, the Administration's request seeks to increase spending by more than $700 million above authorized levels, a 70 percent increase, to pay for the creation of multiple Commercial Crew service providers to low Earth Orbit.

The Committee received testimony from the NASA Administrator, Charles F. Bolden, Jr.

March 3, 2011—The Department of Energy Fiscal Year 2012 Research And Development Budget Request (Hearing Volume No. 112–4)

On March 3, 2011, the Committee held an oversight hearing on the Department of Energy's fiscal year 2012 research and development budget request. The hearing focused on the Department's proposed budget request for fiscal year 2012 including policies and how budgetary priorities impact DOE R&D programs for fiscal year 2012. The Committee questioned the Secretary of Energy on a wide variety of topics, such as the implementation of a federal Clean Energy Standard, ongoing activities at the Nation's laboratories, and emerging energy technologies. The Committee received testimony from Secretary of Energy, Dr. Steven Chu.

March 10, 2011—An Overview of The Fiscal Year 2012 Research and Development Budget Proposals at The National Oceanic And Atmospheric Administration and The Environmental Protection Agency (Hearing Volume No. 112–5)

On March 10, 2011 the Committee held an oversight hearing on the National Oceanic and Atmospheric Administration (NOAA) and Environmental Protection Agency (EPA) fiscal year 2012 research and development budget requests. The hearing focused on NOAA and EPA's proposed budget requests for fiscal year 2012. For NOAA the Committee focused on the proposed reorganization of NOAA and the satellite programs. The Committee honed in on the creation of a National Climate Service at NOAA included in the 2012 budget request, the Deepwater Horizon oil spill and the state of the Joint Polar Satellite System Program (JPSS). For EPA the Committee focused on the Office of Research and Development's fiscal year 2012 budget priorities. The Committee questioned EPA Assistant Administrator for the Office of Research and Development (ORD) on the science used in development of the carbon dioxide endangerment finding, EPA's quality assurance and control processes for the use of science to inform policy, and nutrient loading in the Chesapeake Bay.

The Committee received testimony from NOAA Administrator and Undersecretary of Commerce for Oceans and Atmosphere, Dr. Jane Lubchenco and EPA Assistant Administrator for the Office of Research and Development, Dr. Paul Anastas.

March 11, 2011—An Overview of the Fiscal Year 2012 Budget Proposals at the National Science Foundation and the National Institute of Standards and Technology (Hearing Volume No. 112–6)

On Friday, March 11, 2011, the Committee held an oversight hearing to examine the Administration's proposed fiscal year 2012 budget request for the National Science Foundation (NSF) and the National Institute of Standards and Technology (NIST). One witness panel provided testimony on NSF's budget, including testimony from the Chairman of the National Science Board, and one witness panel provided testimony on NIST's budget.

The Committee received testimony from Dr. Subra Suresh the Director of the NSF and Dr. Ray Bowen, Chairman of the National Science Board. Dr. Patrick Gallagher testified on behalf of NIST as the Institute's Director and the Undersecretary of Commerce for Standards and Technology.

March 31, 2011—Climate Change: Examining the Process Used to Create Science And Policy (Hearing Volume No. 112–9)

On Thursday, March 31, 2011 the Committee held a hearing to examine processes used to generate key climate change science and information used to inform policy development and decision making. The hearing focused on the integrity of the processes employed by scientists in generating climate-related scientific and technical information for use in public policy.

The Committee received testimony from Dr. J. Scott Armstrong of the University of Pennsylvania, Dr. Richard Muller of the University of California, Dr. John Christy of the University of Alabama, Mr. Peter Glaser of Troutman Sanders, LLP, Dr. Kerry Emanuel of the Massachusetts Institute of Technology, and independent economist, Dr. David Montgomery.

May 11, 2011—Review of Hydraulic Fracturing Technology and Practices (Hearing Volume No. 112–17)

On Wednesday, May 11, 2011 the Committee held a hearing to review the technology and practices of hydraulic fracturing for energy production. The hearing focused on the role of domestic shale gas in meeting growing energy demand and associated concerns related to managing potential risks to drinking water resources.

The Committee received testimony from Elizabeth Ames Jones of the Texas Railroad Commission, Dr. Robert M. Summers of the Maryland Department of Environment, Mr. Harold Fitch of the Michigan Department of Environmental Quality and the Ground Water Protection Council, Dr. Cal Cooper of the Apache Corporation, and Dr. Michael Economides of the University of Houston. Paul Anastas, the Assistant Administrator for Research and Development at the Environmental Protection Agency also testified.

June 16, 2011—STEM Education in Action: Learning Today . . . Leading Tomorrow (Hearing Volume No. 112–26)

On Thursday, June 16, 2011, the Committee held a hearing to highlight Science, Technology, Engineering and Math (STEM) education activities across the Nation, their role in inspiring and educating future generations, and their contribution to our future's economic prosperity.

The first hearing, *STEM Education in Action: Learning Today . . . Leading Tomorrow*, showcased the finalists, parents, teachers, and mentors of the ExploraVision Awards National Competition, sponsored by Toshiba and the National Science Teachers Association.

The Committee received testimony from: Dr. Karen Lorenzo, parent to Pablo Lorenzo; Ms. Brenda Conwell-Dudley, parent and teacher mentor to Jack Dudley; Ms. Amy Attard, teacher and team mentor to Claudia Cooper; and Ms. Anne Manwell, teacher and mentor to Alison Reed.

June 22, 2011—First Semiannual Report of Activities of the Committee on Science, Space, and Technology (Business Meeting, House Report 112–112)

On Wednesday, June 22, 2011 the Committee held a business meeting to approve the adoption of the first semiannual report of activities of the Committee on Science, Space, and Technology. The Committee adopted the first semiannual report by voice vote and favorably reported it to the House for filing by the Chairman. The report filed on June 22, 2011 became House Report 112–112.

June 22, 2011—Examining NOAA's Climate Service Proposal (Hearing Volume No. 112–27)

On Wednesday, June 22, 2011 the Committee held a hearing to review the Administration's fiscal year 2012 budget request proposal to reorganize NOAA to create a climate service. The Administration's objective for this new line office is to bring together NOAA's existing climate capabilities under a single entity to more efficiently and effectively respond to demands for climate services.

The Committee received testimony from Dr. Jane Lubchenco, Administrator, National Oceanic and Atmospheric Administration and Dr. Robert Winokur, Deputy Oceanographer, Department of the Navy.

July 12, 2011—A Review of NASA's Space Launch System (Hearing Volume No. 112–29)

On Tuesday, July 12, 2011 the Committee held an oversight hearing to examine NASA's Space Launch System—the follow-on to the Space Shuttle—that was congressionally directed by the NASA Authorization Act of 2010 [P.L. 111–267]. NASA's Space Launch System decisions, due to Congress by January 9, 2011, have been repeatedly delayed but were expected by July 8, 2011. The hearing, originally intended to provide Members the opportunity to ask the Administration about the cost, schedule, capabilities, and justification for the final design, became, due to the Administration's continued delays, a forum for NASA to explain why it failed to reach a decision, what analyses still needed to be completed to reach a decision, and when the Administration would be forthcoming with the required decisions.

The Committee received testimony from NASA Administrator, Charles F. Bolden, Jr.

September 8, 2011—Impacts of LightSquared Network on Federal Science Activities (Hearing Volume No. 112–33)

On Thursday, September 8, 2011 the Committee held an oversight hearing to examine the concerns and issues associated with interference with the Global Positioning System (GPS) signal from the proposed LightSquared LLC terrestrial broadband network. The hearing was held in light of recent studies that indicated that the LightSquared network interference with GPS signals, and could potentially disrupt an array of Federal programs and scientific activities.

Witnesses discussed LightSquared's business proposal, FCC's authorization of spectrum use, potential disruptions to industry and government, and costs of mitigating frequency interference.

The Committee received testimony from: Mr. Anthony Russo, Director, National Coordination Office for Positioning, Navigation and Timing; Ms. Mary Glackin, Deputy Under Secretary, National Oceanic and Atmospheric Administration; Mr. Victor Sparrow, Director, spectrum Policy, Space Communications and Navigation, Space Operations Mission Directorate, National Aeronautics and Space Administration; The Honorable Peter Appel, Administrator, Research and Innovation Technology Administration, Department of Transportation; Dr. David Applegate, Associate Director, Natural

Hazards, U.S. Geological Survey; Mr. Jeffrey Carlisle, Executive Vice President, Regulatory Affairs and Public Policy, LightSquared; Dr. Scott Pace, Director, Space Policy Institute, George Washington University.

September 13, 2011—STEM in Action: Inspiring the Science and Engineering Workforce of Tomorrow (Hearing Volume No. 112–34)

On Tuesday September 13, 2011, the Committee held a hearing to highlight Science, Technology, Engineering, and Math (STEM) education activities across the Nation, their role in inspiring and educating future generations, and their contribution to our future's economic prosperity.

The second hearing, *STEM Education in Action: Inspiring the Science and Engineering Workforce of Tomorrow,* showcased a variety of public/private partnerships and initiatives that are successfully inspiring the future STEM workforce.

The Committee received testimony from: Mr. Tony Norman, VEX Robotics, Inc., Innovation First International, Inc.; Mrs. Nancy Conrad, Chairman, the Conrad Foundation; Mr. Michael Gallager, Entertainment Software Association.

September 15, 2011—Out of Thin Air: EPA's Cross-State Air Pollution Rule (Hearing Volume No. 112–35)

On Thursday, September 15, 2011 the Committee held a hearing to review the scientific, procedural, and technical basis of the Environmental Protection Agency's Cross-State Air Pollution Rule, including a discussion of the economic, employment, and electric reliability impacts. The Committee received testimony from Dr. Bryan Shaw, Chairman, Texas Commission on Environmental Quality (TCEQ); Mr. Gregory Stella, Senior Scientist, Alpine Geophysics, LLC; Mr. Barry Smitherman, Commissioner, Texas Railroad Commission; Mr. Wayne E. Penrod, Executive Manager, Environmental Policy, Sunflower Electric Corporation; Mr. Chip Merriam, Chief Legislative & Regulatory Compliance Officer, Orlando Utilities Commission; and The Honorable Gina McCarthy, Assistant Administrator, Office of Air and Radiation, U.S. Environmental Protection Agency.

September 22, 2011—NASA Human Spaceflight Past, Present, and Future: Where Do We Go From Here? (Hearing Volume No. 112–38)

On Thursday, September 22, 2011 the Committee held a hearing to examine the strategic goals and priorities of America's human space exploration program, the importance of space access and demonstrated leadership among space-faring nations, the inspirational role of human and robotic space exploration, and the role of the Space Launch System and Multipurpose Crew Vehicle and a healthy industrial base in achieving those goals.

The hearing drew upon our Nation's long history of space exploration to help frame the challenges confronting our present human spaceflight position and explore a path forward.

The Committee received testimony from Mr. Neil Armstrong, Commander, Apollo 11; Captain Eugene A. Cernan USN (ret.), Commander Apollo 17; Dr. Maria Zuber, E.A. Griswold Professor of Geophysics and Head of the Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology; and Dr. Michael Griffin, Eminent Scholar and Professor, Mechanical and Aerospace Engineering, University of Alabama, Huntsville.

September 26, 2011—STEM Education in Action: Communities Preparing for Jobs of the Future (Hearing Volume No. 112–40)

On Monday, September 26, 2011 the Committee held a field hearing in Texarkana, Texas the third in a series of hearings to highlight Science, Technology, Engineering, and Math (STEM) education activities across the Nation, their role in inspiring and educating future generations, and their contribution to our future economic prosperity. The purpose of the hearing was to highlight the role of community colleges, specifically the importance of their partnerships and contributions to the local economy, workforce, and other aspects of the community.

The Committee received testimony from: Dr. Cora Marrett, Deputy Director, National Science Foundation, Mr. James Henry Russell, President, Texarkana College, Dr. Brad Johnson, President, Northeast Texas Community College, Dr. C.B. Rathburn, President, Texas A&M University – Texarkana, Ms. Pam Kennedy, Vice President of Human Resources, CHRISTUS St. Michael Health System, Mr. Myron Barnett, Human Resource Manager, International Paper, and Mr. Denis Washington, Chairman, TexAmericas.

October 26, 2011—NASA's Commercial Crew Development Program: Accomplishments and Challenges (Hearing Volume No. 112–46)

On Wednesday, October 26, 2011, the Committee held an oversight hearing to examine NASA's Commercial Crew Program (CCP) office, focusing on accomplishments achieved by the agency and industry following two rounds of grant awards totaling $320 million (aggregate of FY10 & FY11), and the biggest programmatic and technical challenges remaining. Speaking about challenges ahead, industry witnesses and NASA officials highlighted the uncertainty of Congress' willingness to provide full funding for CCP over the next five years. Many Committee Members asked questions of the witnesses about the size of the commercial markets (i.e., spaceflight participants exclusive of NASA-sponsored astronauts, such as space tourists and/or astronauts from countries having no indigenous space industry).

The Committee received testimony from Mr. John Elbon, Vice President and General Manager for Space Exploration, the Boeing Company; Mr. Steve Lindsey, Director of Space Exploration for the Sierra Nevada Corporation; Mr. Elon Musk, CEO and Chief Technology Officer, Space Exploration Technologies Corp. (SpaceX); Mr. Charlie Precourt, Vice President, ATK Launch Systems Group; Dr. George Sowers, Vice President, United Launch Alliance; the Honorable Paul Martin, Inspector General of NASA; and Mr. Bill

Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, NASA.

December 6, 2011—The Next Great Observatory: Assessing the James Webb Space Telescope (Hearing Volume No. 112–55)

On Tuesday, December 6, 2011, the Committee held an oversight hearing to examine NASA's management and re-plan of the James Webb Space Telescope.

In 2001, the James Webb Space Telescope (JWST) was ranked as the highest priority large space mission in astronomy by the National Academies of Science in their decadal survey Astronomy and Astrophysics in the New Millennium. Originally estimated by the decadal committee to cost $1 billion and to be launched in 2007, JWST was dubbed as the next Great Observatory that will be three times more powerful than the Hubble Space Telescope in the infrared and eight times more powerful than the Spitzer Space Telescope. However, after high-level scrutiny arising from years of program cost and schedule overruns, NASA recently developed a revised plan for JWST that — if fully funded — would enable completion and launch by October, 2018. The revised budget life cycle costs now total just over $8.8 billion.

The Committee received testimony from Mr. Rick Howard, NASA Program Manager of the James Webb Space Telescope; Dr. Roger Blandford, Professor of Physics, Stanford University and Former Chair, Committee for the Decadal Survey of Astronomy and Astrophysics, National Research Council; Dr. Garth Illingworth, Professor & Astronomer, UCO/Lick Observatory, University of California, Santa Cruz; and Mr. Jeffrey D. Grant, Sector Vice President & General Manager, Space Systems Division, Northrop Grumman Aerospace Systems.

2ND SESSION

February 8, 2012—Assessing America's Nuclear Future—A Review of the Blue Ribbon Commission's Report to the Secretary of Energy (Hearing Volume 112–60)

On Wednesday, February 8, 2012, the Committee held a hearing to examine the recommendations contained in the Blue Ribbon Commission on America's Nuclear Future (BRC) Report to the Secretary of Energy, as well as broader science and technology issues associated with spent nuclear fuel management.

The Committee received testimony from Lieutenant General Brent Scowcroft (Ret.), Co-Chairman, Blue Ribbon Commission on America's Nuclear Future; The Honorable Richard Meserve, Commissioner, Blue Ribbon Commission on America's Nuclear Future; and The Honorable Pete Lyons, Assistant Secretary of Nuclear Energy, Department of Energy.

February 17, 2012—An Overview of the Administration's Federal Research and Development Budget for Fiscal Year 2013 (Hearing Volume No. 112–61)

On Friday, February 17, 2012, the Committee held a hearing to examine President Obama's proposed fiscal year 2013 (FY13) budget request for research, development, demonstration, and commercial application programs.

Dr. John P. Holdren, Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy (OSTP), reviewed the proposed budget in the context of the President's overall priorities in science, space, and technology and described the mechanisms the Administration uses to determine priorities across scientific disciplines and the mechanisms used to coordinate scientific research and technical development activities across federal agencies.

The Committee received testimony from Dr. John P. Holdren, Assistant to the President for Science and Technology and Director, Office of Science and Technology Policy.

March 1, 2012—An Overview of the Department of Energy Research and Development Budget for Fiscal Year 2013 (Hearing Volume No. 112–65)

On Thursday, March 1, 2012, the Committee held a hearing to examine energy policy and budget priorities related to the President's Fiscal Year (FY) 2013 budget request, including activities within the DOE offices of Science, Energy Efficiency and Renewable Energy, Advanced Research Projects Agency-Energy, Fossil Energy, Nuclear Energy, Electricity Delivery and Energy Reliability, and the Loan Guarantee Program Office.

The Committee received testimony from Dr. Steven Chu, U.S. Secretary of Energy.

March 7, 2012—An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2013 (Hearing Volume 112–68)

On Wednesday, March 7, 2012, the Committee held an oversight hearing to examine the Administration's FY 2013 budget request for the National Aeronautics and Space Administration. In addition to budgets, Members questioned the witness on the status of current programs, proposed programmatic changes, and the agency's priorities and challenges. Of particular concern to many Members was the progress being made on developing a successor to the Shuttle, and the reasoning behind NASA's proposal to impose significant reductions to its planetary sciences program.

The Committee received testimony from the Honorable Charles F. Bolden, Jr., NASA Administrator.

March 28, 2012—Securing the Promise of the International Space Station: Challenges and Opportunities (Hearing Volume No. 112–72)

On Wednesday, March 28, 2012, the Committee held an oversight hearing to examine the current state of ISS utilization, research, access and maintenance of the International Space Station. NASA's focus is shifting from assembly and activation, to utilization and maintenance. The decision to extend the life of the ISS through at least 2020 provides an unprecedented opportunity to perform promising scientific research. The hearing reviewed NASA's plans for conducting ISS research, and ensuring that essential spares, facilities, transportation and other resources are adequate to meet the research needs on the ISS through 2020, and on the formation of an organization for the management of the ISS National Laboratory.

The Committee received testimony from Mr. William H. Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, National Aeronautics and Space Administration; Cristina Chaplain, Director, Acquisition and Sourcing Management, U.S. Government Accountability Office; and Lieutenant General Thomas P. Stafford, USAF (Ret.), Chairman, International Space Station Advisory Committee.

April 17, 2012—Tapping America's Unconventional Oil Resources for Job Creation and Affordable Domestic Energy: Technology and Policy Pathways (Hearing Volume No. 112–75)

On Tuesday, April 17, 2012, the Committee held a hearing to examine unconventional oil resources and identify technology and policy pathways to develop domestic energy resources.

The Committee received testimony from Mr. Andrew Slaughter, Chair—Resource & Supply Task Group, National Petroleum Council Report "Prudent Development"; Ms. Karen Harbert, President and Chief Executive Officer, Institute for 21st Century Energy, U.S. Chamber of Commerce; Dr. Michelle Michot Foss, Chief Energy Economist, Center for Energy Economics, Bureau of Economic Geology, University of Texas–Austin; Mr. James Brown, President and Chief Operating Officer, Whiting Petroleum Corporation; and Mr. Daniel Weiss, Senior Fellow and Director of Climate Strategy, Center for American Progress Action Fund.

June 20, 2012—The Office of Science and Technology Policy: Examining Priorities and Effectiveness of the Nation's Science Policies (Hearing Volume No. 112–91)

On Wednesday, June 20, 2012, the Committee on Science, Space, and Technology held a hearing to exercise the Committee's oversight authority of the Office of Science and Technology Policy (OSTP) by examining its roles, responsibilities, operations and management and its function in shaping our national science policy.

The Committee received testimony from Dr. John P. Holdren, Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy.

July 19, 2012—Keeping America Secure: The Science Supporting the Development of Threat Detection Technologies (Hearing Volume No. 112–97)

On Thursday, July 19, 2012, the Committee on Science, Space, and Technology held a hearing examining the federally-funded research and development (R&D) of threat detection technologies. The hearing examined how R&D informs a layered, risk based system-approach to detecting threats, including advanced intelligence, screening technologies, and securing the environment.

The Committee heard testimony from Dr. Richard Cavanagh, Director, Office of Special Programs, National Institute of Standards and Technology; Dr. Huban Gowadia, Acting Director, Domestic Nuclear Detection Office, Department of Homeland Security; Dr. Anthony Peurrung, Associate Laboratory Director, National Security Directorate, Pacific Northwest National Laboratory; and Dr. Thomas Peterson, Assistant Director, Directorate for Engineering, National Science Foundation.

July 25, 2012—Drought Forecasting, Monitoring, and Decision-Making: A Review of the National Integrated Drought Information System (Hearing Volume No. 112–98)

On Wednesday, July 25, 2012, the Committee on Science, Space, and Technology held a legislative hearing to examine the state of drought forecasting, monitoring, and decision-making and the role the National Integrated Drought Information System (NIDIS) serves in drought planning. Additionally, the Committee received comments on draft legislation entitled, "The National Integrated Drought Information System Reauthorization Act of 2012."

The Committee received testimony from Dr. Roger S. Pulwarty, Director, National Integrated Drought Information System, National Oceanic and Atmospheric Administration (NOAA); The Honorable Gregory A. Ballard, Mayor, City of Indianapolis; Mr. J.D. Strong, Executive Director, Oklahoma Water Resources Board; Dr. James S. Famiglietti, Professor and Director, Earth System Science, University of California, Irvine; and Ms. Patricia Langenfelder, President, Maryland Farm Bureau.

September 14, 2012—Recent Developments in NASA's Commercial Crew Acquisition Strategy (Hearing Volume No. 112–104)

On Friday, September 14, 2012, the Committee on Science, Space, and Technology held an oversight hearing to examine NASA commercial crew program. On August 3, 2012, NASA granted a total of $1.113 billion to three companies using Space Act Agreements (not Federal Acquisition Regulations) in the third phase of the commercial crew program to stimulate the development of multiple competing concepts for human spaceflight vehicles and systems. This award brought the total level of federal spending on the program to nearly $1.5 billion. The hearing reviewed NASA's rationale for selecting the three companies; considered the cost and safety implications of the decisions; and, given the unique nature

of Space Act Agreements, examined the level of NASA's insight and thus, its ability to evaluate technical and safety requirements.

The Subcommittee received testimony from Mr. William H. Gerstenmaier, NASA's Associate Administrator of the Human Exploration and Operations Mission Directorate; and from VADM Joseph W. Dyer, USN (Ret.), Chairman, Aerospace Safety Advisory Panel.

November 15, 2012—The U.S. Antarctic Program: Achieving Fiscal and Logistical Efficiency While Supporting Sound Science (Hearing Volume No. 112–106)

On Thursday, November 15, 2012, the Committee on Science, Space, and Technology held a hearing to review the future options and logistical recommendations of the U. S. Antarctic Program Blue Ribbon Panel Report, *More and Better Science in Antarctica through Increased Logistical Effectiveness*, and to examine the work and goals of the U.S. Antarctic Program.

The Committee received testimony from: Mr. Norman R. Augustine, Chair of the U.S. Antarctic Program Blue Ribbon Panel; Dr. Subra Suresh, Director of the National Science Foundation; General Duncan J. McNabb (USAF–Retired), Member of the U.S. Antarctic Program Blue Ribbon Panel; and Dr. Warren Zapol, MD, Chair of the National Research Council's Committee on *Future Science Opportunities in Antarctica and the Southern Ocean.*

December 12, 2012—The Future of NASA: Perspectives on Strategic Vision for America's Space Program (Hearing Volume No. 112–110)

On Wednesday, December 12, 2012, the Committee on Science, Space, and Technology held an oversight hearing with a panel of distinguished experts to hear their perspectives on NASA's strategic vision and the future of America's space program. The Committee reviewed the National Research Council report on NASA's Strategic Direction and the Need for a National Consensus. Overall NASA funding has been flat over the last 15 years, and projected budget increases have varied greatly from year to year. As a result, planning for large, multi-year procurements has been difficult and inefficient. In certain programs, such as human spaceflight, there has been a recurring cycle in which the projected budget increases necessary to develop complex systems have not materialized. The subsequent flat budgets have contributed to increased costs and schedule delays of new systems. NASA is now facing budget declines coupled with increasingly expensive missions, large aging infrastructure, and lack of a strong compelling national strategy for human spaceflight.

The Committee received testimony from The Honorable Robert Walker, Executive Chairman, Wexler & Walker; Maj. Gen. Ronald Sega, USAF (Ret), Vice Chair, National Research Council Committee on NASA's Strategic Direction; The Honorable Marion C. Blakey, President & CEO, Aerospace Industries Association; Dr. Thomas Zurbuchen Ph.D, Associate Professor for Space Science and Aerospace Engineering, Associate Dean for Entrepreneurial Pro-

grams, University of Michigan and; Dr. Scott Pace, Ph.D, Director, Space Policy Institute, The George Washington University.

SUBCOMMITTEE ON ENERGY AND ENVIRONMENT ACTIVITIES

OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTIVE LEGISLATIVE ACTIVITIES

1ST SESSION

April 6, 2011—Offshore Drilling Safety and Response Technologies (Hearing Volume No. 112–12)

On April 6, 2011 the Energy and Environment Subcommittee held a hearing on offshore drilling safety and response technologies. The hearing focused on the Federal and industry efforts to identify and address safety and response technology challenges since the Deepwater Horizon oil spill in 2010 and how Federal programs in these areas can best be structured and prioritized.

The Committee received testimony from Department of Energy, Acting Assistant Secretary for Fossil Energy, Dr. Victor Der; Mr. David Miller, Director of Standards for the American Petroleum Institute; Mr. Owen Kratz, President and Chief Executive Officer of Helix Energy Solutions Group; and Research Director and Senior Fellow, Dr. Molly Macauley of Resources for the Future.

May 13, 2011—Nuclear Energy Risk Management (Joint Subcommittee Hearing) (Hearing Volume No. 112–18)

On Friday, May 13, 2011 the Subcommittee on Energy and Environment and the Investigations and Oversight Subcommittee held a joint hearing to examine nuclear safety, risk assessment, public health protection, and associated scientific and technical policy issues in the United States. The subcommittees examined those issues in light of the earthquake and tsunami in Japan that resulted in the disaster at the Fukushima Daiichi nuclear power plant.

The Subcommittees received testimony from Mr. Brian Sheron of the Nuclear Regulatory Commission; Mr. Lake Barrett of LBarrett Consulting LLC; Dr. John Boice of Vanderbilt University and the International Epidemiology Institute; and Mr. Dave Lochbaum of the Union of Concerned Scientists.

June 1, 2011—Harmful Algal Blooms: Action Plans for Scientific Solutions (Hearing Volume No. 112–21)

On Wednesday, June 1, 2011, the Subcommittee on Energy and Environment held a legislative hearing to examine harmful algal blooms (HABs) and hypoxia research and response needs to develop and implement action plans to monitor, prevent, mitigate, and control both marine and fresh water bloom and hypoxia events. The Subcommittee also asked witnesses to comment on draft legislation entitled "the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011."

The Subcommittee received testimony from Dr. Robert Magnien, Director of the Center for Sponsored Coastal Ocean Research, National Oceanic and Atmospheric Administration (NOAA); Dr. Richard Greene, Chief, Ecosystems Dynamics and Effects Branch, Gulf Ecology Division, Office of Research and Development, U.S. Environmental Protection Agency (EPA); Dr. Donald Anderson, Senior Scientist and Director of the Coastal Ocean Institute, Woods Hole Oceanographic Institution; Dr. Kevin Sellner, Executive Director, Chesapeake Research Consortium; Dr. Stephanie Smith, Chief Scientist, Algaeventure Systems; and Dr. Beth McGee, Senior Water Quality Scientist, Chesapeake Bay Foundation.

June 15, 2011—An Examination of DOE's Clean Technology Programs (Hearing Volume No. 112–25)

On Wednesday, June 15, 2011 the Subcommittee held a hearing to receive testimony on the Department of Energy's (DOE) Fiscal Year (FY) 2012 budget request for clean energy technologies and the relative prioritization therein. DOE manage a wide portfolio of activities related to the development of clean energy technologies. DOE's programs span the lifecycle of energy technology development, ranging from long-term basic research supported by the Basic Energy Sciences program at the Office of Science, through later-stage applied research, development, demonstration, and commercialization activities supported primarily by EERE, ARPA–E, and LPO.

The Subcommittee received testimony from Dr. Arun Majumdar, Director, Advanced Research Projects Agency–Energy (ARPA–E), U.S. Department of Energy (DOE); Dr. Henry Kelly, Acting Assistant Secretary, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy (DOE); and Mr. David Frantz, Director, Loan Guarantee Program Office, U.S. Department of Energy (DOE).

July 7, 2011—Hitting the Ethanol Blend Wall: Examining the Science on E15 (Hearing Volume No. 112–28)

On Thursday July 7, 2011 the Subcommittee held a hearing on the science and consequences of the use of E15. The hearing focused on examining the scientific and technical issues related to EPA's recent waiver decisions permitting mid-level ethanol blends of up to 15 percent ethanol in gasoline and receiving feedback on draft legislative language providing for a comprehensive assessment of the scientific and technical research on the implications of the use of mid-level ethanol blends.

The Subcommittee received testimony from Ms. Margo Oge, Director of the Office of Transportation and Air Quality, U.S. EPA, Mr Bob Greco, group director for Downstream and Industry Operations, American Petroleum Institute, Ms. Heather White, Chief of Staff and General Counsel for the Environmental Working Group, Mr. Jeff Wasil, Emissions Certification Engineer for Evinrude Outboard Motors, Mr. Mike Brown, President of the National Chicken Council, Mr. W. Steven Burke, President and CEO of Biofuels Cen-

ter of North Carolina, and Dr. Ron Sahu, Technical Consultant for Outdoor Power Equipment Institute.

July 14, 2011—Subcommittee Markup, H.R. 2484, The Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011

On Thursday, July 14, 2011 the Subcommittee met to consider H.R. 2484, the Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011. The Subcommittee favorably forwarded H.R. 2484 to the Full Committee as amended by voice vote.

September 23, 2011—From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather Satellite Program. (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–39)

On Friday, September 23, 2011 the Subcommittees on Investigations & Oversight and Energy & Environment met to examine the impact of the Administration's decision to restructure the National Polar-orbiting Operation Environmental Satellite System (NPOESS) and progress at NOAA and NASA in developing the Joint Polar Satellite System (JPSS) program as the replacement system for polar-orbiting civilian weather satellites and climate services.

Witnesses discussed the cost, schedule, and performance capabilities associated with the new polar-orbiting weather satellite program.

The Committee received testimony from: The Honorable Kathryn Sullivan, Ph.D., Assisstant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, National Oceanic and Atmospheric Administration; Mr. Christopher Scolese, Associate Administrator, National Aeronautics and Space Administration; Mr. David Powner, Director, Information Technology Management Issues, Government Accountability Office.

October 4, 2011—Quality Science for Quality Air (Hearing Volume No. 112–41)

On Tuesday, October 4, 2011 the Subcommittee held a hearing to examine the Environmental Protection Agency's (EPA) process for setting standards under the Clean Air Act including: the role of scientific advice from the Clean Air Scientific Advisory Committee (CASAC) and similar bodies; the economic underpinnings of EPA's Regulatory Impact Analyses (RIAs); and the assumptions, models, and data used in projecting compliance, technological standards necessary to achieve compliance and environmental benefits associated with proposed and finalized rules. With this examination the Subcommittee intended to gather preliminary information in preparation for reauthorizing the Environmental Research, Development, and Demonstration Act.

The Subcommittee received testimony from Dr. Roger O. McClellan, Advisor, Toxicology and Human Health Risk Analysis; Dr. George Thurston, Professor, New York University School of Medicine; Dr. Michael Honeycutt, Chief Toxicologist, Texas Commission on Environmental Quality (TCEQ); Dr. Robert F. Phalen, Professor

of Medicine and Co-Director, Air Pollution Effect Laboratory, University of California, Irvine; Dr. Anne E. Smith, Senior Vice President, NERA Economic Consulting; and Mr. J. Edward Cichanowicz, Consultant.

October 13, 2011—Advancing Coal Research and Development for a Secure Energy Future (Hearing Volume No. 112–45)

On Thursday, October 13, 2011, the Subcommittee held a hearing on to examine current Department of Energy (DOE) coal research, development, and demonstration (RD&D) activities and identify future coal RD&D opportunities and priorities.

The Subcommittee received testimony from Mr. Scott Klara, Deputy Director, National Energy Technology Laboratory; Ms. Janet Gellici, Chief Executive Officer, American Coal Council; Mr. Nick Atkins, President, American Electric Power; Mr. David Foerter, Executive Director, Institute of Clean Air Companies; and Mr. Stu Dalton, Senior Government Representative, Electric Power Research Institute (EPRI).

October 27, 2011—Review of the Blue Ribbon Commission on America's Nuclear Future Draft Recommendations (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–47)

On Thursday, October 27, 2011, the Energy & Environment and Investigations & Oversight Subcommittees held a hearing to examine the recommendations contained in the Blue Ribbon Commission on America's Nuclear Future (BRC) Draft Report to the Secretary of Energy.

Additionally, the Subcommittees considered science and technology issues associated with spent nuclear fuel management.

The Subcommittees received testimony from Mr. Jack Spencer, Research Fellow, Nuclear Energy Policy, Heritage Foundation; Dr. Peter Swift, Distinguished Member of the Technical Staff, Sandia National Laboratory; Dr. Roger Kasperson, Professor and Distinguished Scientist, Clark University; Mr. Gary Hollis, Chairman, Nye County Board of County Commissioners; Mr. Rick McLeod, Executive Director, Savannah River Site Community Reuse Organization; and Dr. Mark Peters, Deputy Laboratory Director for Programs, Argonne National Laboratory.

November 2, 2011—Conflicts and Unintended Consequences of Motor Fuel Standards (Hearing Volume No. 112–49)

On Wednesday, November 2, 2011, the Subcommittee on Energy and Environment held a hearing to examine motor fuel standards currently in place at the federal level and under consideration at the federal or state level; assess the scientific foundation for such standards; explore the inherent conflicts and unintended consequences of such standards; and question whether or not conflicts exist within the standards and the consequences of such effect the fungibility of, safe use of and affordability of the United States motor fuel supply.

The Subcommittee received testimony from Mr. Brendan Williams, Senior Director of Advocacy, National Petrochemical & Refiners Association; Dr. Ingrid Burke, Director, Haub School and Ruckelshaus Institute of Environment and Natural Resources, University of Wyoming, and Co-Chair, National Research Council Committee on Economic and Environmental Impacts of Increasing Biofuels Production; Ms. Margo T. Oge, Director, Office of Transportation and Air Quality, U.S. Environmental Protection Agency; Dr. Jay Kesan, Professor and H. Ross & Helen Workman Research Scholar and Program leader of the Biofuel Law & Regulation Program, Energy Biosciences Institute, University of Illinois College of Law; Mr. Bob Greco, Group Director, Downstream and Industry Operations, American Petroleum Institute; Mr. David Hilbert, Thermodynamic Development Engineer, Mercury Marine; and Mr. Jack Huttner, Executive Vice President of Commercial and Public Affairs, Gevo, Inc.

November 17, 2011—Fostering Quality Science at EPA: The Need for Common Sense Reform (Hearing Volume No. 112–52)

On Thursday, November 17, 2011, the Subcommittee held a hearing to review research and development activities at the Environmental Protection Agency (EPA) and how such activities support EPA program needs; explore the transition of science from the Office of Research and Development (ORD) to other program offices for use in developing and implementing regulations; examine the Science Advisory Board (SAB) process and how it contributes to the quality of science developed at ORD; and in preparation for the reauthorization of the Environmental Research, Development, and Demonstration Act (ERDDA) discuss any needed changes to the ERDDA which authorizes science activities at EPA.

The Subcommittee received testimony from Dr. Paul Anastas, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency; Mr. Arthur Elkins, Jr., Inspector General, U.S. Environmental Protection Agency; and Mr. David Trimble, Director, Natural Resources and Environment, U.S. Government Accountability Office.

November 30, 2011—Fostering Quality Science at EPA: Perspectives on Common Sense Reform (Hearing Volume No. 112–54)

On Wednesday, November 30, 2011, the Subcommittee on Energy and Environment held the first day of a hearing to provide external perspectives on the need to reauthorize and reform science, research and development activities at the Environmental Protection Agency (EPA); explore the intersection of Agency-supported science and its regulatory mission; and receive focused recommendations to raise the level, quality, usefulness, and objectivity of EPA science, including any necessary changes to the Environmental Research, Development and Demonstration Authorization Act (ERDDA).

The subcommittee received testimony from Ms. Susan Dudley, Director, Regulatory Studies Center, and Research Professor of Public Policy & Public Administration, The George Washington

University; Dr. Alan Moghissi, President, Institute for Regulatory Science; Dr. Kenneth Green, Resident Scholar, American Enterprise Institute; and Dr. Gary Marchant, Professor of Law and Executive Director, Center for Law, Science & Innovation, Arizona State University.

December 7, 2011—Energy Critical Elements: Identifying Research Needs and Strategic Priorities (Hearing Volume No. 112–56)

On Wednesday, December 7, 2011, the Subcommittee on Energy and Environment held a legislative hearing to examine research needs and priorities relating to Energy Critical Elements (ECE). The Subcommittee asked witnesses to comment on H.R. 2090, "The Energy Critical Elements Advancement Act of 2011" introduced on June 2, 2011 by Representative Hultgren and cosponsored by Representatives Biggert and Lipinski.

The Subcommittee received testimony from the Honorable David Sandalow, Assistant Secretary for Policy and International Affairs, U.S. Department of Energy; Dr. Derek Scissors, Research Fellow, the Heritage Foundation; Dr. Robert Jaffe, Jane and Otto Morningstar Professor of Physics, Massachusetts Institute of Technology; Dr. Karl Gschneidner, Jr. Senior Materials Scientist, Ames Laboratory; Mr. Luka Erceg, President and CEO, Simbol Materials.

2ND SESSION

February 1, 2012—Fractured Science—Examining EPA's Approach to Ground Water Research: The Pavillion Analysis (Hearing Volume No. 112–58)

On Wednesday, February 1, 2012, the Subcommittee on Energy and Environment held a hearing to review the EPA's approach to ground water research in Pavillion, Wyoming.

The Subcommittee received testimony from Mr. Jim Martin, Region 8 Administrator, Environmental Protection Agency; Mr. Tom Doll, State Oil & Gas Supervisor, Wyoming Oil & Gas Conservation Commission; Ms. Kathleen Sgamma, Vice President, Government & Public Affairs, Western Energy Alliance; and Dr. Bernard Goldstein, Professor and Dean Emeritus, Graduate School of Public Health, University of Pittsburgh.

February 3, 2012—Fostering Quality Science at EPA: Perspectives on Common Sense Reform–Day II (Hearing Volume No. 112–59)

On Friday, February 3, 2012, the Subcommittee on Energy and Environment held a second day of testimony to provide external perspectives on the need to reauthorize and reform science, research and development activities at the Environmental Protection Agency (EPA); explore the intersection of Agency-supported science and its regulatory mission; and receive focused recommendations to raise the level, quality, usefulness, and objectivity of EPA science, including any necessary changes to the Environmental Research, Development and Demonstration Authorization Act.

The Subcommittee received testimony from Mr. Daniel Greenbaum, President and Chief Executive Officer, Health Effects Institute; Dr. Deborah Swackhamer, Professor, Environmental Health Sciences, University of Minnesota, and Chairwoman, EPA Science Advisory Board; Mr. Michael Walls, Vice President, Regulatory and Technical Affairs, American Chemistry Council; Dr. Richard Belzer, President, Regulatory Checkbook; Dr. Jerald Schnoor, Allen S. Henry Chair in Engineering, Department of Civil and Environmental Engineering, University of Iowa; and Dr. S. Stanley Young, Assistant Director for Bioinformatics, National Institute of Statistical Sciences.

March 6, 2012—An Overview of the National Oceanic and Atmospheric Administration and the Environmental Protection Agency Budgets for Fiscal Year 2013 (Hearing Volume No. 112–67)

On Tuesday, March 6, 2012, the Subcommittee on Energy and Environment held a hearing to examine the Administration's Fiscal Year 2013 budget requests for the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency's (EPA) Science and Technology (S&T) Programs.

The Subcommittee received testimony from Dr. Jane Lubchenco, Administrator, National Oceanic and Atmospheric Administration, and Mr. Lek Kadeli, Acting Assistant Administrator, Office of Research and Development (ORD), U.S. Environmental Protection Agency.

March 28, 2012—To Observe and Protect: How NOAA Procures Data for Weather Forecasting (Hearing Volume No. 112–73)

On Wednesday, March 28, 2012, the Subcommittee on Energy and Environment held a hearing to examine how the National Oceanic and Atmospheric Administration (NOAA) develops, evaluates, and executes plans to deliver the best and most cost effective data necessary to meet requirements for severe weather prediction and other observational needs.

The Subcommittee received testimony from Ms. Mary Kicza, Assistant Administrator, National Environmental Satellite, Data, and Information Service, National Oceanic and Atmospheric Administration (NOAA); Dr. Alexander MacDonald, Deputy Assistant Administrator for Research Laboratories and Cooperative Institutes, Office of Oceanic and Atmospheric Research, NOAA; Mr. John Murphy, Chief, Programs and Plans Division, National Weather Service, NOAA; Mr. Eric Webster, Vice President and Director, Weather Systems, ITT Exelis; Dr. David Crain, Chief Executive Officer, GeoMetWatch; Mr. Bruce Lev, Vice Chairman, AirDat LLC; and Dr. Berrien Moore, Dean, University of Oklahoma College of Atmospheric and Geographic Sciences, and Director, National Weather Center.

May 10, 2012—Supporting American Jobs and the Economy Through Expanded Energy Production: Challenges and Opportunities of Unconventional Resources Technology (Hearing Volume No. 112–84)

On Thursday, May 10, 2012, the Subcommittee on Energy and the Environment held a hearing to examine challenges and opportunities associated with expanding development and use of unconventional oil and gas production technologies.

The Subcommittee received testimony from The Honorable Charles McConnell, Assistant Secretary for Fossil Energy, U.S. Department of Energy; Ms. Anu Mittal, Director, Natural Resources and Environment, U.S. Government Accountability Office; Ms. Samantha Mary Julian, Director, Office of Energy Development, State of Utah; Mr. Jim Andersen, Chief Executive Officer and President, U.S. Seismic Systems, Inc; Mr. Cameron Todd, Chief Executive Officer, U.S. Oil Sands, Inc; and Mr. Tony Dammer, Member, Board of Directors, National Oil Shale Association.

June 6, 2012—EPA's Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations (Hearing Volume No. 112–88)

On Wednesday, June 6, 2012, the Subcommittee held a hearing to examine the process used by the Office of Information and Regulatory Affairs and the Environmental Protection Agency in evaluating the costs and benefits of federal environmental regulations, including the recently announced Carbon Pollution Standard for New Power Plants.

The Subcommittee received testimony from Dr. Michael Honeycutt, Chief Toxicologist, Texas Commission on Environmental Quality; Mr. Eugene Trisko, Attorney at Law, On behalf of the American Coalition for Clean Coal Electricity; Mr. Tom Wolf, Executive Director, Energy Council, Illinois Chamber of Commerce; Mr. David Hudgins, Director of Member and External Relations, Old Dominion Electric Cooperative; and Mr. Richard Trzupek, Principal Consultant, Trinity Consultants.

June 21, 2012—Department of Energy User Facilities: Utilizing the Tools of Science to Drive Innovation through Fundamental Research (Hearing Volume No. 112–92)

On Thursday, June 21, 2012, the Subcommittee on Energy and the Environment held a hearing to examine the role the Department of Energy's (DOE) national scientific user facilities play in enabling basic research that drives innovation and economic growth. Additionally, the hearing examined challenges and opportunities associated with user facility planning and management.

The Subcommittee received testimony from Dr. Antonio Lanzirotti, Chairman, National User Facility Organization; Dr. Persis Drell, Director, SLAC National Accelerator Laboratory; Dr. Stephen Wasserman, Senior Research Fellow, Translational Science & Technologies, Ely Lilly and Company; Ms. Suzy Tichenor, Director, Industrial Partnerships Program, Computing and Computational Sciences, Oak Ridge National Laboratory; and

Dr. Ernest Hall, Chief Scientist, Chemistry and Chemical Engineering/Materials Characterization, GE Global Research.

July 26, 2012—Review of DOE Vehicle Technologies Program Management and Activities: Assuring Appropriate and Effective Use of Taxpayer Funding (Hearing Volume No. 112–99)

On Thursday, July 26, 2012, the Subcommittee on Energy and the Environment held a hearing to examine the Department of Energy's (DOE) Vehicle Technologies Program (VTP), and specifically management and oversight of DOE's alternative vehicle research, development, demonstration, and commercialization activities. The hearing also considered the prioritization of VTP activities, management of DOE's Transportation Electrification Initiative and implementation of President Obama's "EV Everywhere Challenge."

The Subcommittee received testimony from Dr. Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency, U.S. Department of Energy; Mr. Rickey Hass, Deputy Inspector General for Audits and Inspections, U.S. Department of Energy; and Mr. Brian Wynne, President, Electric Drive Transportation Association.

November 30, 2012—Tapping America's Energy Potential Through Research and Development (Hearing Volume No. 112–108)

On Friday, November 30, 2012, the Subcommittee on Energy and the Environment of the Committee on Science, Space, and Technology held a legislative hearing to receive testimony on research needs and priorities relating to unconventional oil and natural gas resources. The Subcommittee also received testimony on H.R. 6603, the "Tapping America's Energy Potential Through Research and Development Act of 2012."

The Subcommittee received testimony from Dr. Anthony Cugini, Director, National Energy Technology Laboratory, Department of Energy; Mr. David Martineau, Chairman, Texas Independent Producers and Royalty Owners Association; Dr. Daniel Hill, Interim Department Head, Professor and Holder of Noble Chair in Petroleum Engineering, Texas A&M University; and Mr. Michael Hagood, Director of Program Development, Energy and Environment Science and Technology, Idaho National Laboratory

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT ACTIVITIES

1ST SESSION

April 6, 2011—Behavioral Science and Security: Evaluating TSA's SPOT Program (Hearing Volume No. 112–11)

On Wednesday, April 6, 2011, the Subcommittee on Investigations and Oversight met to examine the Transportation Security Administration's (TSA) efforts to incorporate behavioral science into its transportation security architecture. The Department of Homeland Security (DHS) has been criticized for failing to scientifically validate the Screening of Passengers by Observational Techniques (SPOT) program before operational deployment. SPOT is a TSA program that employs Behavioral Detection Officers (BDO) at airport terminals for the purpose of detecting behavioral based indicators of threats to aviation security. Testimony focused on the validity of behavioral science and experience with SPOT and related programs.

In May 2010, the Government Accountability Office (GAO) issued a report titled "Efforts to Validate TSA's Passenger Screening Behavior Detection Program Underway, but Opportunities Exist to Strengthen Validation and Address Operational Challenges" in response to a Congressional request to review the SPOT program. The report found a lack of scientific consensus on behavioral detection principles and a lack of justification for expanding the SPOT program. GAO also noted that TSA generally does not use all intelligence databases to identify or investigate persons referred through SPOT. In addition, TSA has no database for BDOs to record and analyze information on passengers identified under SPOT.

The Subcommittee received testimony from the following witnesses: Mr. Stephen Lord, Director, Homeland Security and Justice Issues, Government Accountability Office (GAO); Mr. Larry Willis, Program Manager, Homeland Security Advanced Research Projects Agency, Science and Technology Directorate, Department of Homeland Security (DHS); Dr. Paul Ekman, Professor Emeritus of Psychology, University of California, San Francisco and President/Founder, Paul Ekman Group, LLC; Dr. Maria Hartwig, Associate Professor, Department of Psychology, John Jay College of Criminal Justice; Dr. Phillip Rubin, Chief Executive Officer, Haskins Laboratories; and Lieutenant Detective Peter J. DiDomenica, Boston University Police.

April 13, 2011—Green Jobs and Red Tape: Assessing Federal Efforts to Encourage Employment (Hearing Volume No. 112–14)

On Wednesday, April 13, 2011, the Subcommittee met to examine the issue of green jobs and efforts to create them. The term "green jobs" generally refers to employment in the alternative energy and energy efficiency industries. One of the primary goals of the recent growth in federal incentives and funding for alternative energy sources and energy efficiency industries has been the cre-

ation of green jobs. The hearing examined international efforts to create green jobs, as well as historical efforts domestically, including the American Recovery and Reinvestment Act. In light of the Administration's recently announced "Winning the Future" initiative, the Subcommittee explored the effectiveness of loan guarantees, subsidies, tax incentives, regulations, mandates, research, and other federal efforts to create green jobs. The witnesses discussed their views on the levels of effectiveness of government programs to create green jobs and their experience with such efforts.

The Subcommittee received testimony from: Dr. Kenneth P. Green, Resident Scholar, The American Enterprise Institute; Dr. David Kreutzer, Research Fellow in Energy, Economics, and Climate Change, The Heritage Foundation; Dr. Josh Bivens, Economist, Economic Policy Institute; Dr. David W. Montgomery, Vice President, NERA Economic Consulting; and Mr. William Kovacs, Director of Environment, Technology and Regulatory Affairs Division, U.S. Chamber of Commerce.

May 13, 2011—Nuclear Energy Risk Management (Hearing Volume No. 112–18)

On Friday, May 13, 2011 the Investigations and Oversight Subcommittee and the Energy and Environment Subcommittee met in a joint hearing to examine nuclear energy safety, risk assessment, public health protection, and associated scientific and technical nuclear policy issues in the United States. The Subcommittees examined these issues in light of the earthquake and tsunami in Japan that resulted in the disaster at the Fukushima Daiichi nuclear power plant.

The Subcommittees received testimony from: Dr. Brian Sheron, Director, Office of Nuclear Regulatory Research, Nuclear Regulatory Commission; Mr. Lake Barrett, Principal, LBarrett Consulting, LLC; Dr. John Boice, Scientific Director, International Epidemiology Institute; Mr. Dave Lochbaum, Director, Nuclear Safety Project, Union of Concerned Scientists.

June 14, 2011—The Federal Perspective on a National Critical Materials Strategy (Hearing Volume No. 112–24)

On Tuesday, June 14, 2011 the Subcommittee on Investigations and Oversight met to examine the federal perspective on a national critical materials strategy, including rare earth elements and other critical materials. The hearing was held to examine Chinese dominance of the rare earth materials market and recent shortages in supply resulting from the Chinese government's decision to reduce production. The hearing also inspected ways to diversify the critical materials market and increase domestic production.

Witnesses discussed beneficial steps the federal government could take such as expanding research into critical materials, improving access to market information, loan guarantees for domestic production, stockpiling of certain materials, and streamlining the permitting process for miners. The Subcommittee heard about the actions of the federal government through the interagency working group on critical and strategic mineral supply chains headed by the

Office of Science and Technology Policy (OSTP), and examined the Department of Energy's "Critical Materials Strategy" report.

The Subcommittee received testimony from: Dr. John Holdren, Director, Office of Science and Technology Policy; Mr. David Sandalow, Assistant Secretary for Policy and International Affairs, U.S. Department of Energy; Mr. Jeff Doebrich, Program Coordinator (Acting), Mineral Resources Program, U.S. Geological Survey.

July 14, 2011—EPA's IRIS Program: Evaluating the Science and Process Behind Chemical Risk Assessment (Hearing Volume No. 112–30)

On Thursday, July 14, 2011 the Subcommittee on Investigations and Oversight met to examine the process behind the development of EPA's IRIS assessments. The hearing was prompted in part by the National Academies' National Research Council report on EPA's formaldehyde assessment which reiterated several previous criticisms of EPA's IRIS process and provided recommendations for improvement. The goal of the hearing was to better understand the development of IRIS assessments, whether EPA plans on adopting the NAS' recommendations, and whether or not EPA assessments are based on the best available evidence and evaluated in accordance with established protocols.

Witnesses discussed problems with IRIS and methods for improving the process and science behind IRIS assessments. The Committee also heard about regulatory impacts on industry and communities.

The Committee received testimony from: The Honorable Paul Anastas, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency; Mr. Trimble, Director, Natural Resources and Environment, U.S. Government Accountability Office; Dr. Jonathan Samet, MD, MS, Professor and Flora L. Thorton Chair, Department of Preventive Medicine, Keck School of Medicine, University of Southern California, and Chair, Committee to Review EPA's Draft IRIS Assessment of Formaldehyde, National Research Council, the National Academies; The Honorable Calvin Dooley, President and CEO, American Chemistry Council; Ms. Rena Steinzor, Professor, University of Maryland School of Law, and President, Center for Progressive Reform; Dr. Gail Charnley, Principal, HealthRisk Strategies; The Honorable J. Christian Bollwage, Mayor, City of Elizabeth, New Jersey.

September 23, 2011—From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather Satellite Program. (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–39)

On Friday, September 23, 2011 the Subcommittees on Investigations & Oversight and Energy & Environment met to examine the impact of the Administration's decision to restructure the National Polar-orbiting Operation Environmental Satellite System (NPOESS) and progress at NOAA and NASA in developing the Joint Polar Satellite System (JPSS) program as the replacement

system for polar-orbiting civilian weather satellites and climate services.

Witnesses discussed the cost, schedule, and performance capabilities associated with the new polar-orbiting weather satellite program.

The Committee received testimony from: The Honorable Kathryn Sullivan, Ph.D., Assisstant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, National Oceanic and Atmospheric Administration; Mr. Christopher Scolese, Associate Administrator, National Aeronautics and Space Administration; Mr. David Powner, Director, Information Technology Management Issues, Government Accountability Office.

October 13, 2011—The Endangered Species Act: Reviewing the Nexus of Science and Policy (Hearing Volume No. 112–44)

On Thursday, October 23, 2011 the Subcommittee on Investigations and Oversight met to examine the combination of science and policy decisions made under the Endangered Species Act (ESA). The hearing reviewed the influence of the growing number of judicial disputes over ESA-related actions and the importance of accurate scientific data for policy decisions.

Witnesses discussed the process for designating species as endangered, delisting species from protection, the quality of science used in policy making decisions, impacts on local communities, benefits and problems associated with the ESA, and methods of improvement.

The Committee received testimony from: Mr. Gary Frazer, Assistant Director, Endangered Species, U.S. Fish and Wildlife Service; The Honorable Craig Manson, General Counsel, Westlands Water District; Mr. Douglas Vincent-Lang, Senior Biologist, Alaska Department of Fish and Game; Dr. Neal Wilkins, Director, Texas A&M Institute of Renewable Natural Resources; Mr. Jonathan Adler, Professor, Case Western Reserve University School of Law; Dr. Francesca T. Grifo, Senior Scientist and Director, Scientific Integrity Program, Union of Concerned Scientists.

October 27, 2011—Review of the Blue Ribbon Commission on America's Nuclear Future Draft Recommendations (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–47)

On Thursday, October 27, 2011, the Energy & Environment and Investigations & Oversight Subcommittees held a hearing to examine the recommendations contained in the Blue Ribbon Commission on America's Nuclear Future (BRC) Draft Report to the Secretary of Energy.

Additionally, the Subcommittees considered science and technology issues associated with spent nuclear fuel management.

The Subcommittees received testimony from Mr. Jack Spencer, Research Fellow, Nuclear Energy Policy, Heritage Foundation; Dr. Peter Swift, Distinguished Member of the Technical Staff, Sandia National Laboratory; Dr. Roger Kasperson, Professor and Distinguished Scientist, Clark University; Mr. Gary Hollis, Chairman, Nye County Board of County Commissioners; Mr. Rick McLeod, Ex-

ecutive Director, Savannah River Site Community Reuse Organization; and Dr. Mark Peters, Deputy Laboratory Director for Programs, Argonne National Laboratory.

November 30, 2011—Stimulus Oversight: An Update on Accountability, Transparency, and Performance (Hearing Volume No. 112–53)

On Wednesday, November 30, 2011 the Subcommittee on Investigations and Oversight met to receive an update on accountability, transparency, and performance issues associated with the American Recovery and Reinvestment Act (ARRA). The hearing focused on efforts by agency Inspector General Offices, the Government Accountability Office, and the Recovery, Accountability, and Transparency Board to monitor ARRA funding. The Subcommittee previously held hearings on ARRA funding on March 19, 2009, and May 5, 2009.

Witnesses discussed lessons learned in managing ARRA funds, transparency in awarding funds, assessing risks associated with these investments, and methods for improving the management of taxpayer dollars.

The Committee received testimony from: Mr. Frank Rusco, Director, Natural Resources and Environment Team, General Accountability Office; Mr. Michael Wood, Director, Recovery, Accountability, and Transparency Board; The Honorable Gregory Friedman, Inspector General, U.S. Department of Energy; The Honorable Todd Zinser, Inspector General, U.S. Department of Commerce; Ms. Allison Lerner, Inspector General, National Science Foundation; Ms. Gail Robinson, Deputy Inspector General, National Aeronautics and Space Administration.

2ND SESSION

January 24, 2012—A Review of the Advanced Research Projects Agency–Energy (Hearing Volume No. 112–57)

On Tuesday, January 24th, the Subcommittee on Investigations and Oversight met to receive an update on accountability, transparency, and performance issues associated with the Advanced Research Projects Agency–Energy (ARPA–E). The hearing focused on recent reports from the Department of Energy Inspector General (DOE IG) report OAS–RA–11–11, *"Advanced Research Projects Agency–Energy"* and the Government Accountability Office (GAO) report 12–112, *"Advanced Research Projects Agency Could Benefit from Information on Applicants' Prior Funding."*

Witnesses discussed metrics used to evaluate the agency's performance, reviewed its statutory objectives to fund "high-risk, high reward" research, technology transfer, and efforts to prevent duplicate research spending.

The Subcommittee received testimony from: Dr. Arun Majumdar, Director, Advanced Research Projects Agency–Energy, U.S. Department of Energy; The Honorable Gregory Friedman, Inspector General, U.S Department of Energy; Mr. Frank Rusco, Director, Energy and Science Issues, U.S. Government Accountability Office.

February 29, 2012—NASA Cybersecurity: An Examination of the Agency's Information Security (Hearing Volume No. 112–64)

On Wednesday, February 29th, 2012, the Subcommittee on Investigations and Oversight met to examine the state of information security at the National Aeronautics and Space Administration (NASA). The hearing focused on recent reports from the NASA Office of the Inspector General (IG) concerning information security, the steps NASA is taking to address the recommendations contained in those reports, and future challenges to the Agency's information security posture.

Witnesses discussed the types and origins of cyber threats, recommendations from the IG reports, governance issues concerning the limited authority of the Chief Information Office (CIO), and internal agency cultural differences that compound the difficulties in protecting the agency's networks.

The Subcommittee received testimony from: Ms. Linda Cureton, Chief Information Officer, NASA; and the Honorable Paul Martin, Inspector General, NASA.

March 29, 2012—Federally Funded Research: Examining Public Access and Scholarly Publication Interests (Hearing Volume No. 112–74)

On Thursday, March 29, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to examine various models for disseminating federally funded research and the corresponding effects on the scientific process. Federally funded research is accessed through an increasing variety of methods beyond the traditional scholarly journals maintained by a scientific society that is made available only through a paid subscription. Some of the push towards greater public access stems from increasing complaints about the widely varying subscription costs of journals.

Witnesses discussed the impact of federal public access policies on scientific journals, publishers, and scientific societies, including the costs and revenue generated from publication and public access to taxpayer funded research.

The Subcommittee received testimony from: Dr. H. Frederick Dylla, Executive Director and CEO, American Institute of Physics; Mr. Elliot Maxwell, Project Director for the Digital Connections Council, Committee on Economic Development; Dr. Crispin Taylor, Executive Director, American Society of Plant Biologists; Mr. Stuart Shieber, Director, Office for Scholarly Communications, Harvard University; and Mr. Scott Plutchak, Director, Lister Hill Library at University of Alabama at Birmingham.

April 19, 2012—Impact of Tax Policies on the Commercial Application of Renewable Energy Technology (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–78)

On Thursday, April 19, 2012, the Subcommittees on Investigations & Oversight and Energy & Environment held a joint hearing to examine recently expired, current, and proposed renewable energy tax preferences, and their impact on the commercial application of renewable energy technologies.

Witnesses discussed the costs of renewable energy tax preferences and of renewable energy technologies compared to traditional sources such as fossil fuels, renewable energy policies in various states and countries, and the impact of such policies on businesses and consumers.

The Subcommittees received testimony from: Dr. Molly Sherlock, Specialist in Public Finance, Congressional Research Service; Mr. John Parcell, Acting Deputy Tax Legislative Counsel, U.S. Department of the Treasury; Dr. Michael Pacheco, Vice President, Deployment and Industrial Partnerships, National Renewable Energy Laboratory; Mr. Rhone Resch, President and CEO, Solar Energy Industries Association; Mr. Terry Royer, CEO, Winergy Drive Systems Corporation; Mr. Steven Erby, Vice President, Monolith Solar Associates, LLC; Dr. Benjamin Zycher, Visiting Scholar, American Enterprise Institute; Dr. Margo Thorning, Senior Vice President and Chief Economist, American Council for Capital Formation; and Ms. Lisa Linowes, Executive Director, Industrial Wind Action Group.

April 25, 2012—How the Report on Carcinogens Uses Science to Meet its Statutory Obligations, and its Impact on Small Business Jobs (JOINT SUBCOMMITTEE HEARING WITH COMMITTEE ON SMALL BUSINESS, HEALTHCARE AND TECHNOLOGY SUBCOMMITTEE) (Hearing Volume No. 112–79)

On Wednesday, April 25, 2012, the Committee on Science, Space, and Technology, Subcommittee on Investigations & Oversight, and the Committee on Small Business, Subcommittee on Healthcare and Technology, met to examine the Report on Carcinogens (RoC). The hearing provided the committees an opportunity to understand how the U.S. Department of Health and Human Services' (HHS) National Toxicology Program (NTP), an interagency program administered by the National Institute of Environmental Health Sciences (NIEHS), produces the RoC.

Witnesses discussed the history of the RoC, how NTP uses science to meet its statutory obligations, and the RoC's impact on stakeholders, particularly small businesses.

The committees received testimony from: Dr. Linda S. Birnbaum, Director, National Institute of Environmental Health Sciences & National Toxicology Program, U.S. Department of Health and Human Services; Mr. Charles A. Maresca, Director of Interagency Affairs, Office of Advocacy, U.S. Small Business Administration; Dr. James S. Bus, Director of External Technology, Toxicology and Environmental Research and Consulting, The Dow Chemical Company; Dr. L. Faye Grimsley, Associate Professor, Tulane School of Public Health and Tropical Medicine, Department of Global Environmental Health Sciences; Ms. Bonnie Webster, Vice President, Monroe Industries, Inc.; Ms. Ally LaTourelle, Esq., V.P. Government Affairs, Bioamber, Inc.; Mr. John E. Barker, Corporate Manager, Environmental Affairs, Safety and Loss Prevention, Strongwell Corporation; Dr. Richard B. Belzer, President, Regulatory Checkbook.

May 8, 2012—The Science Behind Green Building Rating Systems (Hearing Volume No. 112–82)

On Tuesday May 8, 2012, the Subcommittee held an oversight hearing to examine the scientific record that green building rating systems are based upon. The Subcommittee reviewed the General Services Administration (GSA) and the Department of Energy's investments in green buildings through federal research and development funding and construction choices.

Witnesses discussed DOE and GSA's analysis of green building rating systems to be used by the federal government for the next five years, cost benefit analyses of green building standards, the impact of such standards on the public and private sector, and third party rating systems, including: Green Globes, the Leadership in Energy and Environmental Design (LEED) system, and the American Society of Hearing, Refrigerating, and Air Conditioning Engineers 189.1 (ASHRAE).

The Subcommittee received testimony from: Dr. Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy (DOE); Mr. Kevin Kampschroer, Director of the Office of High-Performance Green Buildings, GSA; Mr. Ward Hubbell, President, U.S. Green Building Initiative; Mr. Roger Platt, Senior Vice President, Global Policy and Law, U.S. Green Building Council; Professor John Scofield, Professor of Physics, Oberlin College; Mr. Victor Olgyay, Principal Architect, Built Environment Team, Rocky Mountain Institute; Mr. Tom Talbot, CEO, Glen Oak Lumber and Milling of Wisconsin.

June 19, 2012—The Science of How Hunting Assists Species Conservation and Management (Hearing Volume No. 112–90)

On Tuesday, June 19, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to examine the science used to inform wildlife management decisions involving hunting. The federal government encourages hunting on some federal lands for numerous reasons, including wildlife management, recreation, and subsistence.

Witnesses discussed the science behind hunting, including methods used to evaluate a species' population dynamics over time, providing valuable information for permit providers and conservation managers. Additionally, witnesses spoke on the use of hunting in managing overpopulation, invasive species, the use of hunting permits, and taxes on hunting equipment to provide monetary support for conservation efforts.

The Subcommittee received testimony from: The Honorable Daniel Ashe, Director, U.S. Fish and Wildlife Service; Dr. Al Maki, Conservation Committee Chairman, Safari Club International; Dr. Stuart Pimm, Nicholas School of the Environment, Duke University; and Mr. Nick Wiley, Executive Director, Florida Fish and Wildlife Conservation Commission.

June 27, 2012—Continuing Oversight of the Nation's Weather Satellite Programs: An Update on JPSS and GOES-R (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–94)

On Wednesday, June 27, 2012, the Subcommittees on Investigations & Oversight and Energy & Environment held an oversight hearing to examine the recent Government Accountability Office (GAO) reports on both the Joint Polar Satellite System (JPSS) and Geostationary Operational Environmental Satellite–R Series (GOES-R) weather satellite programs. In light of present budgetary constraints, the Committee has provided strong oversight of NOAA's weather satellite programs, which the GAO has determined are at risk of exceeding cost and schedule targets.

Witnesses discussed recent developments and management issues associated with JPSS and GOES-R, including cost, schedule, and performance capabilities. The Committee also received specifics regarding the two GAO reports released at the hearing, detailing the current and projected status of both satellite programs.

The Subcommittees received testimony from: The Honorable Kathryn Sullivan, Ph.D., Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, National Oceanic and Atmospheric Administration; Mr. Marcus Watkins, Director, Joint Agency Satellite Division, National Aeronautics and Space Administration; and Mr. David A. Powner, Director, Information Technology Management Issues, Government Accountability Office.

September 12, 2012—Mismanagement of Funds at the National Weather Service and the Impact on the Future of Weather Forecasting (Hearing Volume No. 112–103)

On Wednesday, September 12, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to understand the events that led to unauthorized reprogramming of funds within the National Weather Service. A 2011 National Oceanic and Atmospheric Administration (NOAA) report and a 2012 joint NOAA and Department of Commerce (DOC) investigative report provided the basis for memos detailing that NWS employees engaged in the transfer of potentially millions of NWS funds without Congressional authorization or notification. These actions raised concerns about the fidelity of budget requests, financial oversight, and possible Anti-Deficiency Act (ADA) violations.Witnesses discussed how NOAA, DOC, and the DOC Office of Inspector General (OIG) plan to prevent similar incidents in the future, as well as the breakdown in communication that led to earlier complaints being ignored. The Committee also heard about historical funding challenges at the NWS and the importance of science and technology investments to ensure the production of first class forecasting.

The Subcommittee received testimony from: Dr. Kathryn D. Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator for the National Oceanic and Atmospheric Administration, U.S. Department of Commerce; Inspector General Todd J. Zinser, U.S. Department of

Commerce, Office of Inspector General; Dr. William B. Gail, Chief Technology Officer, Global Weather Corporation, and Member, Committee on the Assessment of the National Weather Service's Modernization Program, National Research Council of the National Academies; and Mr. Richard Hirn, General Counsel and Legislative Director, National Weather Service Employees Organization. The Subcommittee also invited Ms. Maureen Wylie, Chief, Resource and Operations Management, and former Chief Financial Officer, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, but she refused to appear at the hearing.

December 5, 2012—The Impact of International Technology Transfer on American Research and Development (Hearing Volume No. 112–109)

On Wednesday December 5, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to examine the effect of international technology transfer on American competitiveness. Since U.S. taxpayers provide both direct and indirect support for private sector research and development, the Committee was interested in understanding the methods by which domestic technology and intellectual property are transferred to foreign countries and how it impacts the U.S. economy.

Witnesses discussed how and where the benefits of American research, development, and innovation are realized and the importance to economic growth and international competitiveness. The Committee also heard about the ways specific countries design their industrial and science policies to direct the transfer of technology and intellectual property into their home markets and measures the U.S. government could implement to limit such activity. The Committee received testimony from: Dr. Robert D. Atkinson, President, Information Technology & Innovation Foundation; and The Honorable Dennis C. Shea, Chairman, United States China Economic and Security Review Commission

SUBCOMMITTEE ON RESEARCH AND SCIENCE EDUCATION OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTIVE LEGISLATIVE ACTIVITIES

1ST SESSION

April 14, 2011—Nanotechnology: Oversight of the National Nanotechnology Initiative and Priorities for the Future (Hearing Volume No. 112–15)

On Thursday, April 14, 2011, the Subcommittee on Research and Science Education held a hearing to review the Nation's multi-agency nanotechnology portfolio to ensure U.S. leadership and to discuss research and budget priorities for the future. The hearing provided an overview of the benefits of nanotechnology to society, and commenting on national priority areas, witnesses were asked to provide feedback on reauthorization language passed in the House during the 110th and 111th Congresses in anticipation of reauthorization during the 112th Congress.

In the 111th Congress, H.R. 554, the National Nanotechnology Initiative Amendments Act of 2009, was introduced on January 15, 2009, referred to the Committee on Science and Technology, and passed the House under suspension of the rules on February 11, 2009. The same language was added to H.R. 5116, the America COMPETES Reauthorization Act, passed by the House but not included in the final version signed into law on January 4, 2011.

The Committee received testimony from: Dr. Clayton Teague, Director, National Nanotechnology Coordination Office; Dr. Jeffrey Welser, Director, Nanoelectronics Research Initiative, Semiconductor Research Corporation and Semiconductor Industry Alliance; Dr. Seth Rudnick, Chairman, Board of Directors, Liquidia Technologies; Dr. James Tour, Professor of Chemistry, Computer Science, and Mechanical Engineering and Materials Science, Rice University; Mr. William Moffitt, President and Chief Executive Officer, Nanosphere, Inc.

May 25, 2011—Protecting Information in the Digital Age: Federal Cybersecurity Research and Development Efforts (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–19)

On Wednesday, May 25, 2011 the Subcommittee on Research and Science Education and the Subcommittee on Technology and Innovation held a joint legislative hearing to examine federal agency efforts to improve our national cybersecurity and prepare the future cybersecurity talent needed for national security, as it pertains to agencies within the Committee's jurisdiction and in the context of the Administration's overall priorities in science, space, and technology.

In the 111th Congress, the House passed the Cybersecurity Enhancement Act of 2010 (H.R. 4061). The bill was referred to the Committee on Science and Technology and favorably reported on January 27, 2010. H.R. 4061 required increased coordination and prioritization of Federal cybersecurity research and development activities and the development of cybersecurity technical standards. It sought to strengthen cybersecurity education and talent develop-

ment and partnership activities. Witnesses were asked to provide comments on the legislation in advance of reintroduction during the 112th Congress.

The Subcommittees received testimony from: Dr. George O. Strawn, the Director of the National Coordination Office for Networking and Information Technology Research and Development Program; Dr. Farnam Jahanian, the Assistant Director of the Directorate for Computer and Information Science and Engineering at the National Science Foundation; Ms. Cita Furlani, Director of the Information Technology Laboratory at the National Institute of Standards and Technology; and Rear Admiral Michael Brown, the Director of Cybersecurity Coordination in the National Protection and Programs Directorate for the U.S. Department of Homeland Security.

June 2, 2011—Social, Behavioral, and Economic Science Research: Oversight of the Need for Federal Investments and Priorities for Funding (Hearing Volume No. 112–22)

On Thursday, June 2, 2011, the Subcommittee on Research and Science Education held an oversight hearing to examine the need for Federal investments in the social, behavioral, and economic sciences; to better understand the impact of this type of research; and to assess its value to the American taxpayer.

The Committee received testimony from: Dr. Myron Gutmann, Assistant Director, Directorate for Social, Behavioral, and Economic Sciences, National Science Foundation; Dr. Hillary Anger Elfenbein, Associate Professor of Organizational Behavior, Olin Business School, Washington University in St. Louis; Dr. Peter Wood, President, National Association of Scholars; Ms. Diana Furchtgott-Roth, Senior Fellow, Hudson Institute.

July 26, 2011—The Merit Review Process: Ensuring Limited Federal Resources are Invested in the Best Science (Hearing Volume No. 112–31)

On Thursday, July 26, 2011 the Subcommittee held a hearing examining the merit review grant award process and its effect on federally funded scientific research, in an effort to understand the strengths and potential weaknesses of the process.

The Subcommittee received testimony from: Dr. Cora Marrett, Deputy Director, National Science Foundation; Dr. Keith Yamamoto, Vice Chancellor for Research, University of California, San Francisco; Dr. Nancy Jackson, President, American Chemical Society; Dr. Jorge Jose, Vice President for Research, Indiana University.

September 21, 2011—Oversight of the Networking and Information Technology Research and Development Program and Priorities for the Future (Hearing Volume No. 112–37)

On Wednesday, September 21, 2011, the Subcommittee on Research and Science Education held a hearing to review the networking and information technology research and development (NITRD) program to ensure U.S. leadership in networking and in-

formation technology and to discuss priorities for the future and potential reauthorization.

The Committee received testimony from: Dr. George Strawn, Director, National Coordination Office, Networking and Information Technology Research and Development (NITRD) Program, Dr. Edward Lazowska, Bill & Melinda Gates Chair in Computer Science & Engineering, University of Washington, Dr. Robert Sproull, Director of Oracle Labs, retired, and Dr. Robert Schnabel, Dean, School of Informatics, Indiana University.

October 12, 2011—What Makes for Successful K–12 STEM Education: A Closer Look at Effective STEM Education Approaches (Hearing Volume No. 112–42)

On Wednesday, October 12, 2011, the Subcommittee on Research and Science Education held a hearing to review and examine the findings of the National Research Council Report, Successful K–12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering, and Mathematics, as requested by Congress in 2009 to identify highly successful K–12 schools and programs in STEM.

The Committee received testimony from: Dr. Adam Gamoran, Director, Wisconsin Center for Education Research, University of Wisconsin, Mr. Mark Heffron, Director, Denver School for Science and Technology: Stapleton High School, Dr. Suzanne Wilson, Chair, Department of Teacher Education, Division of Science and Math, Education, Michigan State University, Dr. Elaine Allensworth, Senior Director and Chief Research Officer, Consortium on Chicago School Research, University of Chicago, and Dr. Barbara Means, Director, Center for Technology in Learning, SRI International.

November 3, 2011—STEM In Action: Transferring Knowledge from the Workplace to the Classroom (Hearing Volume No. 112–50)

On Thursday, November 3, 2011, the Subcommittee on Research and Science Education held the fourth in a series of hearings to highlight Science, Technology, Engineering, and Math (STEM) education activities across the Nation, their role in inspiring and educating future generations, and their contribution to our future economic prosperity. The purpose of this hearing was to examine approaches and programs that encourage and assist STEM professionals looking to transition their knowledge and skills from industry to a second career in teaching or to give back to classroom education as a mentor.

The Committee received testimony from: Dr. Michael Beeth, Professor, Department of Curriculum and Instruction, University of Wisconsin Oshkosh; Mrs. Christine Sutton, Secondary Math Teacher, Virgil I. Grissom High School, Huntsville City Schools, Alabama; Ms. Robin Willner, Vice President, Global Community Initiatives, Corporate Citizenship & Corporate Affairs, IBM Corporation; Mr. Jason Morrella, President, Robotics Education and Competition Foundation; and Dr. Jennifer Jones, Principal Clinical Scientist, Abbott Vascular.

2ND SESSION

February 28, 2012—An Overview of the National Science Foundation Budget for Fiscal Year 2013 (Hearing Volume No. 112–62)

On Tuesday, February 28, 2012, the Subcommittee on Research and Science Education held a hearing that examined the Administration's proposed fiscal year 2013 (FY13) budget request for the National Science Foundation.

The Committee received testimony from Dr. Subra Suresh, Director, National Science Foundation and Dr. Ray Bowen, Chairman, National Science Board.

March 8, 2012—NSF Major Research Equipment and Facilities Management: Ensuring Fiscal Responsibility and Accountability (Hearing Volume No. 112–69)

On Thursday, March 8, 2012, the Subcommittee on Research and Science Education held a hearing that examined the management and operations of Major Research Equipment and Facilities Construction (MREFC) projects at the National Science Foundation.

The Committee received testimony from: Dr. Cora Marrett, Deputy Director, National Science Foundation, Dr. José–Marie Griffiths, Chairman, Subcommittee on Facilities, National Science Board; Vice President of Academic Affairs, Bryant University, Mr. James H. Yeck, IceCube Project Director, University of Wisconsin-Madison, Dr. Tony Beasley, COO/Project Manager, Neon, Inc., and Dr. Tim Cowles, Vice President and Director, Ocean Observing, Consortium for Ocean Leadership.

April 18, 2012—NSF Major Multi-User Research Facilities Management: Ensuring Fiscal Responsibility and Accountability (Hearing Volume No 112–76)

On Wednesday, April 18, 2012, the Subcommittee on Research and Science Education held a hearing to examine the planning, management, operations, and stewardship of major multi-user research facilities funded through the National Science Foundation.

The Committee received testimony from: Dr. Ethan J. Schreier, President, Associated Universities, Inc., Dr. William S. Smith, Jr., President, Association of Universities for Research in Astronomy, Dr. David Divins, Vice President and Director, Ocean Drilling Programs, Consortium for Ocean Leadership, Inc., Dr. Gregory S. Boebinger, Director, National High Magnetic Field Laboratory and Professor of Physics, Florida State University and University of Florida, Dr. Sol Michael Gruner, Director, Cornell High Energy Synchrotron Source and The John L. Wetherill Professor of Physics, Cornell University.

April 30, 2012—STEM Education in Action: Local Schools, Non-Profits, and Businesses Doing Their Part to Secure America's Future (Hearing Volume No. 112–81)

On Monday, April 30, 2012, at 10:00 a.m. at Bob Jones High School, 650 Hughes Road, Madison, Alabama 35758, the Subcommittee on Research and Science Education held a hearing entitled STEM Education in Action: Local Schools, Non-Profits, and Businesses Doing Their Part to Secure America's Future. The purpose of the hearing was to highlight local science, technology, engineering, and mathematics (STEM) education programs and partnerships and to examine their impact on the next generation of STEM professionals, local jobs, and the U.S. economy.

The Committee received testimony from: Dr. Camille H. Wright, Director of Secondary Instruction, Madison City Schools, Dr. Robert A. Altenkirch, President, University of Alabama, Huntsville, Dr. Marilyn C. Beck, President, Calhoun Community College, Dr. Neil Lamb, Director of Educational Outreach, HudsonAlpha Institute of Biotechnology, and Mr. Andrew Partynski, Chief Technology Officer, Science Applications International Corporation (SAIC).

May 9, 2012—Ensuring the Best Stewardship of American Taxpayer Dollars at the National Science Foundation (Hearing Volume No. 112–83)

On Wednesday, May 9, 2012, at 2:00pm, the Subcommittee on Research and Science Education met to examine and receive testimony on various initiatives by and issues identified by the NSF Office of Inspector General.

The witness discussed the work of the NSF Office of Inspector General to promote the efficiency and effectiveness of the Foundation and to safeguard the integrity of its programs and operations. The hearing addressed a number of potential waste, fraud, and abuse concerns, including issues with Major Research Equipment and Facilities Construction funding for contingencies, problems with the Small Business Innovation Research program, and funding beyond expenses and per diem provided to merit review panel participants.

The Subcommittee received testimony from: Ms. Allison C. Lerner, Inspector General, National Science Foundation.

June 27, 2012—The Role of Research Universities in Securing America's Future Prosperity: Challenges and Expectations (Hearing Volume No. 112–93)

On Wednesday, June 27, 2012, the Committee on Science, Space, and Technology Subcommittee on Research and Science Education held a hearing to examine the challenges faced by the Nation's research universities. The hearing provided an opportunity to discuss the future outlook for these universities and discussed the recently released National Academies study, Research Universities and the Future of America.

The Committee received testimony from: Mr. Charles O. Holliday, Jr., Chair, Committee on Research Universities, National Academies; Dr. John M. Mason, Jr., Associate Provost and Vice

President for Research, Auburn University; Dr. Jeffrey R. Seemann, Vice President for Research, Texas A&M University and Chief Research Officer, The Texas A&M University System; Dr. Leslie P. Tolbert, Senior Vice President for Research, The University of Arizona; and Dr. James N. Siedow, Vice Provost for Research, Duke University.

July 16, 2012—Innovation Corps: A Review of a New National Science Foundation Program to Leverage Research Investments (FIELD HEARING) (Hearing Volume No. 112–96)

On Monday, July 16, 2012, the Subcommittee on Research and Science Education held a hearing at Northwestern University School of Law in Chicago, Illinois, to examine the new National Science Foundation Innovation Corps program and assess its value to the American taxpayer and its potential contribution to the Nation's future prosperity.

The Committee received testimony from: Dr. Thomas Peterson, Assistant Director of the Directorate for Engineering, National Science Foundation; Mr. Steve Blank, Lecturer, Stanford University and the University of California at Berkeley; Mr. Neil Kane, President, Illinois Partners Executive Services, LLC; Dr. Gabriel Popescu, Assistant Professor in the Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign; and Dr. Andrew Mazar, Director of the Program for Developmental Therapeutics and Entrepreneur-in-Residence, Innovation and New Ventures Office, Northwestern University.

August 1, 2012—The Relationship Between Business and Research Universities: Collaborations Fueling American Innovation and Job Creation (Hearing Volume No. 112–100)

On Wednesday, August 1, 2012, the Subcommittee on Research and Science Education held a hearing to examine partnerships and collaborations between industry and research universities, as a follow-up to the June 27, 2012, hearing, The Role of Research Universities in Securing America's Future Prosperity: Challenges and Expectations. The hearing provided an opportunity to explore the necessary relationships between industry and research universities. It examined the challenges and opportunities they face in fueling the research necessary for American economic prosperity and ensuring that universities are adequately preparing the future workforce to meet the needs of industry.

The Committee received testimony from: Mr. William D. Green, Executive Chairman, Accenture; Dr. Ray O. Johnson, Senior Vice President and Chief Technology Officer, Lockheed Martin Corporation; Dr. John S. Hickman, Director, Global University Relations and Life Sciences, Deere and Company; Dr. Louis Graziano, Director, University R&D Strategy, Sustainable Technologies & Innovation Sourcing, The Dow Chemical Company; and Ms. Jilda Diehl Garton, Vice President for Research and General Manager, Georgia Tech Research Corporation, Georgia Institute of Technology.

SUBCOMMITTEE ON SPACE AND AERONAUTICS OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTED LEGISLATIVE ACTIVITIES

1ST SESSION

February 16, 2011—A Review of the Federal Aviation Administration's Research and Development Programs (Hearing Volume No. 112–1)

On Wednesday, February 16, 2011 the Space and Aeronautics Subcommittee held a hearing on the Federal Aviation Administration's (FAA) portfolio of research and development programs. Since 2007, Congress attempted to complete legislative work to reauthorize FAA including these programs. The Subcommittee examined the current suite of civil aviation research and development programs, including a focus on FAA's Next Generation Air Traffic System (NextGen) that is designed to modernize our nation's air traffic control system and is now in the early stages of deployment.

The Subcommittee received testimony from Ms. Victoria Cox, Vice President of FAA's Air Traffic Organization; the Honorable Calvin Scovel, Inspector General of the Department of Transportation; Dr. John Hansman, Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology and Chair of the FAA's advisory committee on research and development; and Mr. Peter Bunce, Chief Executive Officer of the General Aviation Manufacturers Association.

March 30, 2011—A Review of NASA's Exploration Program in Transition: Issues For Congress and Industry (Hearing Volume No. 112–8)

On Wednesday, March 30, 2011 the Subcommittee held an oversight hearing to review the National Aeronautics and Space Administration's (NASA's) Constellation program and examine the status of the transition to the Space Launch System (SLS) and Multi Purpose Crew Vehicle (MPCV).

Issues examined included the Administration's compliance with the FY 2011 Continuing Resolution and the Authorization Act's direction to extend and modify the Constellation contracts, and the status of NASA's transition report to Congress. The Subcommittee also examined key challenges and risks to the Nation's aerospace workforce and industrial base caused by delays or other disruptions in NASA's human spaceflight program.

The Subcommittee received testimony from Mr. Douglas Cooke, Associate Administrator, Exploration Systems Mission Directorate, NASA; Dr. Scott Pace, Director, Space Policy Institute, George Washington University; and Mr. James Maser, Chairman, Corporation Membership Committee, the American Institute of Aeronautics and Astronautics.

May 5, 2011—Office of Commercial Space Transportation's Fiscal Year 2012 Budget Request (Hearing Volume No. 112–16)

On Thursday, May 5, 2011, the Space and Aeronautics Subcommittee held a hearing to examine the FY 2012 budget request submitted by the Federal Aviation Administration (FAA), Office of Commercial Space Transportation. The Subcommittee also examined the new initiatives in the request to expand the Office's roles and responsibilities. The FY 2012 budget request seeks $26.625 million, a 74 percent increase over the FY 2010 enacted level ($15.237 million) and a near 50 percent increase of the Office's workforce, asserting that NASA sponsored commercial cargo flights to the International Space Station, plus the expected start-up of commercial human sub-orbital flights, places new regulatory demands on their operations.

The Subcommittee received testimony from Dr. George Nield, FAA Associate Administrator for Commercial Space Transportation; Dr. Gerald Dillingham, Director of Civil Aviation Issues at the U.S. Government Accountability Office; and Professor Henry Hertzfeld, Research Professor of Space Policy and International Affairs at the George Washington University.

May 26, 2011—NASA's Commercial Cargo Providers: Are They Ready to Supply the Space Station in the Post-Shuttle Era? (Hearing Volume No. 112–20)

On Thursday, May 26, 2011, the Subcommittee on Space and Aeronautics held an oversight hearing to examine NASA's commercial cargo programs. The Subcommittee reviewed the progress made by the commercial providers, as well as the budgetary and programmatic impacts of schedule delays. Through the COTS and cargo re-supply services program NASA has provided its contractors nearly $1.25 billion thus far and has yet to accomplish the goals established for the initial $500 million program, intended to demonstrate commercial cargo delivery capabilities to the International Space Station from two commercial partners, Space Exploration Technologies (SpaceX) and Orbital Science Corporation (Orbital).

The Subcommittee received testimony from Mr. William Gerstenmaier, Associate Administrator, Space Operations Mission Directorate, NASA; Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, Government Accountability Office; Ms. Gwynne Shotwell, President, Space Exploration Technologies; and Mr. Frank L. Culbertson, Jr., Senior Vice President and Deputy General Manager, Advanced Programs Group, Orbital Sciences Corporation.

October 12, 2011—The International Space Station: Lessons from the Soyuz Rocket Failure and Return to Flight (Hearing Volume No. 112–43)

On Wednesday, October 12, 2011, the Subcommittee held an oversight hearing to examine the impacts of the Russian Soyuz launch vehicle failure on the safe operation and utilization of the International Space Station. The August 24th failure of a Soyuz-U launch vehicle carrying supplies to the International Space Station,

coming about a month after the retirement of the Space Shuttle, underscores NASA's loss of the strategically important capability of U.S. human access to space. The hearing provided a current overview of the Russian Federal Space Agency's (Roscosmos) accident investigation, and NASA's involvement in the recertification and return-to-flight plans, as well as touching on the risks and implications of completely de-crewing the International Space Station. The Subcommittee also probed the basis and rationale for NASA's decision to resume the use of the Soyuz for transportation of its astronauts, including the advice received from independent external bodies.

The Subcommittee received testimony from Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, NASA; Lieutenant General Thomas P. Stafford, USAF (Ret.), Chairman, International Space Station Advisory Committee; and Vice Admiral Joseph W. Dyer, USN (Ret.), Chairman, Aerospace Advisory Panel.

November 15, 2011—Exploring Mars and Beyond: What's Next for Planetary Science? (Hearing Volume No. 112–51)

On Tuesday, November 15, 2011, the Subcommittee held an oversight hearing on the prospects for future exploration of Mars and implications of the current fiscal crisis to the future of U.S. planetary science.

On November 25, 2011, NASA launched the Mars Science Laboratory (MSL) to conduct a variety of experiments that will deepen our understanding of the history of the geological, atmospheric, and chemical composition of Mars and inform future missions, including human expeditions. Yet even as MSL begins its journey to Mars, the follow-on missions in 2016 and 2018—planned jointly with the European Space Agency (ESA)—have been scaled back significantly and could be on the brink of cancellation altogether. Until the Administration delivers the fiscal year 2013 budget request, NASA is left without definitive answers for European partners. This uncertainty has left ESA to explore other opportunities—perhaps with Russia—or to cancel part of the missions. The hearing provided a forum to discuss future plans for Mars exploration, the importance of collaborating on these missions with international partners and the importance of the U.S. maintaining global leadership and prestige by continuing to launch flagship missions in the future. The Subcommittee posed questions about the role OMB plays in making agency-level decisions on the types of mission NASA should pursue.

The Subcommittee received testimony from Dr. Jim Green, Planetary Science Division Director, Science Mission Directorate, NASA; and Dr. Steve Squyres, Chair, Committee on the Planetary Science Decadal Survey, National Academies of Science. The Office of Management and Budget was invited to testify but chose not to participate.

2ND SESSION

March 20, 2012—Office of Commercial Space Transportation FY 2013 Budget Request (Hearing Volume No. 112–70)

On Tuesday, March 20, 2012, the Subcommittee held an oversight hearing on the FAA Office of Commercial Space Transportation FY 2013 budget request. The hearing provided Members an opportunity to examine the office's roles and responsibilities as the commercial market is expected to achieve dramatic growth, as well as the role of a government-sponsored indemnification program. AST's FY 2013 budget request seeks $16.700 million, a 2.6% increase over the FY 2012 enacted level ($16.271 million). Based on industry-provided launch manifests, FAA forecasts 40 commercial launch and reentry operations in 2012, compared with only one licensed launch in FY 2011.

The Subcommittee received testimony from Dr. George Nield, Associate Administrator for Commercial Space Transportation, Federal Aviation Administration, and Capt. Wilbur Trafton, Chairman, Commercial Space Transportation Advisory Committee.

April 26, 2012—An Overview of the NASA Aeronautics Research Mission Directorate Budget for Fiscal Year 2013 (Hearing Volume 112–80)

On Thursday, April 26, 2012, the Subcommittee held an oversight hearing to examine (1) the FY 2013 budget request for NASA's Aeronautics Research Mission Directorate and (2) the agency's strategy for managing its aeronautics research portfolio. Additionally, the hearing discussed a report recently issued by the National Research Council, "Recapturing NASA's Aeronautics Flight Research Capabilities," that looked into the efficacy and affordability of strengthening the agency's integrated flight research program.

The Subcommittee received testimony from Dr. Jaiwon Shin, Associate Administrator for NASA's Aeronautics Research Mission Directorate; Ms. Marion Blakey, Chair of the Aeronautics Committee, NASA Advisory Council, and President of the Aerospace Industries Association; Dr. Wesley Harris, Chair of the Committee to Assess NASA's Aeronautics Flight Research Capabilities, National Research Council, and the Charles Stark Draper Professor of Aeronautics and Astronautics, Massachusetts Institute of Technology; and Dr. John Tracy, Chair, National Research Council's Aeronautics Research and Technology Roundtable, and Chief Technology Officer and Senior Vice President of Engineering, Operations, and Technology, The Boeing Company.

June 6, 2012—An Examination of FAA's Launch Indemnification Program (Hearing Volume 112–87)

On Wednesday, June 6, 2012, the Subcommittee held a hearing on the Federal Aviation Administration's (FAA) Office of Commercial Space Transportation (AST) which manages a federally-sponsored liability risk-sharing regime (commonly referred to as "indemnification ") for third party loss (injury or property damage to

the uninvolved public) during launch and reentry of a licensed commercial launch system. The current authorization for indemnification expires December 31, 2012. The hearing reviewed FAA's management of the program, whether the program should be extended, and discussed if newly emerging commercial launch markets necessitated changes to current policy.

Witnesses testifying at the hearing included: Dr. George Nield, Associate Administrator for the Office of Commercial Space Transportation, FAA; Ms. Alicia Cackley, Director of Financial Markets and Community Investment Team, Government Accountability Office (GAO); Mr. Frank Slazer, Vice President, Space Systems, Aerospace Industries Association; and Ms. Alison Alfers, Vice President, Defense and Intelligence, DigitalGlobe Inc.

July 12, 2012—Spurring Economic Growth and Competitiveness Through NASA Derived Technologies (Hearing Volume No. 112–95)

On Thursday, July 12, 2012 the Subcommittee on Space and Aeronautics held an oversight hearing examining the potential economic growth and global competitiveness that NASA-derived technologies make possible.

NASA is often considered an incubator for technology development, and history has shown a vast array of technologies that owe their start to NASA programs. Despite decades of demonstrated success, federal investment in NASA remains essentially flat even as other R&D agencies are seeing increases. Investment in NASA's technology transfer activities has seen a drastic decline in recent years. The hearing provided an opportunity for NASA to highlight successful spinoff stories and was a platform for NASA's industry partners to demonstrate the direct economic and societal benefits derived from NASA's investments in technology.

The Subcommittee received testimony from Dr. Mason Peck, NASA Chief Technologist; Mr. George Beck, Chief Clinical and Technology Officer, Impact Instrumentation, Inc.; Mr. Brian Russell, Chief Executive Officer, Zephyr Technology; Mr. John Vilja, Vice President for Strategy, Innovation and Growth, Pratt & Whitney Rocketdyne; and Dr. Richard Aubrecht, Vice President, Moog, Inc.

August 1, 2012—The Emerging Commercial Suborbital Reusable Launch Vehicle Market (Hearing Volume No. 112–101)

On Wednesday, August 1, 2012, the Space and Aeronautics Subcommittee held a hearing on the emerging market for commercial suborbital reusable launch vehicles (SRVs). The hearing provided Members an opportunity to examine the recent development of new SRVs, the potential launch markets and applications for SRVs, the unique benefits that SRVs offer the scientific community for research, and the regulatory uncertainties that currently have the most impact on the emerging commercial SRV industry. Traditionally, sounding rockets have been used to conduct missile tests and scientific research for the government sector. The introduction of new commercial SRVs in the private sector has enabled the emergence of new markets and a number of these new companies are

already testing their vehicles with plans to initiate commercial operations within a few years.

The Subcommittee received testimony from Ms. Carissa Christensen, Managing Partner, the Tauri Group; Dr. Alan Stern, Chairman, Suborbital Applications Researchers Group; Mr. George Whitesides, CEO and President, Virgin Galactic LLC; Mr. Bretton Alexander, Director, Business Development and Strategy, Blue Origin; Mr. Andrew Nelson, Chief Operating Officer, XCOR Aerospace; and Dr. Stephan R. McCandliss, Research Professor, the Johns Hopkins University.

September 12, 2012—Examining NASA's Development of the Space Launch System and Orion Crew Capsule (Hearing Volume No. 112–102)

On Wednesday, September 12, 2012, the Subcommittee on Space and Aeronautics held an oversight hearing to examine NASA's development of its next-generation heavy-lift launch vehicle: the Space Launch System (SLS) and Orion crew capsule. NASA is currently spending about $3 billion a year on these two programs, and under the agency's schedule they're expected to become operational in 2021. Members questioned the witnesses about progress designing, developing, and testing various components that will be incorporated in these vehicles, as well as technical and programmatic challenges. The final witness, Dr. Matt Mountain, testified on the types of science missions that would be enabled with SLS.

The Subcommittee received testimony from Mr. Dan Dumbacher, Deputy Associate Administrator for Exploration Systems Development, NASA; Mr. Cleon Lacefield, Vice President and Orion Program Manager, Lockheed Martin Corporation; Mr. Jim Chilton, Exploration Vice President, The Boeing Company; and Dr. Matt Mountain, Director, Space Telescope Science Institute.

November 28, 2012—National Priorities for Solar and Space Physics Research and Applications for Space Weather Prediction (Hearing Volume No. 112–107)

On Wednesday, November 28, 2012 the House Science, Space and Technology Subcommittee on Space and Aeronautics held a hearing to discuss the recommendations from the recently released National Research Council's survey on Solar and Space Physics: A Science for a Technological Society. Specifically, this hearing examined the requirements for a robust space-based solar and space physics research program and discussed the application of this research to an operational space weather program.

The study of solar and space physics helps us understand the interactions within the Earth-Sun system. Building our knowledge in this field is essential for maintaining our technological infrastructure and for the prospects of human exploration beyond the protection of Earth's atmosphere and magnetosphere. The hearing provided an opportunity to review the current state of the solar and space physics programs at the National Aeronautics and Space Administration and to discuss the prospects for the future given that budgets will remain essentially flat. The hearing also addressed the role of the Space Weather Prediction Center at the Na-

tional Oceanic and Atmospheric Administration and the extent to which NOAA works with (and relies on) NASA to develop and disseminate space weather models and forecasts.

The Subcommittee received testimony from Dr. Daniel Baker, Director, Laboratory for Atmospheric and Space Physics and Professor, Astrophysical and Planetary Sciences, University of Colorado at Boulder and Chair, Decadal Survey in Solar and Space Physics, National Research Council; Mr. Charles J. Gay, Deputy Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration; and, Ms. Laura Furgione, Acting Assistant Administrator for Weather Services and Acting Director, National Weather Service, National Oceanic and Atmospheric Administration.

SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTIVE LEGISLATIVE ACTIVITIES

1ST SESSION

March 15, 2011—An Overview of Science and Technology Research and Development Programs and Priorities at the Department of Homeland Security (Hearing Volume No. 112–7)

On Tuesday, March 15, 2011, the Technology and Innovation Subcommittee held an oversight hearing to review activities at the Science and Technology Directorate of the Department of Homeland Security (DHS S&T) and the Domestic Nuclear Detection Office at the Department of Homeland Security (DNDO). The hearing focused on various elements of DHS S&T including the recent reorganization of the Directorate, the strategic planning process, stakeholder involvement in setting research priorities, and the role of research and development in the DHS S&T portfolio.

The Subcommittee received testimony from two witness panels; the first panel included the Under Secretary of the DHS S&T and the Director of DNDO; the second panel represented stakeholders of the DHS enterprise including the Director of the Douglas and Sarah Allison Center for Foreign Policy Studies at the Heritage Foundation; the President and Chief Executive Officer of the Homeland Security and Defense Business Council; and the Director of the Homeland Security and Justice Team at the U.S. Government Accountability Office.

March 31, 2011—The Role of Small Business in Innovation and Job Creation: the SBIR and STTR Programs (Hearing Volume No. 112–10)

On Thursday, March 31, 2011, the Subcommittee held a legislative hearing to examine the role of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs in promoting small business innovation and commercialization of federally funded research and development.

These programs are due for reauthorization and the discussion draft of H.R. 1425, the "Creating Jobs Through Small Business Innovation Act of 2011", referred to the Committee, would reauthorize the programs through fiscal year 2014. The legislation, as introduced, would increase the size guidelines for award amounts for Phase I and Phase II SBIR and STTR awards, enable majority venture capital backed firms to participate in the program, and expands evaluation of the programs through increased data collection and sharing of best practices. Witnesses before the Subcommittee discussed their experience with the SBIR and STTR Programs and provided input on areas of potential improvement as the Committee considers H.R. 1425 and the reauthorization of these programs.

The Subcommittee received testimony from the following witnesses: Dr. Salley Rockey, Deputy Director for Extramural Research at the National Institutes of Health; Dr. Donald Siegel, Dean and Professor at the School of Business, University at Al-

bany, State University of New York and a Member of the research team for the Committee for Capitalizing on Science, Technology, and Innovation, National Research Council of the National Academies; Mr. Mark Crowell, Executive Director and Associate Vice President for Innovation Partnerships and Commercialization at the University of Virginia; Mr. Doug Limbaugh, Chief Executive Officer of Kutta Technologies; and Ms. Laura McKinney, President and Chief Executive Officer of Galois, Inc.

April 7, 2011—Are We Prepared? Assessing Earthquake Risk Reduction in the United States (Hearing Volume No. 112–13)

On Thursday, April 7, 2011, the Subcommittee on Technology and Innovation held a hearing, in preparation for reauthorization during the 112th Congress, to examine earthquake risk in the United States and to review efforts supporting the development of earthquake hazard reduction measures, and the creation of disaster-resilient communities.

The hearing examined various elements of the Nation's level of earthquake preparedness and resiliency including the U.S. capability to detect earthquakes and issue notifications and warnings, coordination between federal, state, and local stakeholders for earthquake emergency preparation, and research and development measures supported by the federal government designed to improve the scientific understanding of earthquakes.

The Committee received testimony from the Director of the National Earthquake Hazards Reduction Program (NEHRP) at the National Institute of Standards and Technology; the Director of the Washington State Emergency Management Association; the Chairman and Chief Executive Officer of Degenkolb Engineers and the Chairman of the NEHRP Advisory Committee; and an Oregon State Geologist and the Director of the Oregon Department of Geology and Mineral Industries.

April 13, 2011—Subcommittee Markup, H.R. 1425, the Creating Jobs through Small Business Innovation Act of 2011 (House Report 112–90, Part I)

On Wednesday, April 13, 2011 the Subcommittee met to consider H.R. 1425, the Creating Jobs Through Small Business Innovation Act of 2011. The Subcommittee ordered H.R. 1425 favorably forwarded to the Full Committee, as amended, by voice vote.

May 25, 2011—Protecting Information in the Digital Age: Federal Cybesecurity Research and Development (JOINT SUBCOMMITTEE HEARING) (Hearing Volume No. 112–19)

On Wednesday, May 25, 2011 the Subcommittee on Technology and Innovation and the Subcommittee on Research and Science Education held a joint legislative hearing to examine federal agency efforts to improve our national cybersecurity and prepare the future cybersecurity talent needed for national security, as it pertains to agencies within the Committee's jurisdiction and in the context of the Administration's overall priorities in science, space, and technology.

In the 111th Congress, the House passed the Cybersecurity Enhancement Act of 2010 (H.R. 4061). The bill was referred to the Committee on Science and Technology and favorably reported on January 27, 2010. On February 4, 2010 H.R. 4061 was passed by the House by recorded vote of 422–5 (Roll Call No. 43).

H.R. 4061 required increased coordination and prioritization of Federal cybersecurity research and development activities and the development of cybersecurity technical standards. It sought to strengthen cybersecurity education and talent development and partnership activities. Witnesses were asked to provide comments on the legislation in advance of reintroduction during the 112th Congress.

The Subcommittees received testimony from: Dr. George O. Strawn, the Director of the National Coordination Office for Networking and Information Technology Research and Development Program; Dr. Farnam Jahanian, the Assistant Director of the Directorate for Computer and Information Science and Engineering at the National Science Foundation; Ms. Cita Furlani, Director of the Information Technology Laboratory at the National Institute of Standards and Technology; and Rear Admiral Michael Brown, the Director of Cybersecurity Coordination in the National Protection and Programs Directorate for the U.S. Department of Homeland Security.

June 14, 2011—Transportation Research Priorities: Maximizing Return on Investment of Taxpayer Dollars (Hearing Volume No. 112–23)

On Tuesday, June 14, 2011, the Subcommittee on Technology and Innovation held a hearing to review the research, development, and technology (RD&T) activities of the Department of Transportation. The hearing focused on issues related to the funding and prioritization of current research initiatives and how to maximize the efficiency of these activities. With the expiration of SAFETEA–LU in fiscal year 2009, the hearing also examined research issues to inform the current Federal surface transportation reauthorization effort.

The Committee received testimony from: The Honorable Peter Appel, Administrator, Research and Innovative Technology Administration, U.S. Department of Transportation; Mr. John Halikowski, Director, Arizona Department of Transportation, and Chair, American Association of State Highway and Transportation Officials Standing Committee on Research; Mr. David Gehr, Senior Vice President, Highway Market, Parsons Brinckerhoff, and Chairman, American Society of Civil Engineers Transportation Policy Committee; Dr. Irwin Feller, Professor Emeritus of Economics, Pennsylvania State University, and Senior Visiting Fellow, American Association for the Advancement of Science; Ms. Lynn Peterson, Transportation Policy Advisor, Office of Governor John Kitzhaber (OR).

July 13, 2011—Subcommittee Markup, H.R. 2463, Border Security Technology Innovation Act of 2011

On Wednesday, July 13, 2011 the Subcommittee met to consider H.R. 2463, the Border Security Technology Innovation Act of 2011.

The Subcommittee ordered H.R. 2463 favorably forwarded to the Full Committee, as amended, by voice vote.

September 8, 2011—Empowering Consumers and Promoting Innovation through the Smart Grid (Hearing Volume No. 112–32)

On Thursday, September 8, 2011 the Subcommittee on Technology and Innovation of the Committee on Science, Space, and Technology held a hearing to examine the status of efforts led by the National Institute of Standards and Technology to coordinate the development of a common framework as well as the open standards necessary to ensure a secure and interoperable nationwide smart grid. The hearing provided the Subcommittee with witness perspectives on the actions necessary to drive the development of innovative smart grid technologies while protecting consumer interests.

The Committee received testimony from: Dr. George Arnold, National Coordinator for Smart Grid Interoperability, National Institute of Standards and Technology; The Honorable Donna Nelson, Chairman, Public Utility Commission of Texas; Mr. John Caskey, Assistant Vice President, Industry Operations, National Electrical Manufacturers Association; and Mr. Rik Drummond, Chief Executive Officer and Chief Scientist, The Drummond Group.

September 21, 2011—The Next IT Revolution? Cloud Computing Opportunities and Challenges (Hearing Volume No. 112–36)

On Wednesday, September 21, the Subcommittee on Technology and Innovation of the Committee on Science, Space, and Technology held a hearing to examine the potential opportunities and challenges associated with cloud computing, and to assess the appropriate role of the Federal Government in the cloud computing enterprise. The hearing focused on innovation and efficiency opportunities associated with cloud computing, challenges restraining the widespread adoption of cloud computing, and federal cloud computing adoption initiatives.

The Committee received testimony from: Mr. Michael Capellas, Chairman and CEO, Virtual Computing Environment Company; Dr. Dan Reed, Corporate Vice President, Technology Policy Group, Microsoft Corporation; Mr. Nick Combs, Federal Chief Technology Officer, EMC Corporation; Dr. David McClure, Associate Administrator, Office of Citizen Services and Innovative Technologies, General Services Administration.

November 2, 2011—Creating and Growing New Business: Fostering U.S. Innovation (Hearing Volume No. 112–48)

On Wednesday, November 2, 2011, the Subcommittee on Technology and Innovation of the Committee on Science, Space, and Technology held a hearing to examine the current state of small, innovative startup companies, and their roles as engines of both transformative innovations and job creation. The hearing focused on the obstacles limiting individuals with the ideas and desire to

either start a new company or take a fledgling company to a place of rapid growth.

The Committee received testimony from: Mr. Brink Lindsey, Senior Scholar in Research and Policy, Ewing Marion Kauffman Foundation; Mr. Julian Mann, Co-Founder and Vice President, Product Development and Research, Skybox Imaging; Mr. Ray Rothrock, Partner, Venrock; Mr. Steve Dubin, Former CEO, Martek Biosciences, and Senior Advisor to DSM Nutritional Products.

November 15, 2011—Subcommittee Markup, Committee Print, Natural Hazards Risk Reduction Act of 2011

On Tuesday, November 15, 2011 the Subcommittee met to consider the Committee Print, the Natural Hazards Risk Reduction Act of 2011. The Subcommittee ordered the Committee Print favorably forwarded to the Full Committee, as amended, by a record vote of 10 yeas to 4 nays.

2ND SESSION

February 29, 2012—Promoting Innovation, Competition, and Economic Growth: Principles for Effective Domestic and International Standards Development (Hearing Volume No. 112–63)

On Wednesday, February 29, 2011, the Subcommittee held a hearing exploring the principles that support effective standards development processes, with respect to the effect of standards development on innovation, competition, and economic growth. The hearing analyzed the ways in which the Federal government, industry, and other organizations work to promote the application of principles in the international standards development arena. Additionally, the hearing examined the ways in which trading partners may use standards as technical barriers to trade and how the Federal government and other stakeholders seek to address these challenges in the global arena.

The Subcommittee heard testimony from Ms. Mary H. Saunders, Director, Standards Coordination Office, National Institute of Standards and Technology; Mr. S. Joe Bhatia, President and CEO, American National Standards Institute; Mr. Philip Wennblom, Director of Standards, Intel Corporation; Mr. Mark Grimaldi, Owner, Equinox Chemicals; and Mr. James Seay, President, Premier Rides.

March 6, 2012—An Overview of the National Institute of Standards and Technology Budget for Fiscal Year 2013 (Hearing Volume No. 112–66)

On Tuesday, March 6, 2012, the Subcommittee held a hearing to examine the Administration's proposed fiscal year 2013 (FY13) budget request for the National Institute of Standards and Technology (NIST). NIST is a non-regulatory agency within the Department of Commerce. Originally founded in 1901 as the National Bureau of Standards, NIST's mission is to promote U.S. innovation

and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. By working closely alongside industry, NIST has become recognized as a provider of high-quality information utilized by the private sector.

The Subcommittee heard testimony from Dr. Patrick Gallagher, Under Secretary of Commerce for Standards and Technology and Director, National Institute of Standards and Technology, who reviewed the proposed budget in the context of the Administration's overall priorities for NIST.

National Institute for Standards and Technology (NIST) Spending

(dollars in millions)

Account	FY11 Actual	FY12 Enacted	FY13 Request	FY13 Request versus FY12 Enacted	
				$	%
Scientific & Technical Research and Services (STRS)	**507.0**	**567.0**	**648.0**	**81.0**	**14.3**
Construction of Research Facilities (CRF)	**69.9**	**55.4**	**60.0**	**4.6**	**8.3**
Industrial Technology Services (ITS)	**173.3**	**128.4**	**149.0**	**20.6**	**16.0**
Technology Innovation Program (TIP) ǂ	*69.9*	*0*	*0*	*0*	*0*
Manufacturing Extension Partnership (MEP)	*124.7*	*128.4*	*128*	*(0.4)*	*-0.3*
*Advanced Manufacturing Technology Consortia (AMTech) **	--	--	*21.0*	*21.0*	*100.0*
*Baldrige Performance Excellence Program***	*9.6*	*0*	*0*	*0*	*0*
Totals:	**750.2**	**750.8**	**857.0**	**106.2**	**14.1**

** new initiative*

***in FY11 funded under STRS account*

ǂ terminated in FY12

March 27, 2012—Fostering the U.S. Competitive Edge: Examining the Effect of Federal Policies on Competition, Innovation, and Job Growth (Hearing Volume No. 112–71)

On Tuesday, March 27, 2012, the Subcommittee held a hearing to better understand how Federal policies and regulations affect competition, innovation, and job growth, and to solicit input from leaders of innovative companies on ways to improve Federal eco-

nomic and regulatory policy. The hearing focused on recommendations for policies Congress should enact to improve American competitiveness and to promote innovation; proposals for Federal policy-makers to help alleviate the burdens of current Federal policies that inhibit innovation; how regulatory uncertainty affects companies' ability to make business decisions; and how a country's economic policies influence companies' decisions to establish or expand business operations.

The Subcommittee heard testimony from Dr. Ron Cohen, President and CEO, Acorda Therapeutics; Mr. Mick Truitt, Vice President, Ludlum Measurements, Inc.; Mr. Thomas M. Brandt, Jr., Senior Vice President and Chief Financial Officer, TeleCommunication Systems, Inc.; and Mr. Richard A. Bendis, Interim CEO, BioHealth Innovation Inc., President and CEO, Innovation America.

April 18, 2012—Avoiding the Spectrum Crunch: Growing the Wireless Economy through Innovation (Hearing Volume No. 112–77)

On Wednesday, April 18, 2012, the Subcommittee held a hearing to review efforts supporting the flexible and innovative utilization of spectrum, while ensuring the continued growth of the wireless economy. Given continued growth projections and spectrum's finite nature, additional allocations of spectrum will only address the "spectrum crunch" for an indefinite period of time. Smartphone sales have eclipsed PC sales, and mobile broadband is being adopted faster than any computing platform in history.

The Subcommittee heard testimony from Dr. James Olthoff, Deputy Director, Physical Measurement Laboratory, National Institute of Standards and Technology; Mr. Richard Bennett, Senior Research Fellow, Information Technology and Innovation Foundation; Mr. Christopher Guttman-McCabe, Vice President, Regulatory Affairs, CTIA–The Wireless Association; Ms. Mary Brown, Director, Technology and Spectrum Policy, Cisco Systems, Inc.; and Dr. Rangam Subramanian, Chief Wireless and Technology Strategist, Idaho National Laboratory.

May 17, 2012—Working for a Fire Safe America: Examining United States Fire Administration Priorities (Hearing Volume 112–85)

On Thursday, May 17, 2012, the Subcommittee held a hearing to examine the priorities of the fire service community for the future of the United States Fire Administration (USFA). The USFA is responsible for leadership, coordination, best practices, and support for the nation's fire prevention and control, fire training and education, and emergency medical services activities. It prepares first responders and health care leaders to react to all hazard and terrorism emergencies.

Witnesses discussed the current effectiveness of the USFA; priorities for future research, development, and training activities; and the areas of greatest importance for the upcoming reauthorization.

The Subcommittee heard testimony from Mr. Ernest Mitchell, Jr., Administrator, United States Fire Administration; Dr. John R. Hall, Jr., Division Director, Fire Analysis and Research, National Fire Protection Association; Chief Jim Critchley, Tucson Fire De-

partment; President, Western Fire Chiefs Association; Mr. Kevin O'Connor, Assistant to the General President for Governmental Affairs, International Association of Fire Fighters.

May 31, 2012—Assembling the Facts: Examining the Proposed National Network for Manufacturing Innovation (Hearing Volume No. 112–86)

On Thursday, May 31, 2012, the Subcommittee held a hearing to examine the proposed National Network for Manufacturing Innovation (NNMI). The Administration requested $1 billion in mandatory spending for the NNMI in the fiscal year 2013 budget request for the National Institute of Standards and Technology (NIST). The NNMI is designed to promote the development of manufacturing technologies with broad applications through collaboration between the Federal Government and public and private sector stakeholders. Since the NIST fiscal year 2013 budget hearing in early March, the Administration has moved forward with establishing the pilot institute as well as the planning process for the greater NNMI. At the time of the hearing, Under Secretary Gallagher was unable to provide substantial details about the program. This hearing sought to follow up on the March 6, 2012 hearing, and specifically learn more about the proposed network and status of FY12 activities related to the pilot institute.

The Subcommittee heard testimony from Dr. Patrick Gallagher, Under Secretary of Commerce for Standards and Technology and Director, National Institute of Standards and Technology.

June 19, 2012—Best Practices in Transforming Research into Innovation: Creative Approaches to the Bayh-Dole Act (Hearing Volume No. 112–89)

On Tuesday, June 19, 2012, the Subcommittee on Technology and Innovation held a hearing to learn about different approaches universities and nonprofits are taking to transfer the results of federally-funded research. Because of the large amount of funding expended by the federal government on basic research, efforts to improve the transfer of federally-funded research are of interest to both the federal government and stakeholders across the nation. The Amendments to the Patent and Trademark Act of 1980 (P.L. 96–517), commonly known as the Bayh-Dole Act, were designed to improve collaboration between commercial concerns and nonprofit organizations, including universities, in addition to promoting the utilization of inventions arising from federally supported research and development. In order to encourage the two sectors to work together to generate new goods, processes, and services for the marketplace, the Act gave U.S. universities, small businesses, and nonprofits intellectual property control of their inventions and other intellectual property that resulted from such funding.

Universities, nonprofits, and other interested stakeholders are attempting to improve the transfer of technology through a number of methods. Some of the areas of focus include: reducing the barriers to commercialization through activities such as reducing legal fees, minimizing licensing negotiations, restructuring organizational units, and building industry relationships; promoting entre-

preneurship through cross-discipline and cross-college programs; increasing collaboration between industry and innovator through federal agency research components, collaborative models, and commercialization potential in grant proposals; linking technology transfer to economic development through regional and local partnerships; and sharing of best practices between institutions with different levels of technology transfer capacity and experience.

The Subcommittee heard testimony from Dr. Todd T. Sherer, President, The Association of University Technology Managers; Ms. Catherine Innes, Director, Office of Technology Development, University of North Carolina at Chapel Hill; Mr. Ken Nisbet, Executive Director, University of Michigan Technology Transfer; and Mr. Robert Rosenbaum, President and Executive Director, Maryland Technology Development Corporation.

November 14, 2012—Is "Meaningful Use" Delivering Meaningful Results?: An Examination of Health Information Technology Standards and Interoperability (Hearing Volume No. 112–105)

On Wednesday, November 14, 2012, the Subcommittee on Technology and Innovation held a hearing to examine progress on the development and implementation of interoperable technical standards and conformance testing procedures for health information technology (HIT). The Subcommittee reviewed the activities of the Office of the National Coordinator for Health Information Technology (ONC) and the National Institute of Standards and Technology (NIST) in promoting interoperability through the development of technical standards for HIT. Additionally, the Subcommittee examined the implementation of the Health Information Technology for Economic and Clinical Health (HITECH) Act, including the final rule for Stage 2 meaningful use of HIT under the Act.

The Subcommittee heard testimony from Dr. Farzad Mostashari, National Coordinator for Health Information Technology, The Office of the National Coordinator for Health Information Technology, U.S. Department of Health and Human Services; Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards and Technology; Mr. Marc Probst, Chief Information Officer and Vice President, Information Systems, Intermountain Healthcare; Ms. Rebecca Little, Senior Vice President, Medicity; and Dr. Willa Fields, DNSc, RN, FHIMSS, Professor, School of Nursing, San Diego State University.

Oversight Plan

RALPH M. HALL, TEXAS
CHAIRMAN

EDDIE BERNICE JOHNSON, TEXAS
RANKING MEMBER

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
2321 RAYBURN HOUSE OFFICE BUILDING
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February 10, 2011

The Honorable Darrell Issa
Chairman
Committee on Oversight and Government Reform
2157 Rayburn House Office Bldg.
Washington, D.C. 20515

The Honorable Daniel E. Lungren
Chairman
Committee on House Administration
1320 Longworth House Office Bldg.
Washington, DC 20515

Dear Chairman Issa and Chairman Lungren:

Enclosed herewith please find the oversight plan of the Committee on Science, Space, and Technology, adopted February 10, 2011, pursuant to House Rule X (2)(d). Further, an electronic version of the oversight plan, in Mircosoft Word format, was received by Molly Boyl, Parliamentarian for Committee on Oversight and Government Reform, today.

If there are any questions or concerns regarding the submission of this plan, please direct them to the Committee's Chief Counsel, Margaret Caravelli or Deputy Chief Counsel, Katy Crooks. Thank you for your attention to this matter.

Sincerely,

Ralph M. Hall

Ralph M. Hall
Chairman

cc: The Honorable Eddie Bernice Johnson

Enclosure

U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY OVERSIGHT PLAN FOR THE 112TH CONGRESS (INCLUDING ACCOMPLISHMENTS AS OF JANUARY 2, 2013)

House Rule X sets the Committee's legislative jurisdiction while also assigning broad general oversight responsibilities (Appendix A). Rule X also assigns the Committee special oversight responsibility for "reviewing and studying, on a continuing basis, all laws, programs, and Government activities dealing with or involving non-military research and development." The Committee appreciates the special function entrusted to it and will continue to tackle troubled programs and search for waste, fraud, abuse, and mismanagement, in non-military research and development programs regardless of where they may be found.

Much of the oversight work of the Committee is carried out by and through the Investigations and Oversight Subcommittee. However, oversight is required for and necessarily built into every Subcommittee and the Full Committee. All elements of the Committee take their oversight charge seriously, and those elements have worked cooperatively in the past, as they will in the future, to meet our oversight responsibilities.

The Committee also routinely works with the Government Accountability Office (GAO) and the Inspectors General of our agencies to maintain detailed awareness of the work of those offices. The Committee currently has numerous outstanding requests with the GAO and more will be developed in the coming weeks and months. Many of these requests are bipartisan, having been signed by both the Chairmen and Ranking Members of our Committee and Subcommittees, or include multiple Committee Chairmen where there are shared interests. The Committee also works collaboratively with the National Academies of Science, the Congressional Research Service, the Office of Government Ethics, and the Office of Special Counsel, as well as various other independent investigative and oversight entities.

Oversight is commonly driven by emerging events. The Committee will address burgeoning issues and topics as they transpire. Nevertheless, the Committee feels that the work contained in this plan reflects an accurate portrayal of its oversight intentions as of January, 2011.

Space and Aeronautics

National Aeronautics and Space Administration (NASA) human spaceflight program

The Committee will continue to provide oversight of NASA's human spaceflight program as it undergoes a period of uncertainty and transition following various Administration proposals. Specific attention will be paid to the feasibility of NASA's plans and priorities relative to their resources and requirements.

Full Committee Hearing
The National Aeronautics and Space Administration
Fiscal Year 2012 Budget Request
March 2, 2011

Full Committee Hearing
A Review of NASA's Space Launch Systems
July 12, 2011

Full Committee Hearing
NASA Human Spaceflight Past, Present, and Future:
Where Do We Go From Here?
September 22, 2011

Full Committee Hearing
NASA's Commercial Crew Development Program:
Accomplishments and Challenges
October 26, 2011

Full Committee Hearing
An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2013
March 7, 2012

Full Committee Hearing
The Future of NASA: Perspectives on Strategic Vision for America's Space Program
December 12, 2012

Federal Aviation Administration (FAA) Commercial Space Transportation

FAA's Office of Commercial Space Transportation (OCST) regulates, including the licensing of commercial launch vehicles. An area of increasing interest is the emergence of a number of fledgling commercial human suborbital space flight ventures. In addition to its oversight of the FAA's OCST, the Committee will examine the progress of the emerging personal space flight industry, as well as the challenges it faces.

Space & Aeronautics Subcommittee Hearing
Office of Commercial Space Transportation's Fiscal Year 2012 Budget Request
May 5, 2011

Space & Aeronautics Subcommittee Hearing
An Overview of the Office of Commercial Space Transportation Budget for Fiscal Year 2013
March 20, 2012

Space & Aeronautics Subcommittee Hearing
An Examination of FAA's Launch Indemnification Program
June 6, 2012

NASA Earth and Space Science

The Committee will monitor NASA's efforts to prioritize, plan, launch, and operate space and earth science missions with cost and schedule. Particular attention will be paid to programs that exceed cost estimates to ensure they do not adversely impact the development and launch of other missions. The Committee will also examine the impact of large increases in funding for the Earth Science Directorate relative to funding requested for other science disciplines.

Space & Aeronautics Subcommittee Hearing
Exploring Mars and Beyond: What's Next for U.S. Planetary Science
November 15, 2011

Full Committee Hearing
The Next Great Observatory: Assessing the James Webb Space Telescope
December 7, 2011

Space & Aeronautics Subcommittee Hearing
National Priorities for Solar and Space Physics Research and Applications for Space Weather Prediction
November 28, 2012

FAA Research and Development (R&D) activities

The Committee will oversee the R&D activities at the FAA to ensure that they lead to improvements in FAA mission performance. The Committee has a particular interest in the performance of the Joint Planning and Development Office (JPDO), and FAA's management of its Next Generation Air Transportation System (NextGen) program.

Space & Aeronautics Subcommittee Hearing
A Review of the Federal Aviation Administration's Research and Development Programs
February 16, 2011

Commercial Orbital Transportation Services (COTS)

The Committee will evaluate the ability, cost, safety, and reliability of commercial providers to meet NASA requirements to deliver cargo to the ISS. A similar hearing will be held later this Congress on the Agency's commercial crew program.

Space & Aeronautics Subcommittee Hearing

NASA's Commercial Cargo Providers: Are They Ready to Supply the Space Station in the Post-Shuttle Era?
May 26, 2011

Space & Aeronautics Subcommittee Hearing
The Emerging Commercial Suborbital Reusable Launch Vehicle Market
August 1, 2012

Space Shuttle transition

As the Space Shuttle retires, the Committee will monitor the transition of its highly skilled workforce to other programs and projects, as there is potential for major workforce transition issues.

Space & Aeronautics Subcommittee Hearing
A Review of NASA's Exploration Program in Transition: Issues for Congress and Industry
March 30, 2011

International Space Station (ISS) utilization and operation

Plans for operation and utilization of the ISS continue to draw the Committee's attention as NASA attempts to fully utilize the unique research opportunities that the facility offers, while exclusively relying on logistical services from commercial and foreign providers. Given the significant national investment to date in the facility, Congress has directed that NASA maintain a strong research and technology program to take advantage of ISS's unique capabilities.

Space & Aeronautics Subcommittee Hearing
The International Space Station: Lessons from the Soyuz Rocket Failure and Return to Flight
October 12, 2011

Full Committee Hearing
Securing the Promise of the International Space Station: Challenges and Opportunities
March 28, 2012

Space & Aeronautics Subcommittee Hearing
Examining NASA's Development of the Space Launch System and Orion Crew Capsule
September 12, 2012

Aeronautics Research

An important area for oversight will be NASA's aeronautics research and development program. The Committee plans to examine NASA's ability to support the interagency effort to modernize the nation's air traffic management system, as well as its ability to undertake important long-term R&D on aircraft safety, emissions, noise, and energy consumption—R&D that will have a significant impact on the quality of life and U.S. competitiveness in aviation.

Space & Aeronautics Subcommittee Hearing
An Overview of the NASA Aeronautics Research Mission Directorate Budget for Fiscal Year 2013
April 26, 2012

NASA contract and financial management

A perennial topic on GAO's high risk series, NASA financial management will continue to receive attention from the Committee. The Committee will also monitor NASA's contract management to ensure acquisitions are handled appropriately.

Full Committee Hearing
Recent Developments In NASA's Commercial Crew Acquisition Strategy
September 14, 2012

Near Earth Objects

Congress provided guidance to NASA relating to Near Earth Objects in its last two authorization bills. The Committee will continue to monitor NASA's compliance with that direction, as well as determine whether additional oversight is necessary.

Within the Space and Aeronautics Subcommittee's jurisdiction, activities warranting further review include costs associated with cancellation of the Constellation

program, NASA's approach to develop and fund a successor to the Space Shuttle, and investment in NASA launch infrastructure. NASA has not clearly articulated what types of future human space flight missions it wishes to pursue, or their rationale.

Energy and Environment

Full Committee Hearing
The Department of Energy Fiscal Year 2012 Research and Development Budget Request
March 3, 2011

Full Committee Hearing
An Overview of the Fiscal Year 2012 Research and Development Budget Proposals at the National Oceanic and Atmospheric Administration and the Environmental Protection Agency
March 10, 2011

Full Committee Hearing
An Overview of the Department of Energy Research and Development Budget for Fiscal Year 2013
March 1, 2012

Subcommittee Hearing
An Overview of the National Oceanic and Atmospheric Administration and the Environmental Protection Agency Budgets for Fiscal Year 2013
March 6, 2012

Subcommittee Hearing
To Observe and Protect: How NOAA Procures Data for Weather Forecasting
March 28, 2012

Department of Energy (DOE) Office of Science

DOE plays a leading role in supporting basic research in the physical sciences and driving long-term innovation and economic growth. The Committee will conduct oversight of Office of Science programs to review prioritization across, and management within, its major program areas. Special attention will also be given to the cost, operation, and maintenance of DOE's existing and planned major facilities.

Energy & Environment Subcommittee Hearing
Energy Critical Elements: Identifying Research Needs and Strategic Priorities
December 7, 2011

Subcommittee Hearing
Department of Energy User Facilities: Utilizing the Tools of Science to Drive Innovation through
Fundamental Research
June 21, 2012

National Laboratories

The Committee will continue to oversee the Department's laboratory complex, which provides a wide range of important R&D capabilities. The management and upkeep of the national laboratories' aging facilities, particularly the clean-up of radioactive and hazardous material sites, remains a continuing concern for the Committee. Efforts will continue to assure that the government meets its responsibilities to control risks in and around these facilities.

DOE Office of Energy Efficiency and Renewable Energy (EERE)

After recently receiving significant increases in funding, the Committee will provide close oversight to ensure that programs are managed efficiently, duplication is limited, and funding was allocated appropriately and effectively.

Energy & Environment Subcommittee Hearing
An Examination of DOE's Clean Technology Programs
June 15, 2011

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Impact of Tax Policies on the Commercial Application of Renewable Energy Technology
April 19, 2012

Fossil Energy R&D

Fossil energy will remain a crucial aspect of our energy portfolio for the foreseeable future. In the 112th Congress, the Committee will continue to ensure that fossil fuel R&D programs are appropriately focused and managed efficiently. Expected

areas of oversight include carbon capture and sequestration activities (including FutureGen) and oil and gas R&D efforts.

Full Committee Hearing
Review of Hydraulic Fracturing Technology and Practices
May 11, 2011

Energy & Environment Subcommittee Hearing
Advancing Coal Research and Development for a Secure Energy Future
October 13, 2011

Full Committee Hearing
Tapping America's Unconventional Oil Resources for Job Creation and Affordable Domestic Energy: Technology and Policy Pathways
April 17, 2012

Subcommittee Hearing
Supporting American Jobs and the Economy through Expanded Energy Production: Challenges and Opportunities of Unconventional Resources Technology
May 10, 2012

Subcommittee Hearing
Tapping America's Potential Energy Through Research and Development
November 30, 2012

DOE loan guarantees

Large increases in funding for DOE loan guarantees necessarily call for greater attention by the Committee. Ensuring the funding is appropriately prioritized and spent effectively will be a priority in the 112th Congress.

Energy & Environment Subcommittee Hearing
An Examination of DOE's Clean Technology Programs
June 15, 2011

Fusion

Technical challenges have hampered our ability to harness nuclear fusion as an energy source. The Committee will continue to monitor progress toward nuclear fusion, specifically international cooperation and progress in the International Thermonuclear Energy Reactor (ITER).

DOE Contract Management

DOE programs have come under frequent scrutiny for contract management practices. GAO designated DOE's contract management as high-risk in 1990 and continues to identify areas of potential waste, fraud, and abuse.

Nuclear R&D

The Committee will provide oversight of the nation's nuclear R&D activities with the goal of unleashing the unlimited potential of emissions-free energy. DOE, the Nuclear Regulatory Commission, and the power industry hope to accelerate reactor construction as soon as possible. The Committee will examine how DOE R&D can best contribute to this goal through the advancement of various nuclear energy technologies.

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Nuclear Energy Risk Management
May 4, 2011

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Review of the Blue Ribbon Commission on America's Nuclear Future Draft Recommendations
October 27, 2011

Full Committee Hearing
Assessing America's Nuclear Future–A Review of the Blue Ribbon Commission's Report to the Secretary of Energy
February 8, 2012

Science and R&D at the Environmental Protection Agency (EPA)

The Committee will continue to provide oversight of EPA's management of science, and its use of science in the decision making process, including the evaluation of quality assurance measures. In particular, the Committee will examine how to better integrate science into the Administration's regulatory decision-making process. EPA's decisions affect every state in the Union and we must demand that EPA's actions are supported by valid and complete science.

Energy & Environment Subcommittee Hearing
Hitting the Ethanol Blend Wall: Examining the Science on E15
July 7, 2011

Full Committee Hearing
Out of Thin Air: EPA's Cross-State Air Pollution Rule
September 15, 2011

Energy & Environment Subcommittee Hearing
Quality Science for Quality Air
October 4, 2011

Energy & Environment Subcommittee Hearing
Conflicts and Unintended Consequences of Motor Fuel Standards
November 2, 2011

Energy & Environment Subcommittee Hearing
Fostering Quality Science at EPA: The Need for Common Sense Reform
November 17, 2011

Energy & Environment Subcommittee Hearing
Fostering Quality Science at EPA: Perspectives on Common Sense Reform
November 30, 2011

Subcommittee Hearing
Fractured Science–Examining EPA's Approach to Ground Water Research: The Pavillion Analysis
February 1, 2012

Subcommittee Hearing
Fostering Quality Science at EPA: Perspectives on Common Sense Reform– Day II
February 3, 2012

Subcommittee Hearing
EPA's Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations
June 6, 2012

EPA Laboratories and Libraries

The Committee will evaluate the effectiveness and utility of EPA resources and infrastructure to ensure the Agency can fully meet its statutory requirements.

Oil Spill Response and Recovery

The Committee will continue its oversight of the cause and impact of the oil spill, as well as the response and recovery efforts associated with the accident. Oversight efforts will build upon the various independent investigations including the President's National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling Report, as well as reports from other entities such as the National Academies.

Energy & Environment Subcommittee Hearing
Offshore Drilling Safety and Response Technologies
April 6, 2011

Federal Climate Research Activities

The Committee will continue to monitor programs to address climate change issues across the Federal government to ensure that existing programs are necessary, appropriately focused, effectively coordinated, and properly organized to prevent duplication of efforts and waste taxpayer resources. We must also insist that decisions on climate activities are based on solid and thorough science.

Full Committee Hearing
Climate Change: Examining the Processes Used to Create Science and Policy

March 31, 2011

Energy & Environment Subcommittee Hearing
Examining NOAA's Climate Service Proposal
June 22, 2011

Federal Ocean Research Activities

The Committee will evaluate the President's National Policy for the Stewardship of the Ocean, Coasts, and Great Lakes, which adopted the Interagency Ocean Policy Task Force recommendations aimed at addressing the future of our oceans. The Committee will monitor the implementation of this plan, as well as Federal oceans R&D policy generally.

Energy & Environment Subcommittee Hearing
Harmful Algal Blooms: Action Plans for Scientific Solutions
June 1, 2011

Specific areas of interest within the Energy and Environment Subcommittee's portfolio warranting further review include major projects and facilities construction at the Department of Energy and accounts receiving significant recent increases, such as interagency climate science activities, EPA research programs, and DOE energy efficiency and renewable energy technology development programs.

Technology and Innovation

Department of Homeland Security (DHS) Science and Technology

The Committee will continue to monitor the maturation of DHS, particularly the reorganization of the Science and Technology Directorate, and the research and technology programs associated with the Domestic Nuclear Detection Office.

Technology & Innovation Subcommittee Hearing
An Overview of Science and Technology Research and Development Programs and Priorities at the Department of Homeland Security
March 15, 2011

Technology & Innovation Subcommittee Hearing
Keeping America Secure: The Science Supporting the Development of Threat Detection Technologies
July 19, 2012

National Institute of Standards and Technology (NIST) reorganization

The Committee will conduct program oversight for NIST, and other programs in the Department of Commerce, paying special attention to the evaluation of their impact on the private sector. The Committee is aware that the nation's competitive position can be dramatically improved, or weakened, depending on how standards for different products and processes are developed. NIST is the only federal agency with long-term expertise working in this arena, and the Committee is concerned that the cooperation on standards development across agencies is less than optimal. It is the Committee's intention to review the government's role in standard setting with a focus on collaboration across Federal agencies.

Full Committee Hearing
An Overview of the Fiscal Year 2012 Budget Proposals at the National Science Foundation and the National Institute of Standards and Technology
March 11, 2011

Technology & Innovation Subcommittee Hearing
An Overview of the National Institute of Standards and Technology Budget for Fiscal Year 2013
March 6, 2012

Technology & Innovation Subcommittee Hearing
Assembling the Facts: Examining the Proposed National Network for Manufacturing Innovation
May 31, 2012

Department of Transportation (DOT) R&D programs

The Committee will conduct oversight with regard to surface transportation R&D programs within the federal government, particularly focused on effectiveness and redundancy.

Technology & Innovation Subcommittee Hearing
Transportation Research Priorities: Maximizing Return on Investment of Taxpayer Dollars
June 14, 2011

American economic competitiveness

The nation faces a challenge for economic and technological preeminence. The Committee will evaluate steps to reduce federal barriers to domestic and international competitiveness for U.S. companies.

Technology & Innovation Subcommittee Hearing
The Role of Small Business in Innovation and Job Creation: The SBIR and STTR Programs
March 31, 2011

Technology & Innovation Subcommittee Hearing
The Next IT Revolution? Cloud Computing Opportunities and Challenges
September 21, 2011

Technology & Innovation Subcommittee Hearing
Creating and Growing New Business: Fostering U.S. Innovation
November 2, 2011

Technology & Innovation Subcommittee Hearing

Promoting Innovation, Competition, and Economic Growth: Principles for Effective Domestic and International Standards Development
February 29, 2012

Technology & Innovation Subcommittee Hearing
Fostering the U.S. Competitive Edge: Examining the Effect of Federal Policies on Competition, Innovation, and Job Growth
March 27, 2012

Technology & Innovation Subcommittee Hearing
Avoiding the Spectrum Crunch: Growing the Wireless Economy through Innovation
April 18, 2012

Technology transfer

The Committee will seek recommendations for continued improvements in the technology transfer incentives built into law by the Bayh-Dole and Stevenson-Wydler acts and the Small Business Innovation Research program.

Technology & Innovation Subcommittee Hearing
Best Practices in Transforming Research into Innovation: Creative Approaches to the Bayh-Dole Act
June 19, 2012

US Fire Administration

The U.S. Fire Administration is responsible for the Assistance to Firefighters grant program, and the Committee has closely monitored the direction of this program as the organizational structure of the Department has coalesced. Continuing attention is important to assure first responders have the necessary support and training.

Technology & Innovation Subcommittee Hearing
Working for a Fire Safe America: Examining United States Fire Administration Priorities
May 17, 2012

Natural hazards monitoring and impact reduction

The Committee has supported interagency research programs to identify improvements in building and infrastructure designs to protect and provide early warning for natural disasters. Evaluating further needs for these and other hazard types is ongoing.

Technology & Innovation Subcommittee Hearing
Are We Prepared? Assessing Earthquake Risk Reduction in the United States
April 7, 2011

Cybersecurity

The Committee has continuously stressed the protection of the nation's cyber-infrastructure, underpinning economic and public services. The Committee will continue to provide oversight of how NIST and DHS address this important topic.

Joint Subcommittee Hearing
Research & Science Education and Technology & Innovation
Protecting Information in the Digital Age: Federal Cybersecurity Research and Development Efforts
May 25, 2011

Health information technology

Real improvements in the cost and accuracy of health care can be achieved through enhanced integration of health data with IT systems. NIST has a critical role to play through setting standards that will protect patient privacy and minimize private sector waste. The Committee has been active in this area and will continue to work to ensure that the Nation realizes the gains in efficiency and safety implicit in an effective roll out of Health IT.

Technology and Innovation Subcommittee Hearing
Is "Meaningful Use" Delivering Meaningful Results?: An Examination of the Health Information Technology Standards and Interoperability
November 14, 2012

Within the Technology and Innovation's Subcommittee's jurisdiction, there are several activities supported by the National Institute of Standards and Technology (NIST) which would be better supported by the private sector. Among them is a grant program for building construction at universities and nonprofit organizations. There are also other programs administered by the Department of Commerce and Department of Transportation which could be streamlined and refined. The Committee will ensure that all funding for these programs is awarded competitively and only renewed after performance is assessed. In the area of economic competitiveness, the Committee must ensure that the Small Business Innovation Research Program is focused on innovations that industry finds too risky to invest in and to increase oversight of outcomes of program and consider reductions. Finally, there are substantial federal funds being provided for staffing local fire personnel that need to be examined as to whether this is a more appropriate role for local communities to support.

Research and Science Education

National Science Foundation (NSF)

The Committee will continue to oversee the NSF. With the recent reauthorization of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act, special attention will be paid to the implementation, execution, and effectiveness of these new programs. While supportive of the overall goals of the legislation, there are concerns with several add-ons, especially those that were added to the bill without the proper legislative process. Further, the Committee will look for ways to trim duplicative and unused programs in an effort to maximize available resources.

Full Committee Hearing
An Overview of the Fiscal Year 2012 Budget Proposals at the National Science Foundation and the National Institute of Standards and Technology
March 11, 2011

Research & Science Education Subcommittee Hearing
Social, Behavioral, and Economic Science Research: Oversight of the Need for Federal Investments and Priorities for Funding
June 2, 2011

Research & Science Education Subcommittee Hearing
The Merit Review Process: Ensuring Limited Federal Resources are Invested in the Best Science
July 26, 2011

Research & Science Education Subcommittee Hearing
An Overview of the National Science Foundation Budget for FY 2013
February 28, 2012

Research & Science Education Subcommittee Hearing
NSF Major Multi-User Research Facilities Management: Ensuring Fiscal Responsibility and Accountability
April 18, 2012

Research & Science Education Subcommittee Hearing
Ensuring the Best Stewardship of American Taxpayer Dollars at the National Science Foundation
May 9, 2012

Science, Technology, Education and Mathematics (STEM) K–12 oversight

STEM education is a vital component in the evolving economy. Members of the Committee have expressed interests in improving STEM education activities from pre-K through graduate education and beyond, in order to cultivate a top-notch future scientific and technical workforce, including well-qualified teachers in STEM fields. Determining the appropriate forms of federal support to achieve these outcomes will be of great importance to the Committee.

Full Committee Hearing
STEM Education in Action: Learning Today.Leading Tomorrow
June 16, 2011

Full Committee Hearing
STEM in Action: Inspiring the Science and Engineering Workforce of Tomorrow
September 13, 2011

Full Committee Hearing—Field Hearing
STEM in Education In Action: Communities Preparing for Jobs of the Future
September 26, 2011

Research & Science Education Subcommittee Hearing
What Makes for Successful K–12 STEM Education: A Closer Look at Effective STEM Education Approaches
October 12, 2011

Research & Science Education Subcommittee Hearing
STEM in Action: Transferring Knowledge from the Workplace to the Classroom
November 3, 2011

Research & Science Education Subcommittee Hearing – Field Hearing
STEM Education in Action: Local Schools, Non-Profits, and Businesses Doing Their Part to Secure America's Future
April 30, 2012

Academic/Industry Partnerships

The Committee will review the effectiveness and consequences of academic/industry partnerships. Agencies and universities are again debating the level of scrutiny and control that should be applied to research in light of the possible use of new findings by adversaries. At the same time, industry questions the value of controls on technology sales and argues that such controls disproportionately limit American firms in competition for global sales. How to fairly balance these competing interests remains a perennial subject for Committee oversight.

Research & Science Education Subcommittee Hearing
The Role of Research Universities in Securing America's Future Prosperity: Challenges and Expectations
June 27, 2012

Research & Science Education Subcommittee Hearing
The Relationship Between Business and Research Universities: Collaborations Fueling American Innovation and Job Creation
August 1, 2012

U.S. Antarctic and Arctic Programs

The U.S. has conducted operations on the Antarctic continent under the terms of the Antarctic Treaty System since 1959, and U.S. research activities in the Arctic predate that. The NSF serves as the steward for U.S. interests in Antarctica. Research in these extreme regions is a fundamental component to understanding the Earth and its systems. The future of the icebreaker fleet that provides vital logistical support for NSF activities in the harsh polar environments continues to be of concern.

Research & Science Education Subcommittee Hearing
The U.S. Antarctic Program: Achieving Fiscal and Logistical Efficiency While Supporting Sound Science
November 15, 2012

NSF Major Research Equipment and Facilities Construction (MREFC) program

The Committee will continue to monitor and oversee NSF's MREFC program, including how priorities for projects are developed, long-term budgeting for such priorities, and decision-making with regards to ever-changing scientific community needs.

Research & Science Education Subcommittee Hearing
NSF Major Research Equipment and Facilities Management: Ensuring Fiscal Responsibility and Accountability at NSF
March 8, 2012

Government-wide R&D initiatives in emerging fields

The Committee will continue to oversee the collaboration and interagency process associated with emerging fields such as networking and information technology, biotechnology, cybersecurity, and nanotechnology,

Full Committee Hearing
An Overview of the Administration's Federal Research and Development Budget for Fiscal Year 2012
February 17, 2011

Research & Science Education Subcommittee Hearing
Nanotechnology: Oversight of the National Nanotechnology Initiative and Priorities for the Future
April 14, 2011

Joint Subcommittee Hearing
Research & Science Education and Technology & Innovation
Protecting Information in the Digital Age: Federal Cybersecurity Research and Development Efforts
May 25, 2011

Research & Science Education Subcommittee Hearing
Oversight of the Networking and Information Technology Research and Development Program and Priorities for the Future
September 21, 2011

Full Committee Hearing
An Overview of the Administration's Federal Research and Development Budget for Fiscal Year 2013
February 17, 2012

The innovative work of the National Science Foundation is important to the economic prosperity and competitiveness of the United States. However, there are various activities within the Foundation that may go beyond the mission of the agency and require more scrutiny and potential cuts in order to ensure that federal investments in basic science remain primarily focused on actual research of benefit to the Nation. Likewise, while STEM education is critical to maintaining the scientific and technical workforce essential to our competitiveness, many duplicative, wasteful, or simply unused programs exist across a number of federal agencies and must be more closely examined and, where warranted, adjusted.

Investigations and Oversight

Yucca Mountain Nuclear Waste Repository closure decision

The Committee will evaluate DOE's decision to close the Yucca Mountain Nuclear Waste Repository.

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Review of the Blue Ribbon Commission on America's Nuclear Future Draft Recommendations
October 27, 2011

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment Subcommittee Hearing
Nuclear Energy Risk Management
May 4, 2011

NOAA satellite modernization

The Committee will continue its close monitoring of satellite modernization at the National Oceanic and Atmospheric Administration (NOAA). The restructuring of the National Polar-orbiting Environmental Satellite System (NPOESS), and the creation of the Joint Polar Satellite System (JPSS) will continue to draw the Committee's attention, as well as the Geostationary Operational Environmental Satellites, and the broader issues of research-to-operations planning and data continuity.

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather Satellite Program
September 23, 2011

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Continuing Oversight of the Nation's Weather Satellite Programs: An Update on JPSS and GOES-R
June 27, 2012

Critical minerals, materials, and isotopes

The Committee will provide oversight of materials, minerals, and isotopes that are critical to U.S. national interests. Recent shortages and supply concerns associated with helium-3, rare earth elements, californium-251, and plutonium-238 highlight the need to be ever vigilant in our monitoring of critical materials, mineral, and isotopes.

Investigations & Oversight Subcommittee Hearing
The Federal Perspective on a National Critical Materials Strategy
June 14, 2011

American Recovery and Reinvestment Act (ARRA) oversight

The Committee will provide oversight of funding associated with ARRA to ensure that waste, fraud, abuse and mismanagement is minimized, and to evaluate whether funding was aligned to achieve agency mission objectives through measurable outcomes.

Investigations & Oversight Subcommittee Hearing
Stimulus Oversight: An Update on Accountability, Transparency, and Performance
November 30, 2011

Risk assessment

As the number and complexity of regulations increases throughout federal and state governments, the risk assessments that inform those decisions are garnering more attention. The Committee will continue to oversee how risk assessments are developed and how they are used in the regulatory process to ensure that policies are based on the best science available.

Investigations & Oversight Subcommittee Hearing
EPA's IRIS Program: Evaluating the Science and Process Behind Chemical Risk Assessment
July 14, 2011

Joint Subcommittee Hearing
Investigations & Oversight and Committee on Small Business, Subcommittee on Health & Technology
How the Report on Carcinogens Uses Science to Meet its Statutory Obligations, and its Impact on Small Business Jobs
April 25, 2012

Scientific integrity

The Committee will continue to collect and examine allegations of intimidation of science specialists in federal agencies, suppression or revisions of scientific finding, and mischaracterization of scientific findings because of political or other pressures. The Committee's oversight will also involve the development and implementation of scientific integrity principles within the executive branch.

Full Committee Hearing
Impacts of the LightSquared Network on Federal Science Activities
September 8, 2011

Additional Science Activities

Pursuant to House Rule X, the Committee will review and study on a continuing basis laws, programs, and Government activities relating to non-military research and development. This will include agencies both in, and out, of the Committee's legislative jurisdiction.

Investigations & Oversight Subcommittee Hearing
The Endangered Species Act: Reviewing the Nexus of Science and Policy
October 13, 2011

Investigations & Oversight Subcommittee Hearing
Federally Funded Research: Examining Public Access and Scholarly Publication Interests
March 29, 2012

Investigations & Oversight Subcommittee Hearing
The Science of How Hunting Assists Species Conservation and Management
June 19, 2012

Agency compliance with Congressional directives and requests

The Committee will be ever vigilant in its oversight to ensure that recent authorization acts, appropriation acts, and other congressional directions are complied with appropriately.

Investigations & Oversight Subcommittee Hearing
A Review of the Advanced Research Projects Agency – Energy
January 24, 2012

Investigations & Oversight Subcommittee Hearing
Mismanagement of Funds at the National Weather Service and the Impact on the Future of Weather Forecasting
September 12, 2012

Emerging Issues

Additional matters as the need arises and as provided for under House Rule X, clause 3(k).

Investigations & Oversight Subcommittee Hearing
Behavioral Science and Security: Evaluating TSA's SPOT Program
April 6, 2011

Investigations & Oversight Subcommittee Hearing
Green Jobs and Red Tape: Assessing Federal Efforts to Encourage Employment
April 13, 2011

Investigations & Oversight Subcommittee Hearing
NASA Cybersecurity: An Examination of the Agency's Information Security
February 29, 2012

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment Subcommittee Hearing
Impact of Tax Policies on the Commercial Application of Renewable Energy Technology
April 19, 2012

Investigations & Oversight Subcommittee Hearing
The Science Behind Green Building Rating Systems
May 8, 2012

Investigations & Oversight Subcommittee Hearing
The Impact of International Technology Transfer on American Research and Development
December 5, 2012

Collaboration

The Committee maintains a rich relationship with its Inspectors General, the Government Accountability Office (GAO), the National Academies of Science, the Congressional Research Service, the Office of Government Ethics, and the Office of Special Counsel, as well as various other independent investigative and oversight entities. The Committee will continue to work with those offices, relying on them to identify major mismanagement issues, using their reports in hearings, and working with the High Risk Series published by GAO to guide hearings and inquiries. The Committee already has several outstanding requests, many of which are bipartisan or cross-Committee, which reflects the collaborative nature of much of the Committee's oversight work.

The Committee also welcomes input from the public and whistleblowers. The Committee has developed many relationships with whistleblowers in agencies. The Committee has taken positive steps to try to protect them from retaliation and has been reasonably successful in that role. Most of the whistleblowers who come to the Committee remain anonymous—sometimes even from the Committee.

The Committee will retain its open-door policy regarding whistleblowers, whether they are contractors or government employees, and they should rest assured that we will never betray a confidence. Even if the information offered turns out not to be useful, as sometimes happens, the Committee will remain a haven for such figures and we understand the absolute necessity for citizens to feel safe in their communications with Congress.

Appendix A

HOUSE RULE X
GOVERNING JURISDICTION OF
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
FOR THE ONE HUNDRED TWELFTH CONGRESS

COMMITTEES AND THEIR LEGISLATIVE JURISDICTIONS

1. There shall be in the House the following standing committees, each of which shall have the jurisdiction and related functions assigned by this clause and clauses 2, 3, and 4. All bills, resolutions, and other matters relating to subjects within the jurisdiction of the standing committees listed in this clause shall be referred to those committees, in accordance with clause 2 of rule XII, as follows:

(p) Committee on Science, Space, and Technology.

(1) All energy research, development, and demonstration, and projects therefor, and all federally owned or operated nonmilitary energy laboratories.

(2) Astronautical research and development, including resources, personnel, equipment, and facilities.

(3) Civil aviation research and development.

(4) Environmental research and development.

(5) Marine research.

(6) Commercial application of energy technology.

(7) National Institute of Standards and Technology, standardization of weights and measures, and the metric system.

(8) National Aeronautics and Space Administration.

(9) National Space Council.

(10) National Science Foundation.

(11) National Weather Service.

(12) Outer space, including exploration and control thereof.

(13) Science scholarships.

(14) Scientific research, development, and demonstration, and projects therefor.

SPECIAL OVERSIGHT FUNCTIONS

3(k) The Committee on Science, Space, and Technology shall review and study on a continuing basis laws, programs, and Government activities relating to nonmilitary research and development.

Appendix B

HEARINGS HELD PURSUANT TO CLAUSES 2(n), (o), OR (p) OF RULE XI

2(n) Each standing committee, or a subcommittee thereof, shall hold at least one hearing during each 120 day period following the establishment of the committee on the topic of waste, fraud, abuse, or mismanagement in Government programs which that Committee may authorize. The hearing shall focus on the most egregious instances of waste, fraud, abuse or mismanagement as documented by any report the Committee has received from a Federal Office of the Inspector General or the Comptroller General of the United States.

Investigations & Oversight Subcommittee Hearing
Mismanagement of Funds at the National Weather Service and the Impact on the Future of Weather Forecasting
September 12, 2012

On Wednesday, September 12, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to understand the events that led to unauthorized reprogramming of funds within the National Weather Service. A 2011 National Oceanic and Atmospheric Administration (NOAA) report and a 2012 joint NOAA and Department of Commerce (DOC) investigative report provided the basis for memos detailing that NWS employees engaged in the transfer of potentially millions of NWS funds without Congressional authorization or notification. These actions raised concerns about the fidelity of budget requests, financial oversight, and possible Anti-Deficiency Act (ADA) violations.

Witnesses discussed how NOAA, DOC, and the DOC Office of Inspector General (OIG) plan to prevent similar incidents in the future, as well as the breakdown in communication that led to earlier complaints being ignored. The Committee also heard about historical funding challenges at the NWS and the importance of science and technology investments to ensure the production of first class forecasting.

The Committee received testimony from: Dr. Kathryn D. Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator for the National Oceanic and Atmospheric Administration, U.S. Department of Commerce; Inspector General Todd J. Zinser, U.S. Department of Commerce, Office of Inspector General; Dr. William B. Gail, Chief Technology Officer, Global Weather Corporation, and Member, Committee on the Assessment of the National Weather Service's Modernization Program, National Research Council of the National Academies; Mr. Richard Hirn, General Counsel and Legislative Director, National Weather Service Employees Organization. The Committee also invited Ms. Maureen Wylie, Chief, Resource and Operations Management, and former Chief Financial Officer, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, but she refused to appear at the hearing.

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Continuing Oversight of the Nation's Weather Satellite Programs: An Update on JPSS and GOES-R
June 27, 2012

On Wednesday, June 27, 2012, the Subcommittees on Investigations & Oversight and Energy & Environment held an oversight hearing to examine the recent Government Accountability Office (GAO) reports on both the Joint Polar Satellite System (JPSS) and Geostationary Operational Environmental Satellite - R Series (GOES-R) weather satellite programs. In light of present budgetary constraints, the Committee has provided strong oversight of NOAA's weather satellite programs, which the GAO has determined are at risk of exceeding cost and schedule targets

Witnesses discussed recent developments and management issues associated with JPSS and GOES-R, including cost, schedule, and performance capabilities. The Committee also received specifics regarding the two GAO reports released at the hearing, detailing the current and projected status of both satellite programs.

The committee received testimony from: The Honorable Kathryn Sullivan, Ph.D., Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, National Oceanic and Atmospheric Administration; Mr. Marcus Watkins, Director, Joint Agency Satellite Division, National Aeronautics and Space Administration; Mr. David A. Powner, Director, Information Technology Management Issues, Government Accountability Office

Investigations & Oversight Subcommittee Hearing
NASA Cybersecurity: An Examination of the Agency's Information Security
February 29, 2012

The Subcommittee on Investigations and Oversight met on Wednesday, February 29, 2012 to examine the state of information security at the National Aeronautics and Space Administration (NASA). The hearing focused on recent reports from the NASA Office of the Inspector General (IG) concerning information security, the steps NASA is taking to address the recommendations contained in those reports, and future challenges to the Agency's information security posture.

Witnesses discussed the types and origins of cyber threats, recommendations from the IG reports, governance issues concerning the limited authority of the Chief Information Officer (CIO), and internal agency cultural differences that compound the difficulties in protecting the agency's networks.

The committee received testimony from: Ms. Linda Cureton, Chief Information Officer, NASA; The Honorable Paul Martin, Inspector General, NASA.

Investigations & Oversight Subcommittee Hearing
A Review of the Advanced Research Projects Agency – Energy
January 24, 2012

On Tuesday, January 24, 2012 at 2:00pm the Subcommittee on Investigations and Oversight met to receive an update on accountability, transparency, and performance issues associated with the Advanced Research Projects Agency – Energy (ARPA-E). The hearing focused on recent reports from the Department of Energy Inspector General (DOE IG) report OAS-RA-11-11, *"Advanced Research Projects Agency – Energy"* and the Government Accountability Office (GAO) report 12-112, *"Advanced Research Projects Agency Could Benefit from Information on Applicants' Prior Funding."*

Witnesses discussed metrics used to evaluate the agency's performance, reviewed its statutory objectives to fund "high-risk, high reward" research, technology transfer, and efforts to duplicate research spending.

The Subcommittee received testimony from: Dr. Arun Majumdar, Director Advanced Research Projects Agency – Energy, U.S. Department of Energy; The Honorable Gregory Friedman, Inspector General, U.S. Department of Energy; and Mr. Frank Rusco, Director, Energy and Science Issues, U.S. Government Accountability Office.

Research & Science Education Subcommittee Hearing
Ensuring the Best Stewardship of American Taxpayer Dollars
at the National Science Foundation
May 9, 2012

On Wednesday, May 9, 2012, at 2:00pm, the Subcommittee on Research and Science Education met to examine and receive testimony on various initiatives by and issues identified by the NSF Office of Inspector General.

The witness discussed the work of the NSF Office of Inspector General to promote the efficiency and effectiveness of the Foundation and to safeguard the integrity of its programs and operations. The hearing addressed a number of potential waste, fraud, and abuse concerns, including issues with Major Research Equipment and Facilities Construction funding for contingencies, problems with the Small Business Innovation Research program, and funding beyond expenses and per diem provided to merit review panel participants.

The Subcommittee received testimony from: Ms. Allison C. Lerner, Inspector General, National Science Foundation.

Investigations & Oversight Subcommittee Hearing
Stimulus Oversight: An Update on Accountability, Transparency,
and Performance
November 30, 2011

On Wednesday, November 30, 2011 at 10:00am, the Subcommittee on Investigations and Oversight met to receive an update on accountability, transparency, and performance issues associated with the American Recovery and Reinvestment Act (ARRA). The hearing focused on efforts by agency Inspector General Offices, the Government Accountability Office, and the Recovery, Accountability, and Transparency Board to monitor ARRA funding. The Subcommittee previously held hearings on ARRA funding on March 19, 2009, and May 5, 2009.

Witnesses discussed lessons learned in managing ARRA funds, transparency in awarding funds, assessing risks associated with these investments, and methods for improving the management of taxpayer dollars.

The Committee received testimony from: Mr. Frank Rusco, Director, Natural Resources and Environment Team, General Accountability Office; Mr. Michael Wood, Director, Recovery, Accountability, and Transparency Board; The Honorable Gregory Friedman, Inspector General, U.S. Department of Energy; The Honorable Todd Zinser, Inspector General, U.S. Department of Commerce; Ms. Allison Lerner, Inspector General, National Science Foundation; and Ms. Gail Robinson, Deputy Inspector General, National Aeronautics and Space Administration.

Investigations & Oversight Subcommittee Hearing
EPA's IRIS Program: Evaluating the Science and Process Behind Chemical Risk Assessment
July 14, 2011

On Thursday, July 14, 2011 at 10:00am, the Subcommittee on Investigations and Oversight met to examine the process behind the development of EPA's IRIS assessments. The hearing was prompted in part by the National Academies' National Research Council report on EPA's formaldehyde assessment which reiterated several previous criticisms of EPA's IRIS process and provided recommendations for improvement. The goal of the hearing was to better understand the development of IRIS assessments, whether EPA plans on adopting the NAS' recommendations, and whether or not EPA assessments are based on the best available evidence and evaluated in accordance with established protocols.

Witnesses discussed problems with IRIS and methods for improving the process and science behind IRIS assessments. The Committee also heard about regulatory impacts on industry and communities.

The committee received testimony from: The Honorable Paul Anastas, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency; Mr. Trimble, Director, Natural Resources and Environment, U.S. Government Accountability Office; Dr. Jonathan Samet, MD, MS, Professor and Flora L. Thorton Chair, Department of Preventive Medicine, Keck School of Medicine, University of Southern California, and Chair, Committee to Review EPA's Draft IRIS Assessment of Formaldehyde, National Research Council, the National Academies; The Honorable Calvin Dooley, President and CEO, American Chemistry Council; Ms. Rena Steinzor, Professor, University of Maryland School of Law, and President, Center for Progressive Reform; Dr. Gail Charnley, Principal, HealthRisk Strategies; The Honorable J. Christian Bollwage, Mayor, City of Elizabeth, New Jersey.

Investigations & Oversight Subcommittee Hearing
Behavioral Science and Security: Evaluating TSA's SPOT Program
April 6, 2011

On Wednesday, April 6, the Subcommittee on Investigations and Oversight of the Committee on Science, Space, and Technology met to examine the Transportation Security Administration's (TSA) efforts to incorporate behavioral science into its transportation security architecture. The Department of Homeland Security (DHS) has been criticized for failing to scientifically validate the Screening of Passengers by Observational Techniques (SPOT) program before operationally deploying it. SPOT is a TSA program that employs Behavioral Detection Officers (BDO) at airport terminals for the purpose of detecting behavioral based indicators of threats to aviation security.

In May 2010, GAO issued a report titled "Efforts to Validate TSA's Passenger Screening Behavior Detection Program Underway, but Opportunities Exist to Strengthen Validation and Address Operational Challenges" in response to a Congressional request to review the SPOT program. The report found a lack of scientific consensus on behavioral detection principles and a lack of justification for expanding the SPOT program. GAO also noted that TSA generally does not use all intelligence databases to identify or investigate persons referred through SPOT. In addition, TSA has no database for BDOs to record and analyze information on passengers identified under SPOT.

Witnesses discussed their views on the validity of behavioral science and their experience with SPOT and related programs.

The Committee received testimony from: Mr. Stephen Lord, Director, Homeland Security and Justice Issues, Government Accountability Office; Mr. Larry Willis, Program Manager, Homeland Security Advanced Research Projects Agency, Science and Technology Directorate, Department of Homeland Security; Dr. Paul Ekman, Professor Emeritus of Psychology, University of California, San Francisco, and President and Founder, Paul Ekman Group, LLC; Dr. Maria Hartwig, Associate Professor, Department of Psychology, John Jay College of Criminal Justice; Dr. Philip Rubin, Chief Executive Officer, Haskins Laboratories; and Lieutenant Detective Peter J. DiDomenica, Boston University Police.

2(o) Each committee or a subcommittee thereof shall hold at least one hearing in any session in which the committee has received disclaimers of agency financial statements from auditors of any Federal agency that the committee may authorize to hear testimony on such disclaimers from representatives of such agency.

Investigations & Oversight Subcommittee Hearing
Mismanagement of Funds at the National Weather Service and the Impact on the Future of Weather Forecasting
September 12, 2012

On Wednesday, September 12, 2012, the Subcommittee on Investigations and Oversight held an oversight hearing to understand the events that led to unauthorized reprogramming of funds within the National Weather Service. A 2011 National Oceanic and Atmospheric Administration (NOAA) report and a 2012 joint NOAA and Department of Commerce (DOC) investigative report provided the basis for memos detailing that NWS employees engaged in the transfer of potentially millions of NWS funds without Congressional authorization or notification. These actions raised concerns about the fidelity of budget requests, financial oversight, and possible Anti-Deficiency Act (ADA) violations.

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2(p) Each standing committee or subcommittee thereof shall hold at least one hearing on issues raised by reports issued by the Comptroller General of the United States indicating that federal programs or operations that the Committee may authorize are at high risk for waste, fraud, and mismanagement, known as the "high risk list" or the "high risk series."

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
Continuing Oversight of the Nation's Weather Satellite Programs: An Update on JPSS and GOES-R
June 27, 2012

On Wednesday, June 27, 2012, the Subcommittees on Investigations & Oversight and Energy & Environment held an oversight hearing to examine the recent Government Accountability Office (GAO) reports on both the Joint Polar Satellite System (JPSS) and Geostationary Operational Environmental Satellite - R Series (GOES-R) weather satellite programs. In light of present budgetary constraints, the Committee has provided strong oversight of NOAA's weather satellite programs, which the GAO has determined are at risk of exceeding cost and schedule targets

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NASA Cybersecurity: An Examination of the Agency's Information Security
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The Subcommittee received testimony from: Ms. Linda Cureton, Chief Information Officer, NASA; and the Honorable Paul Martin, Inspector General, NASA.

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EPA's IRIS Program: Evaluating the Science and Process Behind Chemical Risk Assessment
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The Honorable Calvin Dooley, President and CEO, American Chemistry Council; Ms. Rena Steinzor, Professor, University of Maryland School of Law, and President, Center for Progressive Reform; Dr. Gail Charnley, Principal, HealthRisk Strategies; and The Honorable J. Christian Bollwage, Mayor, City of Elizabeth, New Jersey.

Joint Subcommittee Hearing
Investigations & Oversight and Energy & Environment
From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather Satellite Program
September 23, 2011

On September 23, 2011 at 10:00am, the Subcommittee on Investigations and Oversight met to examine the impact of the Administration's decision to restructure the National Polar-orbiting Operation Environmental Satellite System (NPOESS) and progress at NOAA and NASA in developing the Joint Polar Satellite System (JPSS) program as the replacement system for polar-orbiting civilian weather satellites and climate services.

Witnesses discussed the cost, schedule, and performance capabilities associated with the new polar-orbiting weather satellite program.

The Committee received testimony from: The Honorable Kathryn Sullivan, Ph.D., Assisstant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator, National Oceanic and Atmospheric Administration; Mr. Christopher Scolese, Associate Administrator, National Aeronautics and Space Administration; and Mr. David Powner, Director, Information Technology Management Issues, Government Accountability Office.

Full Committee Hearing
NASA's Commercial Crew Development Program: Accomplishments and Challenges
October 26, 2011

On Wednesday, October 26, 2011, the Committee held an oversight hearing to examine NASA's Commercial Crew Program (CCP) office, focusing on accomplishments achieved by the agency and industry following two rounds of grant awards totaling $320 million (aggregate of FY10 & FY11), and the biggest programmatic and technical challenges remaining. Speaking about challenges ahead, industry witnesses and NASA officials highlighted the uncertainty of Congress' willingness to provide full funding for CCP over the next five years. Many Committee Members asked questions of the witnesses about the size of the commercial markets (i.e., spaceflight participants exclusive of NASA-sponsored astronauts, such as space tourists and/or astronauts from countries having no indigenous space industry).

The Committee received testimony from: Mr. John Elbon, Vice President and General Manager for Space Exploration, the Boeing Company; Mr. Steve Lindsey, Director of Space Exploration for the Sierra Nevada Corporation; Mr. Elon Musk, CEO and Chief Technology Officer, Space Exploration Technologies Corp. (SpaceX); Mr. Charlie Precourt, Vice President, ATK Launch Systems Group; Dr. George Sowers, Vice President, United Launch Alliance; the Honorable Paul Martin, Inspector General of NASA; and Mr. Bill Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, NASA.

Full Committee Hearing
The Next Great Observatory: Assessing the James Webb Space Telescope
December 6, 2011

On Tuesday, December 6, 2011, the Committee held an oversight hearing to examine NASA's management and re-plan of the James Webb Space Telescope. In 2001, the James Webb Space Telescope (JWST) was ranked as the highest priority large space mission in astronomy by the National Academies of Science in their decadal survey Astronomy and Astrophysics in the New Millennium. Originally estimated by the decadal committee to cost $1 billion and to be launched in 2007, JWST was dubbed as the next Great Observatory that will be three times more powerful than the Hubble Space Telescope in the infrared and eight times more powerful than the Spitzer Space Telescope. However, after high-level scrutiny arising from years of program cost and schedule overruns, NASA recently developed a revised plan for JWST that—if fully funded—would enable completion and launch by October, 2018. The revised budget life cycle costs now total just over $8.8 billion.

The Committee received testimony from: Mr. Rick Howard, NASA Program Manager of the James Webb Space Telescope; Dr. Roger Blandford, Professor of Physics, Stanford University and Former Chair, Committee for the Decadal Survey of Astronomy and Astrophysics, National Research Council; Dr. Garth Illingworth, Professor & Astronomer, UCO/Lick Observatory, University of California, Santa Cruz;

and Mr. Jeffrey D. Grant, Sector Vice President and General Manager, Space Systems Division, Northrop Grumman Aerospace Systems.

Space & Aeronautics Subcommittee Hearing
NASA's Commercial Cargo Providers: Are They Ready to Supply the Space Station in the Post-Shuttle Era?
May 26, 2011

On Thursday, May 26, 2011, the Subcommittee on Space and Aeronautics of the Committee on Science, Space, and Technology held an oversight hearing to examine NASA's commercial cargo programs. The subcommittee reviewed the progress made by the commercial providers, as well as the budgetary and programmatic impacts of schedule delays. NASA has spent nearly $1.25 billion thus far and has yet to accomplish the goals established for the initial $500 million program, intended to demonstrate commercial cargo delivery capabilities to the International Space Station from two commercial partners, Space Exploration Technologies (SpaceX) and Orbital Science Corporation (Orbital).

The Subcommittee received testimony from Mr. William H. Gerstenmaier, Associate Administrator, Space Operations Mission Directorate, National Aeronautics and Space Administration; Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, Government Accountability Office; Ms. Gwynne Shotwell, President, Space Exploration Technologies; and Mr. Frank L. Culbertson, Jr., Senior Vice President and Deputy General Manager, Advanced Programs Group, Orbital Sciences Corporation.

Space & Aeronautics Subcommittee Hearing
An Overview of the Office of Commercial Space Transportation Budget Request for Fiscal Year 2013
March 20, 2012

On Tuesday, March 20, 2012, the Subcommittee on Space and Aeronautics held an oversight hearing to examine the FY 2013 budget request submitted by the FAA Office of Commercial Space Transportation. The hearing examined the office's roles and responsibilities, as the commercial market is expected to achieve dramatic growth, as well as the role of a government-sponsored indemnification program. The FY 2013 budget request seeks $16.700 million, a 2.6% increase over FY 2012 enacted level ($16.271 million). Based on industry-provided launch manifests, FAA forecasts 40 commercial launch an reentry operations in 2012, compared with only onne licensed launch in 2011.

The Subcommittee received testimony from Dr. George Nield, FAA Associate Administrator for Commercial Space Transportation and Capt. Wilbur Trafton, Chairman, Commercial Space Transportation Advisory Committee.

Space & Aeronautics Subcommittee Hearing
Office of Commercial Space Transportation's Fiscal Year 2012 Budget Request
May 5, 2011

On Thursday, May 5, 2011, the Subcommittee on Space and Aeronautics of the Committee on Science, Space, and Technology held an oversight hearing to examine the FY 2012 budget request submitted by the FAA Office of Commercial Space Transportation and new initiatives in the request to expand the office's roles and responsibilities. The FY 2012 budget request seeks $26.625 million, a 74% increase over the FY 2010 enacted level ($15.237 million) and a near 50% increase of the Office's workforce, asserting that NASA-sponsored commercial cargo flights to the International Space Station, plus the expected start-up of commercial human suborbital flights, places new regulatory demands on their operations.

The Subcommittee received testimony from Dr. George Nield, FAA Associate Administrator for Commercial Space Transportation, Dr. Gerald Dillingham, Director of Civil Aviation Issues at the U.S. Government Accountability Office, and Prof. Henry Hertzfeld, Research Professor of Space Policy and International Affairs at the George Washington University.

Joint Subcommittee Hearing
Research & Science Education and Technology & Innovation
Protecting Information in the Digital Age: Federal Cybersecurity Research and Development Efforts
May 25, 2011

On Wednesday, May 25, 2011 the Subcommittee on Research and Science Education and the Subcommittee on Technology and Innovation held a joint legislative hearing to examine federal agency efforts to improve our national cybersecurity and prepare the future cybersecurity talent needed for national security, as it pertains

to agencies within the Committee's jurisdiction and in the context of the Administration's overall priorities in science, space, and technology.

In the 111th Congress, the House passed the Cybersecurity Enhancement Act of 2010 (H.R. 4061). The bill was referred to the Committee on Science and Technology and favorably reported on January 27, 2010. H.R. 4061 required increased coordination and prioritization of Federal cybersecurity research and development activities and the development of cybersecurity technical standards. It sought to strengthen cybersecurity education and talent development and partnership activities. Witnesses were asked to provide comments on the legislation in advance of reintroduction during the 112th Congress.

The Subcommittees received testimony from: Dr. George O. Strawn, the Director of the National Coordination Office for Networking and Information Technology Research and Development Program; Dr. Farnam Jahanian, the Assistant Director of the Directorate for Computer and Information Science and Engineering at the National Science Foundation; Ms. Cita Furlani, Director of the Information Technology Laboratory at the National Institute of Standards and Technology; and Rear Admiral Michael Brown, the Director of Cybersecurity Coordination in the National Protection and Programs Directorate for the U.S. Department of Homeland Security.

Space & Aeronautics Subcommittee Hearing
A Review of NASA's Exploration Program In Transition:
Issues For Congress and Industry
March 30, 2011

On Wednesday, March 30, 2011 the Subcommittee held an oversight hearing to review the National Aeronautics and Space Administration's (NASA's) Constellation program and examine the status of the transition to the Space Launch System (SLS) and Multi Purpose Crew Vehicle (MPCV).

Issues examined included the Administration's compliance with the FY 2011 Continuing Resolution and the Authorization Act's direction to extend and modify the Constellation contracts, and the status of NASA's transition report to Congress. The Subcommittee also examined key challenges and risks to the Nation's aerospace workforce and industrial base caused by delays or other disruptions in NASA's human spaceflight program.

The Subcommittee received testimony from Mr. Douglas Cooke, Associate Administrator, Exploration Systems Mission Directorate, NASA; Dr. Scott Pace, Director, Space Policy Institute, George Washington University; and Mr. James Maser, Chairman, Corporation Membership Committee, the American Institute of Aeronautics and Astronautics.

Technology & Innovation Subcommittee Hearing
An Overview of Science and Technology Research and Development Programs and Priorities at the Department of Homeland Security
March 15, 2011

On Tuesday, March 15, 2011 the Subcommittee on Technology and Innovation of the Committee on Science, Space, and Technology held an oversight hearing to review activities at the Science and Technology Directorate of the Department of Homeland Security (DHS S&T) and the Domestic Nuclear Detection Office at the Department of Homeland Security (DNDO). The hearing focused on various elements of DHS S&T including the recent reorganization of the Directorate, the strategic planning process, stakeholder involvement in setting research priorities, and the role of research and development in the DHS S&T portfolio.

The Committee received testimony from two panels; the first panel included the Under Secretary of DHS S&T and the Director of DNDO; the second panel represented stakeholders of the DHS enterprise including the Director of the Douglas and Sarah Allison Center for Foreign Policy Studies at the Heritage Foundation; the President and Chief Executive Officer of the Homeland Security and Defense Business Council; and the Director of the Homeland Security and Justice Team at the U.S. Government Accountability Office.

Appendix C

OVERSIGHT CORRESPONDENCE THROUGH DECEMBER 2012

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
01/18/2011	DOI	Kendall	Science Committee	Hall	Report of Investigation FedMoratorium Deepwater Drilling
01/20/2011	EPA	Lisa Jackson	Science Committee	Sensenbrenner	Waxman-Markey Climate legislation
01/24/2011	NOAA	Lubchenco	Science Committee	Sensenbrenner	BP Deepwater Horizon Oil Budget
01/26/2011	USGS	Marcia McNutt	Science Committee	Sensenbrenner	BP Deepwater Horizon Oil Budget
01/26/2011	GAO	Dodaro	Science Committee	Hall/Johnson	GOES-R Acquisition
01/26/2011	GAO	Dodaro	Science Committee	Hall/Johnson	NPOES Management Transfer
02/08/2011	WH	Obama	Science Committee	Hall/ Broun/ Harris/ Sensenbrenner	Browner Document Retention
02/10/2011	NRC	Jaczko	Science Committee	Hall/Broun	Third Volume of Yucca Safety Report
02/14/2011	DOE	Chu	Science Committee	Hall/Broun/ Harris/ Edwards	Yucca Document Request
02/14/2011	WH	Browner	Science Committee	Hall/Broun/ Johnson/ Edwards	DOI IG Report on Deepwater Drilling Moratorium
02/14/2011		Locke/Papp/ Salazar/ McNutt/ Browner/ Gallagher/ Jackson/Lew/ Lubchenco	Science Committee	Hall/Broun/ Johnson/ Edwards	Oil Spill –Flow Rate
02/14/2011		Locke/Papp/ Salazar/ McNutt/ Browner/ Gallagher/ Jackson/ Lew/ Lubchenco/ Obama	Science Committee	Hall/Broun/ Johnson/ Edwards	Oil Spill – Budget
03/01/2011	GAO	Dodaro	Science Committee	Hall/Johnson	NASA Contractor surveillance and management
03/10/2011	NRC	Jaczko	Science Committee	Hall/ Broun/ Harris/ Sensenbrenner	Third Volume Yucca Safety Report
03/15/2011	NOAA	Lubchenco	Science Committee	Hall	Climate Service
03/16/2011		Richard G. Newell	Science Committee	Hall	CES Analysis request
05/04/2011	DOE	Steven Chu	Science Committee	Harris	DOE Stimulus spending

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
05/05/2011	GAO	Gene Dodaro	Science Committee	Hall/Harris	DOE solar energy program review
05/05/2011	GAO	Gene Dodaro	Science Committee	Hall/Harris	DOE battery and energy storage review
05/20/2011		Frank Wolf	Science Committee	Hall	Climate Service
06/17/2011	UN	Ban Ki Moon	I&O Subcommittee	Broun	IPCC Conflict of Interest
06/22/2011	E&E Subcommittee	Harris	DOE	Steven Chu	EERE Spending
06/30/2011	Science Committee	Hall	DOE	Jonathan Silver	ATVM
07/06/2011	House Appropriations Committee	Frank Wolf	Science Committee	Hall	NCS
07/15/2011	Science Committee	Hall	EPA	Lisa Jackson	ELAB
07/22/2011	DOE	Howard Gruensprecht	Science Committee	Hall	CES analysis request
07/25/2011	EPA	Lisa Jackson	Science Committee	Hall	Tier 3
07/27/2011	Science Committee	Hall	DOE	Kathleen Hogan	GAO report: EERE
07/28/2011	DOT/ EPA	Ray Lahood/ Lisa Jackson	Science Committee	Harris et al.	CAFÉ standards
07/28/2011	DOE	Chu	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	DOI	Salazar	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	DOT	LaHood	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	EPA	Jackson	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	DHS	Napolitano	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	NOAA	Lubchenco	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	NASA	Bolden	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	DOC	Gallagher	Science Committee	Hall	LightSquared Impact Assessment
07/28/2011	NSF	Suresh	Science Committee	Hall	LightSquared Impact Assessment
08/01/2011	Science Committee	Hall	DOE	Locatis	Response to LightSquared Impact Assessment
08/02/2011	Science Committee	Hall	NSF	Suresh	Response to LightSquared Impact Assessment
08/12/2011	Science Committee	Hall	DOE	Carol Matthews	High Energy Physics Advisory Panel
08/18/2011	Science Committee	Hall	DOD		Critical Materials Assessment and

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
					Strategy
08/25/2011	Science Committee	Hammond	GAO		Technology Assessment – Climate Engineering
08/31/2011	Science Committee	Hall	DOC	Scott Quehl	National Climate Assessment and Development Advisory Committee
09/01/2011	Science Committee	Hall	DOE	Ingrid Kolb	GAO report on Environmental cleanups
09/01/2011	Science Committee	Hall	Houston County	Richard Walter/ Brian Pogodzinski	Concerns regarding LightSquared GPS interference
09/02/2011	Science Committee	Hall	David Evans and Associates		Concerns regarding LightSquared GPS interference
09/02/2011	Science Committee	Hall	NSF	Suresh	Response to LightSquared Impact Assessment
09/06/2011	DOT	Ray LaHood	Science Committee	Hall	Pipeline Safety
09/08/2011	Science Committee	Hall	FCC	Genachowski	LightSquared GPS interference
09/12/2011	Science Committee	Hall	EPA	Gina McCarthy	Tier 3
09/13/2011	Science Committee	Hall	NASA OIG		Audit of Recovery Act funds
09/13/2011	Science Committee	Hall	Kapitan Engineering	Carroll	Concerns regarding LightSquared GPS interference
09/13/2011	Science Committee	Hall	American Lupher Land Surveyors	Lupher	Concerns regarding LightSquared GPS interference
09/13/2011	Science Committee	Hall	Marbach, Brady & Weaver	Marbach	Concerns regarding LightSquared GPS interference
09/16/2011	Science Committee	Hall	James Bernardo Land Surveying	Bernardo	Concerns regarding LightSquared GPS interference
09/16/2011	Science Committee	Hall	Luck Bros. Inc.	Luck	Concerns regarding LightSquared GPS interference
09/16/2011	Science Committee	Hall	Rooney Engineering		Concerns regarding LightSquared GPS interference
09/20/2011	OSTP	Holdren	Science Committee	Hall/ Broun/ Sensenbrenner Adams/ Benishek/ Hultgren/	Follow-up letter on agency nonresponse to LSQ Impact Assessment request

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
				Neugebauer	
09/20/2011	OMB	Lew	Science Committee	Hall/ Sensenbrenner Broun / Adams/ Benishek/ Hultgren/ Neugebauer	Follow-up letter on agency nonresponse to LSQ Impact Assessment request
09/21/2011	Science Committee	Hall	EPA	Gina McCarthy	CAFÉ and GHG
09/21/2011	NOAA	Lubchenco	Science Committee	Hall	Follow-up letter regarding National Climate Service
09/21/2011	Science Committee Minority	Johnson	Science Committee	Hall	Notification of intent to initiate formal investigation into NCS
09/22/2011	EPA	Gina McCarthy	E&E Subcommittee	Harris	CSAPR follow-up questions
09/23/2011	EPA	Gina McCarthy	Science Committee	Hall et al.	CSAPR
09/28/2011	Science Committee	Hall	NASA/ DOE		Report on plutonium 238 production
09/30/2011	Science Committee	Hall	DOE	Carol Matthews	DOE/NSF Nuclear Science Advisory Committee
10/04/2011	NOAA	Lubchenco	I&O Subcommittee	Broun	Questions regarding DOC IG report on CRU involvement
10/05/2011	Science Committee	Hall	Malcolm Jackson	EPA	Response to request for LightSquared Impact Assessment
10/06/2011	DHS	Napolitano	Science Committee	Hall/ Broun	Follow-up letter on agency nonresponse to LSQ Impact Assessment
10/06/2011	NIST	Gallagher	Science Committee	Hall/ Broun	Follow-up letter on agency nonresponse to LSQ Impact Assessment
10/06/2011	NOAA	Lubchenco	Science Committee	Hall/ Broun	Follow-up letter on agency nonresponse to LSQ Impact Assessment
10/06/2011	Science Committee	Hall	DOT	Ray Lahood	Pipeline Safety

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
10/07/2011	Science Committee	Hall/ Sensenbrenner Broun/ Adams/ Benishek/ Hultgren/ Neugebauer	OMB	Neill	Response to follow-up letter on agency nonresponse to LSQ Impact Assessment request
10/07/2011	Science Committee	Hall/ Sensenbrenner Broun/ Adams/ Benishek/ Hultgren/ Neugebauer	OSTP	Holdren	Response to follow-up letter on agency nonresponse to LSQ Impact Assessment request
10/17/2011	Science Committee	Hall	DOE	Steven Chu	NEAC recommendations
10/17/2011	DOC	Zinser	I&O Subcommittee	Broun	DOC OIG inquiry into CRU and NOAA correspondence
10/18/2011	I&O Subcommittee	Broun	DOC	Zinser	Response to DOC OIG inquiry into CRU and NOAA correspondence
10/19/2011	Science Committee	Hall/ Johnson	GAO	Powner	Monitoring NPOESS transition
10/21/2011	NOAA	Lubchenco	Science Committee	Broun/ Sensenbrenner	Follow-up letter to DOC OIG inquiry into CRU and FOIA compliance
10/21/2011	Science Committee	Hall	DOE	Carol Matthews	Methane Hydrate Advisory Committee
10/24/2011	OSTP	Holdren	Science Committee	Hall	Antideficiency Act and collaboration with China
10/26/2011	EPA	Lisa Jackson	Science Committee	Hall/ Broun/ Harris	Hydraulic Fracturing Study
10/28/2011	Science Committee	Hall	EPA	Lisa Jackson	PPDC renewal
10/31/2011	Science Committee	Hall	OSTP	Holdren	Response to Antideficiency Act and collaboration with China
110/3/2011	Science Committee	Hall	DOE	Owen Barwell	GAO report recommendations
11/04/2011	Science Committee	Hall	EPA	Lisa Jackson	SAB renewal
11/04/2011	EPA	Lisa Jackson	Science Committee	Hall et al.	Outstanding Document request
11/07/2011	OSTP	Holdren	Science Committee	Broun/ Sensenbrenner	FOIA Compliance and IPCC AR5
11/08/2011	Science Committee	Broun/ Sensenbrenner	NOAA	Gray	Response to DOC OIG inquiry into CRU and FOIA

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
					compliance
11/10/2011	Science Committee	Hall/ Broun/ Sensenbrenner	OMB	Sarri	Response to follow-up letter on agency nonresponse to LSQ Impact Assessment request
11/14/2011	OSTP	Holdren	Science Committee	Hall/ Sensenbrenner Broun/ Adams/ Benishek/ Hultgren/ Neugebauer	Response to LightSquared document request
11/15/2011	OMB	Cass Sunstein	E&E and I&O Subcommittees	Harris/ Broun	EPA Science
11/17/2011	Science Committee	Broun/ Sensenbrenner	OSTP	Holdren	Response to FOIA Compliance and IPCC AR5
11/18/2011	OMB	Lew	Science Committee	Hall/ Sensenbrenner Broun	Response to LSQ Impact Assessment request
11/21/2011	Science Committee	Hall	MIET	David Holland	Concerning the IPCC
12/02/2011	NOAA	Lubchenco	I&O Subcommittee	Broun	DOC OIG Climate Service follow-up
12/02/2011	OSTP	Holdren	Science Committee	Broun/ Sensenbrenner	FOIA compliance and IPCC AR5 follow-up
01/05/2012	Science Committee	Hall, Harris, Broun	EPA	Paul Anastas	Hydraulic Fracturing Study
01/05/2012	ARPA-E	Arun Majumdar	Science Committee	Broun	ARPA-E funding rounds and applicants not selected
01/06/2012	GAO	Gene Dodaro	Science Committee	Broun	ARPA-E audit work papers request
01/12/2012	Science Committee	Hall	DOE	Carol A. Matthews	Charter renewing National Petroleum Council
01/12/2012	Science Committee	Hall	DOE	Steven Chu	Annual Federal Information Security Management Act and Privacy Management report FY2011
01/13/2012	Science Committee	Broun	Office of the Clerk	Karen Haas	Records management manual
01/23/2012	Science Committee	Hall	DOE	Carol A. Matthews	Charter renewing Environmental Management Advisory Board
01/30/2012	Science	Hall	NOAA	John Gray	Climate Service

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
	Committee				Document Installment #8
01/31/2012	EPA, NTP	Linda Birnbaum, Paul Anastas	Congress	Broun, Harris, Vitter, Inhofe	Ramazzini Institute review
02/01/2012	Science Committee	Broun, Tonko, Miller	DOE IG	Gregory Friedman	Clarification of Miller's question regarding duplicative funding by ARPA-E and other agencies
02/14/2012	Science Committee	Palazzo	NASA	Seth Statler	FY11 Report on No Fear Act
02/16/2012	Science Committee	Hall	NOAA	John Gray	9th climate service document delivery
02/16/2012	Science Committee	Hall	DOE	Carol A. Matthews	Amended Charter for President's Council of Advisors on Science and Technology
02/17/2012	Science Committee	Hall	EPA	Clara C. Jones	Charter renewal for Farm, Ranch, and Rural Communities Advisory Committee
02/21/2012	Science Committee	Hall	NOAA	John Gray	Climate Service Document Installment #9
02/22/2012	EPA IG	Arthur Elkins	Science Committee	Broun	IRIS questions and clarification
02/29/2012	Science Committee	Hall	DOE	William J. Valdez	No Fear Act report for FY2011
03/01/2012	Science Committee	Hall	EPA	Gina McCarthy	CSAPR
03/07/2012	Science Committee	Sensenbrenner	National Science Advisory Board for Biosecurity	Susan Erlich	H5N1 and documents relating to questions sent to Holdren
03/08/2012	Science Committee	Hall	DOE	Own F. Barwell	Report on Laboratory Directed Research and Development
03/09/2012	Science Committee	Hall	EPA	Lisa P. Jackson	Charter renewal for Environmental Financial Advisory Board
03/09/2012	Science Committee	Broun, Sensenbrenner	NOAA	John Gray	DOC OIG report on NOAA and CRU emails
03/09/2012	Science Committee	Broun	HHS NTP	Linda Birnbaum	Report on Ramazzini Institute discrepancies
03/13/2012	Science Committee	Broun	EPA	Lek Kadeli	Report on Ramazzini Institute discrepancies
03/14/2012	Science	Hall	DOE	Michael W.	DOE Response to

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
	Committee			Locatis	GAO Report on Information Security
03/15/2012	Science Committee	Hall, Harris	DOE	Gregory H. Friedman	DOE FY12 Consolidated Financial Statements audit
03/15/2012	Science Committee	Hall	EPA	Rafael DeLeon	EPA FY2011 Annual Report
03/20/2012	Science Committee	Harris	DOE	Thomas P. D'Agostino	Comments on GAO report Nuclear Nonproliferation
03/20/2012	Science Committee	Broun	DOE NNSA	Thomas D'Agostino	GAO Nuclear Nonproliferation Report
03/26/2012	DOE	Steven Chu	Science Committee	Harris	Advanced Vehicle Technology Letter
03/27/2012	GAO	Gene Dodaro	Science Committee	Broun	Clarification of various federal risk assessments
03/27/2012	Science Committee	Hall	NSF	Subra Suresh	FY11 Report on No Fear Act compliance
03/29/2012	Science Committee	Hall	DOT	Ray LaHood	FY11 Report on No Fear Act compliance
03/30/2012	Science Committee	Hall	EPA	Clara C. Jones	Charter renewal for Human Studies Review Board
03/30/2012	Science Committee	Hall	EPA	Arvin Ganesan	Lisa Jackson hearing correspondence
04/02/2012	DOC IG	Todd Zinser	Science Committee	Broun	Report on NOAA titled: Impriorities in Northwest Enforcement Division
04/09/2012	Science Committee	Broun	DOC IG	Todd Zinser	Report on NOAA titled: Impriorities in Northwest Enforcement Division
04/09/2012	EPA	Lisa P. Jackson	Science Committee	Hall	Lisa Jackson Hearing Follow up Letter
04/11/2012	Science Committee	Hall	DOE	Carol A. Matthews	Charter renewal for Environmental Management Site-Specific Advisory Board
04/16/2012	Science Committee	Hall	DOE	Carol A. Matthews	Charter for the Appliance Standards and Rulemaking Federal Advisory Committee
04/17/2012	House Appropriations Committee	Frank Wolf	Science Committee	Hall	Weather Research

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
04/17/2012	EPA	Lisa P. Jackson	Science Committee	Hall, Sensenbrenner Harris, Broun, Brooks, Palazzo, Quayle	Lisa Jackson Hearing Follow up letter
04/20/2012	Science Committee	Hall	DOE	Carol A. Matthews	Amended Charter for the Nuclear Energy Advisory Committee
04/23/2012	Science Committee	Broun	GOA	Katherine Siggerud	Clarification of various federal risk assessments
04/24/2012	Science Committee	Hall	EPA	Lisa P. Jackson	Lisa Jackson Hearing Follow up Letter Response
04/24/2012	OMB	Cass Sunstein	Science Committee	Harris	Cass Sunstein Hearing
04/25/2012	DOE - EIA	Howard Gruenspecht	Science Committee	Broun, Harris	Requests addendum to EIA Report: Federal Interventions and Subsidies in FY10
04/25/2012	NASA IG	Paul Martin	Science Committee	Broun	Requests IG report on potential misconduct at Glenn Research Center
04/26/2012	NOAA	Jane Lubchenco	Science Committee	Broun	Travel by NOAA senior staff
04/26/2012	NOAA	Jane Lubchenco	Science Committee	Broun, Sensenbrenner	Requests additional documents related to FOIA and CRU
04/27/2012	Science Committee	Broun	NASA IF	Paul Martin	IG report on Glenn Research Center
04/27/2012	Science Committee	Hall	DOI	Rhea Suh	FY11 Report on No Fear Act compliance
05/01/2012	Science Committee	Harris	DOE	David T. Danielson	Electric Vehicle Response
05/03/2012	NOAA	Jane Lubchenco	Science Committee	Hall	Erroneous Spending
05/11/2012	Science Committee	Hall	DOE	David G. Frantz	GAO Report regarding Loan Guarantee Program
05/11/2012	Science Committee	Hall	EPA	Lisa P. Jackson	Board of Scientific Counselors Renewal
05/14/2012	Treasury IG for Tax Administration	Russell George	Science Committee	Broun	Questions regarding renewable tax credits
05/17/2012	DOC, NOAA	John Bryson, Jane Lubchenco	Science Committee	Broun	NWS fund reallocation

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
05/17/2012	Science Committee	Broun	NASA	Seth Statler	Arc Jet consolidation plans
05/18/2012	DOE	Steven Chu	Science Committee	Harris	Electric Vehicle Deployment follow up letter
06/01/2012	DOC, NOAA	John Bryson, Jane Lubchenco	Science Committee	Broun	Report on NWS fund reallocation
06/04/2012	Science Committee	Broun	Treasury IG for Tax Administration	Russell George	Response for questions regarding renewable tax credits
06/05/2012	NASA	Charles Bolden	Science Committee	Broun	Seeks further information on potential misconduct at Glenn Research Center
06/07/2012	GAO	Gene Dodaro	Science Committee	Broun	NOAA Budget development process review
06/7/2012	EPA	Lisa Jackson	Science Committee	Harris	Hydraulic Fracturing follow up
06/12/2012	Science Committee	Broun	GAO	Katherine Siggerud	NOAA Budget development and allocation process
06/12/2012	EPA	Lisa Jackson	Science Committee	Lisa Jackson	Clean Water Act
07/05/2012	Science Committee	Hall	Orbital Science Corp.	Brian Mischel	Wasteful spending by NOAA and NASA on JPSS
07/05/2012	Science Committee	Broun	Science Committee	Sandy Adams	Requests hearing on possible excessive spending by NIST MEP
07/23/2012	HHS	Howard Koh	Science Committee	Broun, Harris	HHS and NAS review of 12th RoC determinations on formaldehyde and styrene
07/24/2012	EPA	Lisa Jackson	Science Committee	Hall, Smith, Neugebauer, McCaul	Las Brisas Energy Center
07/30/2012	Science Committee	Hall, EBJ	NSF	Allison Lerner	Extending deadline for review of SBIR and STTR from October 1, 2012 to November 1, 2012
08/06/2012	EPA	Lisa Jackson	Science Committee	Broun	Staff briefing on Bristol Bay Watershed study and Pebble Mine
08/08/2012	EPA	Lisa Jackson	Science Committee	Hall	Wise County Ozone nonattainment area

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
08/08/2012	DOE	Chu	Science Committee	Harris	Electric Vehicle Program follow up letter
08/10/2012	Science Committee	Hall	American Motorcyclist Association	Wayne Allard	E15 4 Gallon Rule
08/21/2012	Science Committee	Broun	NASA	Seth Statler	NASA Glenn Research Center Director Travel
08/30/2012	Science Committee	Broun, Harris	HHS	Howard Koh	HHS and NAS review of 12th RoC determinations on formaldehyde and styrene
09/10/2012	EPA	Lisa Jackson	Science Committee	Sensenbrenner, Cravaack	E15 partial waiver
09/14/2012	Science Committee	Hall	DOI	Lori Williams	Invasive Species Advisory Committee Charter
09/19/2012	GAO	Dodaro	Science Committee	Hall, EBJ	Monitoring of GOES-R
09/19/2012	GAO	Dodaro	Science Committee	Hall, EBJ	Monitoring of JPSS
09/26/2012	Science Committee	Hall, EBJ	GAO	Katherine Siggerud	Monitoring of GOES-R
09/26/2012	Science Committee	Hall, EBJ	GAO	Katherine Siggerud	Monitoring of JPSS
10/04/2012	NASA	Bolden	Science Committee	Broun	Space Act Agreement with H211
10/04/2012	Science Committee	Broun	NASA	Mary Kerwin	Space Act Agreement with H211
10/05/2012	EPA	Lisa Jackson	Science Committee	Broun	Canceled briefing on study of Bristol Bay Watershed
10/12/2012	EPA IG	Arthur Elkins	Science Committee	Broun	Requesting a copy of the IRIS draft report
10/16/2012	EPA	Lisa Jackson	Science Committee	Hall, Harris, Rohrabacher	Science Advisory Board
10/18/2012	EPA IG	Arthur Elkins	Science Committee	Broun	Requests OIG review human studies involving PM2.5
10/19/2012	Science Committee	Broun	EPA IG	Arthur Elkins	Acknowledging receipt of letter requesting IRIS draft report
10/24/2012	NOAA	Lubchenco	Science Committee	Broun	Requests information and records on travel by NOAA senior staff

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
10/25/2012	GAO	Dodaro	Science Committee	Broun	Requests GAO review NASA's export control program
11/05/2012	Science Committee	Broun	GAO	Katherine Siggerud	Response to request to review NASA's export control program
11/08/2012	Science Committee	Broun	DOC	Amanda Greenwell	Response to request for NOAA travel records
11/15/2012	DOC, DOE, EPA, EPA OIG, WH Counsel	Zinser, Friedman, Elkins, Jackson, Ruemmler	Science Committee	Hall, Sensenbrenner, Smith, Rohrabacher, Broun, Harris	Use of private email accounts to conduct official business
11/20/2012	NOAA	Lubchenco	Science Committee	Broun	Termination of the National Weather Service Sandy Service Assessment
11/28/2012	NOAA	Lubchenco	Science Committee	Broun	Follow up request for records relating to travel by NOAA senior staff
11/28/2012	EPA	Jackson	Science Committee	Broun	Bristol Bay Watershed Assessment and concerns over peer review
11/30/2012	Science Committee	Hall, Sensenbrenner, Smith, Rohrabacher, Broun, Harris	EPA OIG	Elkins	Response to request for information related to the use of private email accounts for conducting official business
11/30/2012	Science Committee	Hall, Sensenbrenner, Smith, Rohrabacher, Broun, Harris	WH Counsel	Rachael Leonard	OSTP preservation of email records and prohibition of non-official email usage
12/03/2012	Science Committee	Hall, Sensenbrenner, Smith, Rohrabacher, Broun, Harris	DOE OIG	Friedman	Use of personal email accounts and the preservation of records at DOE response
12/06/2012	DOC	Rebecca Blank	Science Committee	Broun	Concern over management issues at NOAA and requests two Special Masters Reports

Date Sent	To: Agency	To: Person	From: Agency	From: Person	About
12/07/2012	Science Committee	Broun	EPA	Arvin Ganesan	Response to letter regarding Bristol Bay Watershed Assessment and concerns over peer review
12/10/2012	Science Committee	Broun	NOAA	Lubchenco	Hurricane Sandy Service Assessment
12/12/2012	Science Committee	Hall	EPA	Arvin Ganesan	Public and secondary email addresses
12/12/2012	Science Committee	Smith	EPA	Arvin Ganesan	Public and secondary email addresses
12/12/2012	Science Committee	Rohrabacher	EPA	Arvin Ganesan	Public and secondary email addresses
12/12/2012	Science Committee	Sensenbrenner	EPA	Arvin Ganesan	Public and secondary email addresses
12/12/2012	Science Committee	Broun	EPA	Arvin Ganesan	Public and secondary email addresses
12/12/2012	Science Committee	Harris	EPA	Arvin Ganesan	Public and secondary email addresses

Appendix D

SUMMARY OF GAO HIGH RISK TOPICS

GAO Item Title	Possible Oversight Action
Modernizing the Outdated U.S. Financial Regulatory System	Included in GAO's "nine characteristics that should be reflected in any new regulatory system" are "[m]echanisms … for identifying, monitoring, and managing risks to the financial system." Large financial institutions' reliance on proprietary risk-assessment models to determine the adequacy of their capital has been increasing, and it is soon to be institutionalized in the U.S. under an international agreement, Basel II. Federal regulators' role will then be to "vindicate" the institutions' models, but whether they – or, in fact, anyone, anywhere – posses the mathematical expertise to perform this task is questionable. Risk assessments, modeling, and technical evaluations of those are all in the jurisdiction and expertise of the Committee.
Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals	GAO reiterates in the 2009 High-Risk Series Update its 2008 finding that EPA's Integrated Risk Information System(IRIS) – a database that contains EPA's position on the potential human health effects of exposure to more than 540 chemicals – is at serious risk of becoming obsolete. EPA has not been able to complete timely, credible assessments. "Without greater attention to EPA's efforts to assess toxic chemicals, the nation lacks assurance that human health and the environment are adequately protected," The I&O Subcommittee has held hearings on IRIS in the past and would continue to oversee this important database.
Management of Federal Oil and Gas Resources	Previous work by the GAO revealed that the Department of Interior lacked consistent and reliable data on the production and sale of oil and gas from federal lands. In light of the Deepwater Horizon oil spill, GAO identified three areas of concern facing the DOI's ability to manage federal oil and gas resources, including: revenue collection, hiring, training, and retaining sufficient staff, and reorganization of the offshore oil and gas management and revenue collection functions.
Strategic Human Capital Management	GAO single out Strategic Human Planning as an area offering "ample opportunity" for organizations to improve. It says" Strategic human capital planning that

	is integrated with broader organizational strategic planning is critical to ensuring agencies have the skill and talent mix they need to address their current and emerging human capital challenges." This is an issue at many of our agencies, particularly NASA.
Protecting the Federal Government's Information Systems and the Nation's Critical Infrastructure	The U.S.'s critical infrastructure – including power distribution systems, national defense, water supply, emergency services, and telecommunications – relies extensively on computerized information systems and electronic data in normal operations. Federal Agencies have made progress in strengthening information security, yet "most agencies continue to experience significant deficiencies that jeopardize the confidentiality, integrity, and availability of their systems and information," GAO says. "Until agencies implement the hundreds of recommendations made by GAO and their own inspectors general … a broad array of federal assets and operations will remain at unnecessary risk of fraud, misuse, and disruption." The Committee is charged with overseeing NIST, which mandates federal computer security standards.
Implementing and Transforming the Department of Homeland Security	DHS remains on GAO's High-Risk List owing to numerous management challenges and problems overseeing its $40 billion annual budget that GAO has identified, particularly in DHS's acquisitions and R&D programs. The Committee has jurisdiction over the agency's Science and Technology Directorate and will continue to review its programs, focusing on its laboratories and contracts. Problems that GAO has identified at DHS also include its IT-related acquisitions, which the committee also has a role in reviewing.
Establishing Effective Mechanisms for Sharing Terrorism-Related Information to Protect the Homeland	Since 9/11 there have been significant efforts among federal, state, and local partners to share terrorism-related data. These efforts are now being developed under an overarching Information Sharing Environment (ISE). Still, GAO "found that the scope, projects, and milestones – the road map – for guiding the ISE were not fully defined and, along with OMB, observed that the expected results and metrics – the system of accountability – to insure progress were not in place." It is the Committee's role to oversee federal computer standards, including such efforts.

Ensuring the Effective Protection of Technologies Critical to U.S. National Security Interests	GAO calls for a "fundamental re-examination of current government programs" to determine how agencies involved in protecting "critical technologies while advancing U.S. interest" - including the Department of Commerce – can collectively achieve their mission. At stake are not only such concerns as the proliferation of nuclear weapons, but also the issue of whether the U.S. has maintained under its control the technologies and production capacity that may be critical to its defense base and economic security. Both manufacturing and competitiveness, including national technological leadership, are within the Committee's jurisdiction.
Department of Energy's Contract Management for the National Nuclear Security Administration and Office of Environmental Management	GAO found that the DOE's Office of Science has been extremely effective in completing large projects within budget and schedule requirements, which it attributes to leadership commitment, good management and technical expertise, and strict adherence to project management policies. It may be fruitful to see how DOE could copy the lessons from the Office of Science to these other divisions.
National Aeronautics and Space Administration Acquisition Management	NASA, which conducts almost all its business under contract with outside entities, appears unable to finish its projects at the cost and on the schedule it provides to Congress. GAO cautions that organizational and programmatic pressures could derail NASA's otherwise promising corrective action plan, which GAO feels might finally address many of the issues keeping NASA on the High-Risk List. Experience has shown that close and continued attention by the Committee to these management issues can increase likelihood of change at NASA. Because NASA and DOD employ the same acquisition process, there should be an opportunity of applying at NASA the changes indentified in work on the DOD High-Risk items. Similarly, lessons learned here might be applied at other agencies trying to develop and implement complex technical systems.

GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE COM SCIENCE, SPACE AND TECHNOLOGY

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
PENDING REQUESTS/MANDATES						
10-1309-02	7/28/2010	ENERGY RESEARCH PROJECTS REVIEW (361246)	NRE	RUSCO, FRANKLIN W		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
11-0263-01 ***MANDATE**	1/4/2011	FREQ:OR DUE:* -PL 111-358-SEC.602(M)(2)&(3)-FEDERAL LOAN GUARANTEES FOR INNOVATIVE TECHNOLOGIES IN MANUFACTURING	NRE	GAFFIGAN, MARK E		*PL 111-358, AMERICAN COMPETES ACT 2010* *RECURRING MANDATE* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
ACTIVE REQUESTS/MANDATES						
13-0039-01	10/16/2012	REQUEST GAO HOST A COMPTROLLER GENERAL FORUM TO EXAMINE THE STRATEGICISSUES ON NANOTECHNOLOGY TO BETTER INFORM CONGRESSIONAL POLICYMAKERS	ARM	KINGSBURY, NANCY R DROITCOUR, JUDITH A		*REP SMITH, LAMAR* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		460627 CG FORUM ON NANOTECHNOLOLGY MANUFACTURING			***ESTIMATED ISSUANCE:*** TBD	
11-0457-02	3/1/2011	EARNED VALUE MANAGEMENT AT NASA (121002)	ASM	CHAPLAIN, CRISTINA T OAKLEY, SHELBY S		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		121002 NASA POLICIES AND PRACTICES IN USING EARNED VALUE MANAGEMENT			***ESTIMATED ISSUANCE:*** 11/19/2012	
11-0459-01	3/3/2011	REVIEW OF NASA'S USE OF SPACE ACT AGREEMENTS(120926)	ASM	CHAPLAIN, CRISTINA T OAKLEY, SHELBY S		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		120926 NASA'S PLANS FOR USING SPACE ACT AGREEMENTS AND ASSOCIATED INTERNAL CONTROLS			***ESTIMATED ISSUANCE:*** 5/26/2011	
12-0257-01	1/6/2012	CO-REQUEST - REVIEW OF NASA'S JAMES WEBB SPACE TELESCOPE PROJECT - SEE MANDATE 12-0259 (121048)	ASM	CHAPLAIN, CRISTINA T OAKLEY, SHELBY S		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		121048 ASSESSMENT OF NASA'S JAMES WEBB SPACE TELESCOPE			***ESTIMATED ISSUANCE:*** 12/3/2012	

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE COM SCIENCE, SPACE AND TECHNOLOGY

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
09-0540-05 ***MANDATE**	3/11/2009	FREQ:OR DUE:OR -PL 111-8 DIV. B. TITLE III-REPORT ON THE STATUS OFLARGE-SCALE NASA PROGRAMS, PROJECTS, AND ACTIVITIES (121054)	ASM	CHAPLAIN, CRISTINA T OAKLEY, SHELBY S		*PL 111-8, OMNIBUS APPROPRIATION ACT 2009* *RECURRING MANDATE* *SEN COCHRAN, THAD - SEN COM APPROPRIATIONS* *SEN INOUYE, DANIEL K - SEN COM APPROPRIATIONS* *SEN HUTCHISON, KAY BAILEY - SEN SUB COMRC, JUST & SCIENCE-APPROP* *SEN MIKULSKI, BARBARA A - SEN SUB COMRC, JUST & SCIENCE-APPROP* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN BOOZMAN, JOHN - SEN SUB SCIENCE & SPACE-COM-SCI-TRA* *SEN NELSON, BILL - SEN SUB SCIENCE & SPACE-COM-SCI-TRA* *REP DICKS, NORMAN D - HSE COM APPROPRIATIONS* *REP ROGERS, HAROLD - HSE COM APPROPRIATIONS* *REP FATTAH, CHAKA - HSE SUB COM,JUSTICE & SCIENCE-APPROP* *REP WOLF, FRANK R - HSE SUB COM,JUSTICE & SCIENCE-APPROP* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP COSTELLO, JERRY F - HSE SUB SPACE & AERONAUTICS-SCITECH* *REP PALAZZO, STEVEN - HSE SUB SPACE & AERONAUTICS-SCITECH*
		121054 ASSESSMENTS OF THE NATIONAL AERONAUTICAL SPACE ADMINISTRATION'S LARGE-SCALE PROJECTS				***ESTIMATED ISSUANCE:*** 3/5/2013
11-0264-01 ***MANDATE**	1/4/2011	FREQ:OT DUE:01/04/13 -PL 111-358-SEC. 603(D)(6)(B)-SUBSIDY ESTIMATES FOR LOAN GUARANTEES FOR SCIENCE PARK INFRASTRUCTURE	FMA	ENGEL, GARY T CARLSEN, MARCIA L		*PL 111-358, AMERICAN COMPETES ACT 2010* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		191041 DEPARTMENT OF COMMERCE SCIENCE PARK INFRASTRUCTURE LOAN GUARANTEES				***ESTIMATED ISSUANCE:*** 1/4/2013
12-0270-01	1/10/2012	DEPARTMENT OF HOMELAND SECURITY BORDER AND MARITIME RESEARCH AND DEVELOPMENT EFFORTS (441103)	HSJ	MAURER, DAVID C CURRIE, CHRISTOPHER P		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		441103 DEPARTMENT OF HOMELAND SECURITY BORDER AND MARITIME RESEARCH AND DEVELOPMENT EFFORTS				***ESTIMATED ISSUANCE:*** TBD

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE COM SCIENCE, SPACE AND TECHNOLOGY

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
12-1114-01	9/19/2012	JOINT POLAR SATELLITE SYSTEM: ASSESSING PROGRESS, CAPABILITIES, AND SCHEDULE (311278)	IT	POWNER, DAVID A MOORE, PAULA A		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		311278 JOINT POLAR SATELLITE SYSTEMS: ASSESSING PROGRESS, CAPABILITIES, AND SCHEDULE			***ESTIMATED ISSUANCE:*** TBD	
12-1115-01	9/19/2012	GEOSTATIONARY SATELLITES DEVELOPMENT PROGRESS AND CONTINUITY PLANNING(311276)	IT	POWNER, DAVID A MOORE, PAULA A		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		311276 GEOSTATIONARY SATELLITES DEVELOPMENT PROGRESS AND CONTINUITY PLANNING			***ESTIMATED ISSUANCE:*** TBD	
11-0265-01 ***MANDATE**	1/4/2011	FREQ:OT DUE:05/31/13 -PL 111-358-SEC. 801-STATUS OF PROGRAMS AUTHORIZED UNDER AMERICA COMPETES REAUTHORIZATION ACT OF 2010 (361448)	NRE	RUSCO, FRANKLIN W SPRINGER, KARLA J		*PL 111-358, AMERICAN COMPETES ACT 2010* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		361448 IMPLEMENTATION OF THE AMERICA COMPETES REAUTHORIZATION ACT			***ESTIMATED ISSUANCE:*** TBD	
11-0758-01	5/5/2011	REVIEW MANAGEMENT AND COORDINATION OF DOE'S BATTERY AND ENERGY STORAGETECHNOLOGY DEVELOPMENT EFFORTS BOTH INTERNALLY AND EXTERNALLY (361332)	NRE	RUSCO, FRANKLIN W MINELLI, TIMOTHY L		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP HARRIS, ANDY - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361332 OVERLAP AND DUPLICATION OF FEDERAL BATTERY AND ENERGY STORAGE TECHNOLOGY INITIATIVES			***ESTIMATED ISSUANCE:*** 8/30/2012	

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE COM SCIENCE, SPACE AND TECHNOLOGY

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
12-0433-01 ***MANDATE**	12/31/2011	FREQ:* DUE:* -PL 112-81-SEC. 5143-REDUCING FRAUD, WASTE, AND ABUSE IN SBIR AND STTR PROGRAMS (361395)	NRE	RUSCO, FRANKLIN W MINELLI, TIMOTHY L		*PL 112-81, NAT'L DEFENSE AUTH. ACT 2012* *RECURRING MANDATE* *SEN LANDRIEU, MARY L - SEN COM SMALL BUSINESS & ENTREPRENEURSHP* *SEN SNOWE, OLYMPIA J - SEN COM SMALL BUSINESS & ENTREPRENEURSHP* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP GRAVES, SAM - HSE COM SMALL BUSINESS* *REP VELAZQUEZ, NYDIA - HSE COM SMALL BUSINESS*
		361395 VULNERABILITY OF THE SMALL BUSINESS INNOVATION RESEARCH AND SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAMS TO FRAUD, WASTE, AND ABUSE				***ESTIMATED ISSUANCE:*** 11/15/2012
12-0435-01 ***MANDATE**	12/31/2011	FREQ:AN DUE:12/31/12 -PL 112-81-SEC. 5136-FISCAL & MANAGEMENT AUDIT OF SBIR AND STTR PROGRAMS (361396)	NRE	RUSCO, FRANKLIN W MINELLI, TIMOTHY L		*PL 112-81, NAT'L DEFENSE AUTH. ACT 2012* *RECURRING MANDATE* *SEN LANDRIEU, MARY L - SEN COM SMALL BUSINESS & ENTREPRENEURSHP* *SEN SNOWE, OLYMPIA J - SEN COM SMALL BUSINESS & ENTREPRENEURSHP* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP GRAVES, SAM - HSE COM SMALL BUSINESS* *REP VELAZQUEZ, NYDIA - HSE COM SMALL BUSINESS*
		361396 FEDERAL AGENCIES' IMPLEMENTATION OF SMALL BUSINESS RESEARCH AND DEVELOPMENT PROGRAMS' EXPENDITURE REQUIREMENTS				***ESTIMATED ISSUANCE:*** 2/28/2013
12-0951-01 ***MANDATE**	7/6/2012	FREQ:OT DUE:07/05/13 -PL 112-141-SEC. 100252-FEDERAL EFFORTS TO COLLECT DATA FOR STORMS (361445)	NRE	FENNELL, ANNE-MARIE L MALCOLM, JEFFERY D		*PL 112-141, 21ST CENTURY ACT* *SEN JOHNSON, TIM - SEN COM BANK,HOUSE & URBAN AFFAIRS* *SEN SHELBY, RICHARD C - SEN COM BANK,HOUSE & URBAN AFFAIRS* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *REP BACHUS, SPENCER - HSE COM FINANCIAL SERVICES* *REP FRANK, BARNEY - HSE COM FINANCIAL SERVICES* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		361445 FEDERAL EFFORTS TO COLLECT COVERED DATA FOR NAMED STORMS				***ESTIMATED ISSUANCE:*** TBD

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE COM SCIENCE, SPACE AND TECHNOLOGY

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
12-0952-01 ***MANDATE**	7/6/2012	FREQ:OT DUE:07/05/13 -PL 112-141-SEC. 52003-LIFECYCLE COST ANALYSIS - FEDERALLY FUNDED HIGHWAY PROJECTS (544185)	PI	HERR, PHILLIP R MACLEOD, HEATHER		*PL 112-141, 21ST CENTURY ACT* *SEN BOXER, BARBARA - SEN COM ENVIRONMENT AND PUBLIC WORKS* *SEN INHOFE, JAMES M - SEN COM ENVIRONMENT AND PUBLIC WORKS* *REP MICA, JOHN L - HSE COM TRANSPORTATION & INFRASTRUCTURE* *REP RAHALL, NICK J II - HSE COM TRANSPORTATION & INFRASTRUCTURE* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		544185 LIFECYCLE COSTS AND BENEFITS OF HIGHWAY INVESTMENTS			***ESTIMATED ISSUANCE:*** TBD	
12-1097-01	9/12/2012	REVIEW DEPARTMENT OF TRANSPORTATION (DOT) AND AUTO MANUFACTURERES VEHICLE TECHNOLOGIES (542211)	PI	WISE, DAVID J GUILLIAMSTAPIA, JUDY L		*REP CRAVAACK, CHIP* *REP HULTGREN, RANDY* *REP DUNCAN, JOHN J JR - HSE SUB HIGHWAYS & TRANSIT-TRANS/INFRA* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY*
		542211 CONNECTED VEHICLE TECHNOLOGY DEVELOPMENT AND DEPLOYMENT			***ESTIMATED ISSUANCE:*** TBD	

143

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Due=Due Date - CT=Contingent; NS=Not Specified

GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE SUB ENERGY & ENVIRONMENT - SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
PENDING REQUESTS/MANDATES						
12-0193-01	12/6/2011	QUESTIONS FOR THE RECORD - 11/17 HEARING ON FOSTERING QUALITY SCIENCEAT EPA (DAVID TRIMBLE)	NRE	GAFFIGAN, MARK E		*REP NEUGEBAUER, ROBERT R "RANDY"* *REP HARRIS, ANDY - HSE SUB ENERGY & ENVIRONMENT - SCITECH* *REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
12-0794-01	5/30/2012	QUESTIONS FOR THE RECORD 5/10 HEARING ON SUPPORTING MAERICAN JOBS (ANU MITTAL)	NRE	GAFFIGAN, MARK E		*REP HARRIS, ANDY - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
ACTIVE REQUESTS/MANDATES						
10-1047-01	6/28/2010	STUDY THE CURRENT TRENDS IN PESTICIDE USE ON AGRICUILTURAL FOOD PRODUTS (361302)	NRE	GAFFIGAN, MARK E JONES JR, JAMES R		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361302 EPA'S CONDITIONAL REGISTRATION OF PESTICIDES			***ESTIMATED ISSUANCE:*** 12/12/2012	
10-1047-02	6/28/2010	PESTICIDE RESIDUES ON FOOD (361446)	NRE	SHAMES, LISA R JONES JR, JAMES R		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361446 FEDERAL OVERSIGHT OF TOLERANCES FOR PESTICIDE RESIDUES ON FOOD			***ESTIMATED ISSUANCE:*** TBD	
10-1047-03	6/28/2010	EPA GOOD LAB PRACTICE STANDARDS (361449)	NRE	SHAMES, LISA R JOHNSON, ANNE K		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361449 EPA GOOD LABORATORY PRACTICE STANDARDS COMPLIANCE MONITORING PROGRAM			***ESTIMATED ISSUANCE:*** TBD	
10-1508-01	9/27/2010	REVIEW OF BRITISH PETROLEUM (BP) IN THE GULF OF MEXICO(361265)	NRE	TRIMBLE, DAVID C ERDMANN, ELIZABETH A		*REP MARKEY, EDWARD J* *REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361265 USE OF CHEMICAL DISPERSANTS FOLLOWING THE DEEPWATER HORIZON OIL SPILL			***ESTIMATED ISSUANCE:*** 5/30/2012	

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE SUB ENERGY & ENVIRONMENT - SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
11-0730-01	5/4/2011	MONITOR AND REPORT ON MANAGEMENT AND TESTING OF ADVANCED SPECTROSCOPIC PORTALS (ASP) PROGRAM (361322)	NRE	TRIMBLE, DAVID C WOODWARD, EDWIN H		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH* *REP EDWARDS, DONNA - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361322 TESTING OF THE DOMESTIC NUCLEAR DETECTION OFFICE'S ADVANCED SPECTROSCOPIC PORTAL:STATUS, LESSONS LEARNED, AND PLANS FOR FUTURE TESTING			***ESTIMATED ISSUANCE:*** 11/13/2012	
11-0731-01	5/4/2011	EXAMINE HOW DEPARTMENT OF ENERGY'S AND NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA) MANAGE ISOTOPES (361311)	NRE	ALOISE, EUGENE E WOODWARD, EDWIN H		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH* *REP EDWARDS, DONNA - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361311 DOE'S MANAGEMENT OF THE PRODUCTION AND SALE OF ISOTOPES			***ESTIMATED ISSUANCE:*** 5/23/2012	
11-0758-01	5/5/2011	REVIEW MANAGEMENT AND COORDINATION OF DOE'S BATTERY AND ENERGY STORAGETECHNOLOGY DEVELOPMENT EFFORTS BOTH INTERNALLY AND EXTERNALLY (361332)	NRE	RUSCO, FRANKLIN W MINELLI, TIMOTHY L		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP HARRIS, ANDY - HSE SUB ENERGY & ENVIRONMENT - SCITECH*
		361332 OVERLAP AND DUPLICATION OF FEDERAL BATTERY AND ENERGY STORAGE TECHNOLOGY INITIATIVES			***ESTIMATED ISSUANCE:*** 8/30/2012	

145

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE SUB INVESTIGATION&OVERSIGHT-SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
PENDING REQUESTS/MANDATES						
13-0049-01	10/25/2012	REVIEW NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) EXPORT PROGRAM	ASM	FRANCIS, PAUL L		*REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
13-0090-01	11/16/2012	REVIEW OF TAX-PAYER FUNDED EXECUTIVE COMPENSATION CONTAINED IN GOVERNMENT CONTRACTS	ASM	FRANCIS, PAUL L		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
10-1309-02	7/28/2010	ENERGY RESEARCH PROJECTS REVIEW (361246)	NRE	RUSCO, FRANKLIN W		*REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
12-0258-01	1/6/2012	ACCESS TO WORKPAPERS FOR GAO-12-112	NRE	GAFFIGAN, MARK E		*REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
12-0302-01	1/24/2012	ACCESS TO WORKPAPERS FOR GAO-12-112	NRE	GAFFIGAN, MARK E		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
12-0355-01	2/6/2011	QUESTIONS FOR THE RECORD - 11/30/11 HEARING ON STIMULUS OVERSIGHT	NRE	RUSCO, FRANKLIN W MINELLI, TIMOTHY L		*REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
12-0615-01	3/27/2012	REVIEW OF RISK ASSESSMENTS	NRE	GAFFIGAN, MARK E		*REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
12-0666-01	4/19/2012	ACCESS TO WORKPAPERS - REVIEW OF THE ADVANCED RESEARCH PROJECTS AGENCYCY-ENERGY	NRE	GAFFIGAN, MARK E		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
13-0033-01	10/15/2012	REVIEW PROGRAMS OF FEDERAL AGENCIES TO TRACK, ASSESS, & CLEAN UP HAZARDOUS SITES ON PROPERTY OWNED OR MANAGED BY THE FEDERAL GOVERNMENT	NRE	GAFFIGAN, MARK E		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

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HSE SUB INVESTIGATION&OVERSIGHT-SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
11-0730-01	5/4/2011	MONITOR AND REPORT ON MANAGEMENT AND TESTING OF ADVANCED SPECTROSCOPIC PORTALS (ASP) PROGRAM (361322)	NRE	TRIMBLE, DAVID C WOODWARD, EDWIN H		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH* *REP EDWARDS, DONNA - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361322 TESTING OF THE DOMESTIC NUCLEAR DETECTION OFFICE'S ADVANCED SPECTROSCOPIC PORTAL:STATUS, LESSONS LEARNED, AND PLANS FOR FUTURE TESTING			***ESTIMATED ISSUANCE:*** 11/13/2012	
11-0731-01	5/4/2011	EXAMINE HOW DEPARTMENT OF ENERGY'S AND NATIONAL NUCLEAR SECURITY ADMINISTRATION (NNSA) MANAGE ISOTOPES (361311)	NRE	ALOISE, EUGENE E WOODWARD, EDWIN H		*REP MILLER, BRAD - HSE SUB ENERGY & ENVIRONMENT - SCITECH* *REP EDWARDS, DONNA - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361311 DOE'S MANAGEMENT OF THE PRODUCTION AND SALE OF ISOTOPES			***ESTIMATED ISSUANCE:*** 5/23/2012	
12-0690-01	5/1/2012	ACCESS POTENTIAL LITHIUM-7 SHORTAGE(361425)	NRE	TRIMBLE, DAVID C WOODWARD, EDWIN H		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361425 MANAGING FUTURE SUPPLY SHORTAGE OF LITHIUM-7, AN ISOTOPE CRITICAL TO COMMERCIAL NUCLEAR POWER PLANTS			***ESTIMATED ISSUANCE:*** 6/26/2013	
12-0822-01	6/7/2012	REVIEW OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S (NOAA) BUDGET DEVELOPMENT AND ALLOCATION PROCESSES (361451)	NRE	FENNELL, ANNE-MARIE L SECRIST, STEPHEN D		*REP BROUN, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361451 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S PROCESS FOR BUDGET DEVELOPMENT AND EXECUTION			***ESTIMATED ISSUANCE:*** TBD	
13-0042-01	10/23/2012	CO-REQUEST - PESTICIDE PROGRAM REVIEWS (SEE 10-1047)(361446)	NRE	GAFFIGAN, MARK E JONES JR, JAMES R		*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361446 FEDERAL OVERSIGHT OF TOLERANCES FOR PESTICIDE RESIDUES ON FOOD			***ESTIMATED ISSUANCE:*** TBD	
13-0042-02	10/23/2012	CO-REQUEST - 361446(361449)	NRE			*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361449 EPA GOOD LABORATORY PRACTICE STANDARDS COMPLIANCE MONITORING PROGRAM			***ESTIMATED ISSUANCE:*** TBD	

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HSE SUB INVESTIGATION&OVERSIGHT-SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
ACTIVE REQUESTS/MANDATES						
13-0042-03	10/23/2012	CO-REQUEST - 361449(361302)	NRE			*REP TONKO, PAUL - HSE SUB INVESTIGATION&OVERSIGHT-SCITECH*
		361302 EPA'S CONDITIONAL REGISTRATION OF PESTICIDES				***ESTIMATED ISSUANCE:*** 12/12/2012

148

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

Printed on 12/11/2012 (CR)

HSE SUB SPACE & AERONAUTICS-SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
PENDING REQUESTS/MANDATES						
12-0935-01	7/16/2012	QUESTIONS FOR THE RECORD - 6/6 HEARING ON FAA'S LAUNCH INDEMNIFICATION PROGRAM (ALICIA CACKLEY)	FMCI	BROWN, ORICE W		*REP EDWARDS, DONNA* *REP COSTELLO, JERRY F - HSE SUB SPACE & AERONAUTICS-SCITECH* *REP PALAZZO, STEVEN - HSE SUB SPACE & AERONAUTICS-SCITECH*
ACTIVE REQUESTS/MANDATES						
09-0540-05 ***MANDATE**	3/11/2009	FREQ:OR DUE:OR -PL 111-8 DIV. B. TITLE III-REPORT ON THE STATUS OFLARGE-SCALE NASA PROGRAMS, PROJECTS, AND ACTIVITIES (121054)	ASM	CHAPLAIN, CRISTINA T OAKLEY, SHELBY S		*PL 111-8, OMNIBUS APPROPRIATION ACT 2009* *RECURRING MANDATE* *SEN COCHRAN, THAD - SEN COM APPROPRIATIONS* *SEN INOUYE, DANIEL K - SEN COM APPROPRIATIONS* *SEN HUTCHISON, KAY BAILEY - SEN SUB COMRC, JUST & SCIENCE-APPROP* *SEN MIKULSKI, BARBARA A - SEN SUB COMRC, JUST & SCIENCE-APPROP* *SEN HUTCHISON, KAY BAILEY - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN ROCKEFELLER, JOHN D IV - SEN COM COMMERCE, SCIENCE & TRANSPORT* *SEN BOOZMAN, JOHN - SEN SUB SCIENCE & SPACE-COM-SCI-TRA* *SEN NELSON, BILL - SEN SUB SCIENCE & SPACE-COM-SCI-TRA* *REP DICKS, NORMAN D - HSE COM APPROPRIATIONS* *REP ROGERS, HAROLD - HSE COM APPROPRIATIONS* *REP FATTAH, CHAKA - HSE SUB COM JUSTICE & SCIENCE-APPROP* *REP WOLF, FRANK R - HSE SUB COM JUSTICE & SCIENCE-APPROP* *REP HALL, RALPH M - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP JOHNSON, EDDIE BERNICE - HSE COM SCIENCE, SPACE AND TECHNOLOGY* *REP COSTELLO, JERRY F - HSE SUB SPACE & AERONAUTICS-SCITECH* *REP PALAZZO, STEVEN - HSE SUB SPACE & AERONAUTICS-SCITECH*
		121054 ASSESSMENTS OF THE NATIONAL AERONAUTICAL SPACE ADMINISTRATION'S LARGE-SCALE PROJECTS				***ESTIMATED ISSUANCE:*** 3/5/2013

149

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GAO PENDING REQUESTS AND ACTIVE ASSIGNMENTS AS OF 12/10/2012

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HSE SUB RESEARCH & SCIENCE ED. - SCITECH

CCAR#	REQUEST DATE	SUBJECT	TEAM	DIRECTOR/ASSISTANT DIRECTOR	DEFERRED-START DATE	ALL SIGNERS OF REQUEST
PENDING REQUESTS/MANDATES						
13-0007-01	10/3/2012	REVIEW REGULATIONS AND REPORTING REQUIREMENTS IMPOSED ON RESEARCH UNIVERSITIES	EWIS	SCOTT, GEORGE A	1/15/2013	*REP BROOKS, MO - HSE SUB RESEARCH & SCIENCE ED. - SCITECH*

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Appendix

RALPH M. HALL, TEXAS
CHAIRMAN

EDDIE BERNICE JOHNSON, TEXAS
RANKING MEMBER

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March 18, 2011

The Honorable Paul Ryan
Chairman, Committee on the Budget
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Pursuant to the provisions of clause 4(f) of House Rule X of the Rules of the House of Representatives for the 112th Congress and Section 301(d) of the Congressional Budget Act of 1974, as amended, I am transmitting the Views and Estimates, including Additional and Minority Views, of the Committee on Science, Space, and Technology for Fiscal Year 2012.

Sincerely,

Ralph M. Hall

Ralph M. Hall
Chairman

Enclosure

cc: The Honorable Chris Van Hollen, Ranking Member, Committee on the Budget
The Honorable Eddie Bernice Johnson, Ranking Member, Committee on Science, Space, and Technology

VIEWS AND ESTIMATES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
FISCAL YEAR 2012

President Obama transmitted his budget request for Fiscal Year 2012 (FY12) to Congress on February 14, 2011. The President proposes $38.9 billion in FY12 for all non-defense and non–health specific research and development, a 10.8 percent increase over the FY10 enacted level. This amount includes basic and applied research, development, and facilities and equipment.

The Committee on Science, Space, and Technology supports funding research and development activities and believes that wise investments, coupled with favorable tax cuts and reduced regulations, can lead to economic growth and innovation. However, we are mindful that in order to realize gains on investment, the nation needs to be on a sound economic footing. Our nation is currently in a challenging economic environment. The Congressional Budget Office estimates that Federal spending will rise to $3.7 trillion or 25 percent of GDP this year. We are running a deficit of $1.5 trillion and our gross Federal debt now exceeds $14 trillion. These levels are truly unsustainable. We need to begin to address this challenge by reducing spending and finding ways to cut unnecessary, duplicative, and wasteful programs so that we deliver the most efficient and effective programs for the country.

The following are the views of the Committee on Science, Space, and Technology on the budget for programs within the Committee's jurisdiction.

National Aeronautics and Space Administration (NASA)

The National Aeronautics and Space administration (NASA) is the Nation's primary civilian space and aeronautics research and development agency, carrying out a diverse set of missions and projects designed to expand our understanding of Earth, the Solar System, and the universe. NASA operates the Space Shuttle fleet, the International Space Station, and a number of satellites in orbit around Earth and throughout the solar system. It also undertakes activities in technology development and transfer, education, outreach, and participates in a number of interagency initiatives such as nanotechnology, information technology, climate change research, and the Next Generation Air Transportation (NextGen) program.

The Committee supports NASA's FY12 budget request of $18.7 billion, the same amount appropriated by Congress for FY 1O and continued thus far in FY11.

NASA's budget requests also display budget assumptions for the succeeding four out-years, giving Congress an indication of near-term spending plans for programs, projects and activities. The FY12 budget request assumes a flat spending profile through FY16, while last year's budget (and associated out-years) assumed annual increases such that by FY16, NASA would be receiving over $20 billion annually. The potential savings indicated in the FY12 budget request would, in the aggregate, save $3.8 billion for FY12–FY14, compared to last year's budget request.

NASA's FY12 request qualified their out-year assumptions as "notional." However, NASA's "notional" assumptions are significantly higher than the corresponding numbers used in OMB's FY12 U.S. Budget request (OMB's Blue Books) by an aggregate of $2.3 billion. NASA officials advised the Committee that they are using their higher out-year assumptions for planning purposes. Requested funding levels for NASA's space science program are relatively flat, going up an. additional $11 million between the FY11 and FY12 requests, amounting to a 0.2% increase. Within the Science Mission Directorate (SMD), the James Webb Space Telescope (JWST) has run into serious cost and schedule challenges. NASA is intent on finding resources within the SMD account to remedy the problem, a solution we endorse.

With respect to Earth Science, which is a program within SMD, in the FY11 budget request (including the out years) Committee Republicans took exception to significant increases in its funding profile. We were concerned that the balance of funding within the SMD was getting out of balance to the detriment of the other SMD programs. This year's request (including the out years) for Earth Science is substantially reduced. To stay within this profile, NASA is delaying start of two Earth Science missions (CLARREO and DESDynI). We support this change.

The most troubling aspect of this year's request lies within the agency's human space flight program (Exploration Systems Directorate and the Space Operations Mission Directorate). Last year Congress passed, and the President signed, the NASA Authorization Act of 2010 (P.L. 111–267). The bill directed NASA to give priority to development of a Space Launch System (SLS) and Multi-Purpose Crew Vehicle (MPCV) to replace the retiring Shuttle. The bill also authorized NASA to continue activities related to development of a commercial crew launch system. NASA's FY12 request flips the relative priority, seeking an amount higher than authorized

for commercial crew ($850 million versus $500 million authorization); and underfunding development of the SLS and MPCV ($2.8 billion versus $4 billion authorization). By doing so, NASA will be delaying development of a government-owned assured access system to the IS'S, perhaps until the end of this decade. Coupled with this is the likelihood that the yet-to-be-developed commercial crew system may fail to materialize, leaving our government with only one option: to continue buying seats from the Russians. We find this unacceptable and firmly believe NASA should give highest priority to the SLS and MPCV programs.

Finally, we note that the FY12 budget includes a new program first proposed last year: Space Technology. The FY12 request seeks $1.02 billion to manage and develop a portfolio of technologies needed to ensure the success of future missions, as well as enabling the spinoff of NASA technologies to the private sector. We support this endeavor generally, but believe these tough budgetary times argue for a smaller initial start.

National Science Foundation (NSF)

The National Science Foundation (NSF) provides approximately 20 percent of Federal support for all basic research at U.S. colleges and universities and is second only to National Institutes of Health (NIH) in support for all academic research. It is the primary source of federal funding for non-medical basic research, providing approximately 40 percent of all federal support, and serves as a catalyst for science, technology, engineering, and mathematics (STEM) education improvement at all levels of education. It supports the fundamental investigations that ultimately serve as the foundation for progress in nationally significant areas such as national security, technology-driven economic growth, energy independence, health care, nanotechnology, and networking and information technology.

The FY12 budget request for NSF is $7.7 billion, an increase of 13 percent, or $894.5 million over the FY10 enacted level (not including any carryover from the $3 billion NSF received from ARRA funding). The Committee recognizes the importance of making appropriate investments in science, space, and technology research, development, and STEM education in order for the United States to remain a world leader in competitiveness and innovation. While supporting a robust budget request for NSF, the Committee is concerned that the levels requested exceed what is fiscally responsible in the current economic climate. Further, new and expanded Administration priorities continue to excessively divert precious research and development (R&D) funds from other worthy endeavors.

The Committee applauds the Administration's decision to eliminate or reduce funding for six specific programs, but regrets that it did not go further in identifying areas for significant savings to the American taxpayer. This additional savings could go a long way in helping to protect the integrity of the Nation's essential basic R&D portfolio.

Research and Related Activities (RRA)

The FY12 budget request includes $6.3 billion for Research and Related Activities (RRA), an increase. of $690 million or 12.4 percent over FY10 enacted. New programs established as part of the increased research funding request for FY12 include $35 million for a nanotechnology manufacturing initiative, $40 million in next-generation robotics technologies, and $96 million for an interdisciplinary program to eventually replace computer chip technologies. In addition, $87 million is requested for advanced manufacturing activities including expanded university– industry research partnerships and regional innovation ecosystems and clean energy manufacturing research. Another $117 million is requested for "cyber-infrastructure" activities to accelerate the pace of discovery and $12 million for a "new program that will fund a suite of activities that promote greater interdisciplinary research." Much of the funding increases are focused on manufacturing technologies and regional innovation centers. The Committee is concerned that the increased emphasis in these areas moves the Foundation from its core mission of supporting basic R&D to significantly more support for applied areas of R&D, which are best left to market forces or agencies with specific applied R&D goals to advance their mission.

As part of the Science, Engineering and Education for Sustainability (SEES) program that crosses all NSF directorates and has a goal of advancing "climate and energy science, engineering, and education to inform the societal actions needed for environment and economic sustainability and sustainable human well-being," the FY12 budget request is $998.1 million, an increase of $337.5 million or 51 percent. The Committee recognizes the broad interdisciplinary activities within the SEES program, but is greatly concerned that 13 percent of the entire Foundation's budget request is being devoted to this issue, particularly given the strong emphasis on

these programs across all relevant federal agencies. Further, the Committee is strongly opposed to the 144.5 percent budget request increase for the NSF contribution to the Climate Change Technology Program (CCTP) and recommends elimination of the $10 million Climate Change Education program, as worthy climate change education proposals are certainly eligible for other education funding at the Foundation.

In addition, the FY12 budget request also includes a plan to invest broadband spectrum receipts in a variety of areas, including $150 million to NSF in FY12 and $1 billion total over a five-year period for targeted research on experimental wireless technology test beds, more flexible and efficient use of the radio spectrum, and cyber-physical systems such as wireless sensor networks for smart buildings, roads, and bridges. NSF's participation is a piece of the $3 billion WIN fund.

Education and Human Resources (EHR)

The FY12 budget request for Education and Human Resources (EHR) is $911 million, a $38.4 million or 4.4 percent increase over FY10. The Administration continues to offer a mixed message regarding the treatment of EHR relative to the healthy increase for RRA. While calling for an investment of $3.4 billion in STEM education activities across the federal government, a number of proven NSF initiatives are being eliminated, reduced, or reprogrammed to make way for new or expanded programs. Like last year's request, the FY12 budget request continues to shift a greater responsibility for STEM education to the Department of Education while maintaining NSF primarily as a research agency. The Committee agrees that NSF is primarily a research agency, but also strongly believes that an essential element of NSF's mission is support for STEM education; from pre-K through graduate school and beyond. Therefore, the Committee is concerned with this shift. We recognize that the Department of Education is better equipped to disseminate and replicate STEM programming, but the STEM-related research and expertise that NSF can and does provide is world-class and needs to be included in any appropriate larger, overarching STEM education activities carried out by the Federal government.

New funding in the FY12 budget request includes an additional $20 million for a Transforming Broadening Participation through STEM (TBPS) pilot program to seek innovative solutions for broadening participation in STEM at the undergraduate level This is part of an overarching realigned program called Broadening Participation at the Core (BP AC), which also houses several underrepresented population programs. The BPAC program total request is $156 million, a $21 million or 23.3 percent increase over FY10. Research programs focused on gender and persons with disabilities have been moved from this Division to the Division of Research on Learning in Formal and Informal Settings and funding under the request is cut by 8.7 percent to $17 million. The Committee does not believe that a new $20 million pilot program is warranted at this time, given the budgetary constraints our country is facing. Further, the Committee is concerned that funding for the Human Resources Division has increased by more than 15 percent while the focus of the Division does not include all underrepresented populations.

Additionally, the FY12 budget request includes $40 million in funding for a new teacher-training research and development program, split evenly between K–12 teachers and undergraduate teachers. At the same time, the budget request for Noyce Scholarships is $45 million, a decrease of $10 million or 18.2 percent and the Math and Science Partnership is $48.2 million, also a decrease of $10 million or 17.2 percent. Likewise, the Administration's budget request places a high priority on Graduate Research Fellowships (GRF) by increasing the funding to $134.6 million, a 31.2 percent increase over FY10, while essentially flat lining the Integrative Graduate Education and Research Traineeship Program (IGERT) at $30.17 million and greatly diminishing the Graduate STEM Fellows in K–12 Education (GK–I2) to $27 million, a 45 percent cut. The Committee understands the need to make cuts, but believes that Noyce Scholarships and MSP are proven and worthy programs and are not appropriate areas to be cut in order to fund a new and unproven program. Increasing the number of GRFs is a laudable goal in a better economic environment, but increasing the funding level by over 31 percent, particularly while essentially ignoring other graduate programs, is not fiscally responsible.

Department of Energy (DOE)

The Department of Energy (DOE) funds a wide range of research, development, demonstration and commercial application activities. The overall FY I2 budget request for DOE is $29.5 billion, which represents a $3.1 billion or 11.8 percent increase of FY10 levels. Approximately one third of this amount is directed to research and development programs.

President Obama made clean energy technology development a centerpiece proposal of his State of the Union. The proposal includes an 80 percent clean energy standard (CES), a $2 billion increase in "clean energy" research, and a Better Buildings Initiative. The Committee recognizes the importance of energy technology development to America's economic future, but has serious concerns with the overall spending and relative prioritization within the President's budget request.

Office of Science (SC)

The DOE Office of Science (SC) is the Federal government's primary supporter of long-term basic research in the physical sciences, as well as design, construction, and operation of major scientific user facilities. Office of Science activities are organized into the following six major programs: Basic Energy Sciences (BES), Advanced Scientific Computing Research (ASCR), Biological and Environmental Research (BER), Fusion Energy Sciences (FES), High Energy Physics (HEP), and Nuclear Physics (NP). The FY12 budget request for SC is $5.4 billion, a 9.1 percent increase over FY10 levels.

The Committee recognizes the unique role of the Office of Science in supporting world-class scientific research and facilities and notes its continued strong support for SC activities as a key driver of innovation and long-term economic growth. We also recognize SC's strong record in managing construction and operation of major scientific facilities that are delivering cutting-edge research breakthroughs in areas such as materials science and chemistry. Accordingly, we believe the Office of Science should be the top funding priority among DOE R&D programs. However, in light of budget circumstances, we intend to continue to work to identify areas within the SC budget warranting consideration for cuts. Of particular interest in this regard are SC Biological and Environmental Research activities, which fund significant research in areas ancillary to DOE's primary mission and/or potentially duplicative of research funded elsewhere in the government (such as climate change). Specifically, the Committee is concerned that the Atmospheric System Research and the Climate and Earth Systems Modeling programs are duplicative of research programs at the National Oceanic and Atmospheric Administration and the National Science Foundation. Additionally, the Fusion Energy Sciences program is an area of concern due to high-risk program management and international funding and cooperation challenges associated with the ITER project, and the value of SC spending on science education and workforce development also warrants further review.

Advanced Research Projects Agency–Energy (ARPA–E)

Advanced Research Projects Agency–Energy (ARPA–E) was created in 2007 with a charge to fund high-risk, high-reward research that industry itself is not likely to undertake." The Administration requests $650 million for ARPA–E in FY12. Of this amount, $550 million would be provided through discretionary funding. ARPA–E would also administer an additional $100 million "Wireless Innovation Fund" aimed at developing wireless communications technologies and paid for through a proposed transfer of wireless spectrum auction revenues. Initially provided with $400 million in the 2009 Recovery Act, ARPA–E did not receive a direct appropriation in FY10, though it was the beneficiary of a $15 million transfer from the Office of Science.

The Committee remains concerned with ARPA–E. In 2007, many members opposed the creation of ARPA–E because they feared the program would emphasize late-stage technology development more appropriately performed by the private sector, and that it would funded at the expense of priority basic research programs within the Office of Science.

These concerns appear to be validated by ARPA–E's initial activities, which suggest several instances of awards being made for activities already being pursued by the private sector. While the Committee remains open to identifying an acceptable manner in which to support truly high–risk and unsupported transformational research activities such as those described in the original ARPA–E vision, we do not believe the program should receive funding above existing levels necessary to oversee ongoing projects until an evaluation of the projects being funded takes place.

Nuclear Energy (NE)

The Administration request for Office of Nuclear Energy (NE) R&D programs is $447.4 million, a 8.1 percent decrease ($39.6 million) from the FY10 enacted level and ten percent decrease from the FY11 President's budget request. Approximately 74 percent of that request is dedicated to the Fuel Cycle R&D and Reactor Concepts RD&D programs.

The Committee strongly supports advancement of nuclear energy and associated research in NE. This support does not preclude Committee concern for misdirected and lower priority R&D within NE. For example, NE should focus on technology development for reactors with realistic potential for deployment, rather than continuing university research on well-studied technologies unlikely to move beyond the academic realm.

The Committee is encouraged by the proposal for two new programs, the Nuclear Energy Enabling Technologies (NEET) program and the Light Water Reactor (LWR) Small Modular Reactor (SMR) Licensing Technical Support program. The NEET program may provide an avenue for reactor development with crosscutting technologies which are not easily categorized specifically as fuel cycle or reactor concepts technology.

SMRs are well-researched and near demonstration. SMRs hold promise; however, still lack approval and licensing from the Nuclear Regulatory Commission (NRC). The proposed LWR SMR program intends to overcome the existing regulatory challenges. DOE must work closely with NRC to complete the SMR licensing process, at which point the LWR SMR Licensing. Technical Support program should be terminated.

Energy Efficiency and Renewable Energy (EERE)

The Office of Energy Efficiency and Renewable Energy (EERE) funds a wide array of energy efficiency and renewable energy technologies. The Administration's budget request of $3.2 billion for EERE represents a 44.4 percent ($958 million) increase from the FY10 enacted level and a 36 percent increase ($845 million) over the President's FY11 budget request. This reflects President Obama's call in his State of the Union speech for increased spending on clean energy technologies. Most EERE programs receive significant funding increases relative to the FY10 enacted level. Of note, Industrial Technologies receives a $225 million increase (239 percent), which includes the creation of an Energy Innovation Hub on critical materials. Geothermal Technology would see an increase of $58 million (125 percent) to expand the enhanced geothermal subprogram and Solar Energy would receive an additional $213 million (87.8 percent) to fund the "Sunshot" and "dollar-a-watt" initiatives.

The Committee objects to the requested $958 million (44 percent) increase in EERE's budget. This concern is based on (1) EERE's focus on incremental, low-impact technological advances through technology development, demonstration, commercialization, and deployment activities; and (2) its significant budget increases, which include 32 percent growth since FY 2008 and 93 percent growth since FY 2006. Additionally, EERE has spent only 31 percent of its appropriated $16.5 billion in Stimulus funding. Outside of specific programmatic concerns, the ability of the office to responsibly manage and effectively oversee such massive budgetary increases is questionable.

Additionally, we believe many activities conducted by EERE are unnecessary and represent an inappropriate government involvement in the marketplace, resulting in the government "picking winners and losers" among competing companies and technologies. EERE's budget increase includes a number of programs explicitly designed to assist with technology-specific demonstration, deployment and commercialization activities. Fundamentally, the act of providing individual firms with government money for the purpose of commercializing profitable technology is an inappropriate intervention in the market that may crowd out or discourage a greater amount of private investment.

We also generally question the appropriateness and value of several other newly proposed and expanded activities within EERE. The Vehicle Technologies Program (VTP) requests a $204 million increase in vehicle technology deployment to disburse grants to cities for upgrade infrastructure to accommodate electric vehicles. Also, VTP plans to raise public awareness of vehicle technologies with "high visibility demonstration projects at national parks." The Building Technologies Program (BTP) requests a $186 million increase from FY10 levels to support a "Race to the Green" competitive grant program. The grant program would implement policies such as adopting more stringent building codes, benchmarking and disclosing building energy use, and establishing public energy-savings targets. The Race to the Green program is a component of the Administration's Better Buildings Initiative. The Committee questions the relative value of a significant increase in Federal government spending for the purpose of providing grants to select localities.

EERE conducts a multitude of outreach and education" programs encompassing projects from developing K–12 curriculums to providing energy resource assessments for governments' scattered throughout Latin American and the Caribbean. These projects call into question the merit of existing spending and demand a me-

thodical reevaluation of budget priorities before an increase of any size should even be considered.

These areas of concern are not exhaustive but rather represent examples of areas the Committee intends to further scrutinize. Rigorous examination and Committee oversight of EERE is necessary and the Committee believes EERE warrants significant and well-justified cuts to meet necessary spending reductions.

Electricity Delivery and Energy Reliability (OE)

The Office of Electricity Delivery and Energy Reliability (DE) oversees the modernization of the electric grid, the reliability of energy infrastructure, and conducts research and development for energy delivery-related technologies. Research and Development within OE would be funded at $193 million in the President's FY12 budget request. This would reflect an increase of $71.4 million (58.8 percent) from enacted FY10 levels and a $48.5 million increase (33.6 percent) from the President's FY11 budget request. Additionally, the President requests $20 million for the creation of a Smart Grid Technology and Systems Hub to be administered by OE.

This Committee asserts OE's FY12 budget request is misguided given current budgetary restraints. OE seeks an increase of $43.4 million for the Energy Storage program; however, we are concerned about potential overlap with similar programs in the Office of Science, EERE's Vehicle Technologies Program, and ARPA–E's "GRIDS" program.

The Committee supports targeted OE R&D in Cyber Security for Energy Delivery Systems, which provide basic value and is a wise and necessary investment for the Federal government. In spite of the value provided by a rigorous cyber security program, the budget request reduces cyber security funding by $9 million.

Fossil Energy (FE)

The DOE Office of Fossil Energy (FE) supports research and development focused on coal (including "clean coal" technologies), gas, petroleum, and also supports the Federal Government's Strategic Petroleum Reserve. The President's total budget request for the Office of Fossil Energy (FE) is $520 million. FE's research and development budget is reduced to $453 million, a decrease of $207 million, or 31 percent, from FY10 enacted levels. This correlates to a 23 percent decrease ($134 million) from the President's FY11 budget request.

The FY12 budget request proposes to terminate the Natural Gas Technologies and Unconventional Fossil Energy Technologies programs. Coal R&D is funded at $291 million, the bulk of which is focused on advancing carbon capture and sequestration (CCS) efforts. The Hydrogen from Coal, Coal to Coal Biomass to Liquids, and Solid Oxide Fuel Cells subprograms would all be eliminated.

The Committee continues to be supportive of an "all-of-the-above" approach to addressing energy supply and demand issues, and recognizes the potential of renewable energy and energy efficiency technologies to contribute to this effort We are concerned about the budget's hostile approach to supply side factors associated with energy independence—primarily, expanding traditional sources of domestic energy—is disturbing. For example, we are deeply disappointed that the President's budget summary proposes to eliminate the Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Program established in Section 999 of the Energy Policy Act of 2005 (P.L. 109–58). Section 999H(a) sets the funding for this program at a level of $50-million-per-year provided from Federal lease royalties, rents, and bonuses paid by oil and gas companies—not taxpayers. It should be clear that the overall program was initiated and carried out to reach energy known to exist in the areas targeted—energy that was impossible to produce without new technology—and that the required technology would be eventually be paid for from the energy captured. Further, the Section 999 program is the only R&D program in the Federal government capable of addressing drilling safety and accident prevention-related technology needs in a timely and effective manner.

The Committee believes the United States must develop domestic energy resources to improve America's energy security. This entails fossil fuel development, which are the backbone of energy usage today and, according to the Energy Information Administration, for the foreseeable future. Accordingly, the Administration's proposal to eliminate a number of traditional Fossil Energy R&D programs, while placing nearly exclusive emphasis on carbon capture and sequestration (CCS) technology, is misguided. The Committee recommends restoring DOE's Fossil Energy program to its prior focus on fundamental R&D to advance oil and gas exploration and production technologies and enable near-term environmental improvements, such as increasing power plant efficiency and research on non-greenhouse gas related pollution abatement technology.

Loan Guarantee Program Office (LPO)

The President's FY12 budget request for DOE's Loan Guarantee Program Office (LPO) is $200 million. This funding would be used as a credit subsidy for loans authorized under Section 1703 of the Energy Policy Act of 2005. The LPO did not receive an appropriation for credit subsidies in FY10. The credit subsidy funding would support an estimated $1 to $2 billion in loan guarantees to support energy efficiency and renewable energy activities.

The Committee does not support the budget request for $200 million to cover credit subsidies for renewable energy loan guarantees. The loan guarantee program offers businesses the ability to secure below market financing rates. Private financial institutions have a record of supporting economically feasible and valuable projects. Highly-developed financial markets have the necessary tools to evaluate the relative worth of an energy project and provide the appropriate level of financing. We should avoid picking "winning and losing" projects through this program and return to a privately funded model of energy innovation.

In addition to the Title 17 loan guarantees, the President is requesting $105 million to for the creation of a "Better Building Pilot Loan Guarantee Initiative for Universities, Schools, and Hospitals." This program would fund loan guarantees help retrofit commercial buildings and would be available to subsidize up to $2 billion in total loan principal.

The Committee believes the creation of the Better Buildings Initiative is not warranted. The Administration provides nominal details for the initiative, such as what entities would qualify the criteria by which terms and conditions would be decided, and why such a program is needed.

The associated costs, outside of the $100 million for credit subsidies, reveal the potentially wasteful nature of the program. For example, the detailed justification requests $1.65 million for salaries and benefits often full-time equivalent employees, or an average package of $165,000 per employee.

Energy Innovation Hubs

The FY12 budget request proposes funding of $146 million to support six Energy Innovation Hubs, which are supported through the SC, EERE, and NE accounts. This would support the three existing Hubs as well as the creation of three new Hubs, which the President highlighted in his recent State of the Union address. According to the Administration, Hubs are intended to "advance highly promising areas of energy science and engineering from the early stage of research to the point where the technology can be handed off to the private sector."

The Administration's proposal to double the number of Hubs is not warranted under current fiscal strains. The newly proposed hubs all replicate ongoing research in multiple DOE programs. For example, the request includes $34 million for a Batteries and Energy Storage Hub, in addition to $136 million ($60 million increase) for battery and energy storage R&D in EERE's Vehicle Technologies Program, thermal energy storage research conducted by the Solar Technologies Program, and two BES subprograms.

Rather than merge and consolidate programs to improve program direction and research efficiency, the request advances the complete opposite approach with new research programs in associated across-the-board increases for all programs.

National Oceanic and Atmospheric Administration (NOAA)

Within the jurisdiction of the Committee, the National Oceanic and Atmospheric Administration (NOAA) is one of the smaller operational and research agencies. NOAA's mission of science, service, and stewardship is manifested through improvement of the understanding of oceans and atmosphere and how their interactions affect human life, property and ecosystem health. NOAA provides critical weather and climate data necessary to protect lives and to enhance commerce through the National Weather Service (NWS) and the National Environmental Satellite Service (NESS)[1]. NOAA is responsible for mapping and charting coastal areas and other navigation support services through the National Ocean Service (NOS). NOAA also manages fisheries and conducts research on marine ecosystems and marine mammals through the National Marine Fisheries Service (NMFS). Finally, NOAA conducts world-leading atmospheric and oceanic research through its Office of Oceanic and Atmospheric Research (OAR).

[1] This line office was previously termed the National Environmental Satellite, Data, and Information Service (NESDIS). However, with the movement of the data centers into the new Climate Service, the name was changed to reflect the office's narrower focus.

NOAA's FY12 budget request is 5.5 billion, an increase of $749 million or 15.8 percent above the FY10 enacted level. As part of the request, the Administration has proposed the largest reorganization of NOAA since its inception in 1970.

Climate Service (CS)

The budget request includes $346.2 million for a new line office, the Climate Service (CS), which would include assets consolidated from OAR, NWS, and NESS. The Committee does not approve this reorganization or the creation of this Climate Service. The Committee has serious concerns regarding the implications of transitioning climate-related research into an operational office. Such a movement makes research funding vulnerable to cuts during tight budgetary times in order to ensure the continued operational functionality of the service. The Committee is concerned that existing science-driven research activities would be supplanted by service-driven and mission-directed research, compromising the integrity and objectivity of NOAA research. The Committee remains open to identifying organizational changes to improve information flow between NOAA's research, service, and operational activities, but such an effort would require close review and consideration through hearings and possibly legislative action. The Committee expects that NOAA will continue operating in its current organizational structure unless explicitly authorized otherwise by Congress.

National Environmental Satellite Service (NESS)

The FY12 budget request for the NESS is $2 billion, a $698.2 million increase over FY 2010 enacted levels. This 58.2 percent increase is by far the largest increase in NOAA's total budget request. The bulk of the increase is for the Joint Polar Satellite System (JPSS)[2]. JPSS will provide polar-orbiting satellites scheduled to launch starting in 2016, which will replace currently operational satellites and provide key data used in weather forecasting and environmental observations. The Committee strongly supports this request and believes it should receive funding priority, even if it must come at the expense of other programs at NOAA. Due to the previous delays of its predecessor program, JPSS is well behind schedule. Further significant budgetary shortfalls are very likely to result in a satellite data continuity gap, degrading the efficacy of timely weather forecasts (particularly with respect to development storms and severe weather), and potentially harming NOAA's ability to fulfill its mission to protect life arid property. However, the Committee is concerned that, since the recent reorganization of this program, JPSS has not undergone a budget re-baseline process as required under P.L. 110–161 and P.L. 109–155. The Committee believes that a base lining process should be completed before funding for FY12 is appropriated, and will continue to work to identify cost-savings within the JPSS program that do not jeopardize operational needs.

The Committee has reservations about NOAA's request of $47 million for the refurbishment of the Deep Space Climate Observatory (DSCOVR) satellite. Although supportive of funding a replacement satellite for the existing Advanced Composition Explorer (ACE) satellite that provides space weather information, NOAA's choice of replacement warrants further scrutiny. The DSCOVR satellite has been in storage for a decade. The Committee realizes that NASA has already spent money refurbishing DSCOVR for a research mission, we are concerned about using such an old satellite for a replacement of ACE, a vital resource for forecasting space weather events that have direct impacts on global positioning satellites, communication networks and the electric grid. Furthermore, we are concerned about combining an operational mission from NOAA with a research mission from NASA. Typically, specifications for research satellites differ from specifications and standards for operational satellites. The Committee will closely monitor the development of the ACE replacement and will also ensure that the Office of Science and Technology Policy follows through on the requirement laid out in P.L. 111–267 to submit a report to Congress detailing options for an ACE replacement.

Office of Oceanic and Atmospheric Research (OAR)

The Committee has grave concerns regarding the impact of the proposed Climate Service on OAR. More than half the resources of OAR will move into the new line office, decimating the resources of this research agency and harming the synergistic

[2] This program was previously the National Polar-orbiting Operational Environmental Satellite System (NPOESS), a tri-agency program with the National Aeronautical and Space Administration (NASA) and the Department of Defense (DoD). As part of the FY 2011 budget request, the Administration split NPOESS into two programs. NOAA and NASA have responsibility for the JPSS program to cover the afternoon satellite orbit. DoD will have a separate polar weather satellite program for the early morning orbit.

and strategic approach of the entire NOAA science enterprise. This transfer of assets is inconsistent with what was suggested and proposed by NOAA's Science Advisory Board only six years ago. The Committee will be reviewing the effects of such a transfer, and in the meantime, has insisted to the Administrator that the existing structure is maintained.

The Committee does not agree with the proposed budget reduction of the Unmanned Aircraft Systems (UAS) program. After several successful test runs this program is prime for additional research to truly make it operational. The UAS technology appears likely to be capable of delivering improved weather and environmental data for reduced cost, alleviating operational budgets for the National Weather Service and other NOAA activities. The Committee recommends that this budget stay at the FY 2010 enacted levels of $6 million. We believe that such an investment will result in future cost savings.

The Committee supports the $10 million OAR request for R&D on Multi-function Phased Array Radar (MPAR). This next generation radar has the potential to reduce the U.S. system by 180 radars, resulting in $1.9 billion in acquisition savings and $3 billion in operational cost reductions over 30 years. MP AR would be four to five times faster than today's system, greatly enhancing public safety by allowing warnings of over one-hour versus the current 15 minute lead time.

National Weather Service (NWS)

The Committee is generally supportive of the overall National Weather Service (NWS) FY12, budget request of $988.0 million which is a 1.2 percent decrease from the FY10 enacted level. However, there are some concerns with the prioritization of the request. During some of the major storms in 2010, the NWS website went down. This is a vital resource used by emergency responders, State and local decision makers and the general public in order to deal with extreme weather events. The Committee is concerned about the requested decrease of $3.2 million for the telecommunications program at NWS; specifically, how it will affect the ability of NWS to ensure that critical information flow to the public is not hampered. With increasing concerns about the quality of the surface temperature data used for climate monitoring and prediction, the Committee is hesitant about the zeroing out of funding for the National Mesonet Network. The Mesonet Network was established in response to the National Academies of Science expressing concern about the lack of integration of distributed monitoring and observational networks. While we have confidence that NWS will be able to achieve quality forecasts using existing networks, we are concerned with the quality of the data generated by outside entities and the ability of NWS to properly integrate it into its own databases. Therefore, the Committee would support a reduction but not elimination of funding for the Mesonet Network, provided this would not increase the total proposed budgetary request. Finally, the Committee supports the NWS request of an increase of $11 million for weather and climate supercomputing. However, given the amount of funding NOAA has received for climate computing capability in the last few years, including stimulus funding, the Committee would recommend that this increase be granted only in accordance with an equal or larger decrease in the climate-related computing budget.

National Institute of Standards and Technology (NIST)

The National Institute of Standards and Technology (NIST) is a non-regulatory laboratory of the federal government tasked with innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our quality of life.

In FY12, the Administration has requested a funding level of $1 billion or a 16.9 percent increase from FY10 enacted funding for NIST. The budget request would provide $678.9 million for NIST's Scientific and Technical Research and Services (STRS); $84.6 million for Construction of Research Facilities (CRF); $142.6 million for the Manufacturing Extension Partnership (MEP) program; and $75.0 million for the Technology Innovation Program (TIP).

Laboratories and Construction

The Committee recognizes that NIST's laboratories and internal maintenance and construction of those laboratories closely support our nation's innovation by working closely with industry to develop consensus-based voluntary standards. As a trusted arbiter regarded for its high-quality work, maintaining strong support for the laboratories is vital to our economic security. Nevertheless, the $164 million or 32 percent increase over FY10 requested for the laboratories needs to be scrutinized to ensure that these additional funds are necessary.

While state-of-the-art facilities are essential to the capabilities of NIST's intramural laboratories, the Committee supports the Administration for requesting no funds for the extramural construction grant program. The grants awarded to external entities do not directly support NIST's mission and were not an authorized activity. Members believe NIST should remain focused on its primary mission and concur with the Administration that this program should not be funded in FY12.

Industrial Technology Services

The Committee is concerned about the proposed expansion of the industrial technology services programs requested by the Administration. In particular, the Technology Innovation Program (TIP) is requested to receive a $5 million increase. Though the three–year old program has had limited time to prove itself, the Committee wants to ensure that this program is successfully supporting the development of technologies to meet critical national needs. The Committee also notes that this program was not reauthorized in the 2010 *America COMPETES Act*

The Committee is pleased with the Administration's reduced request for the Baldrige Performance Excellence Program (BPEP). While the program plays an important role in recognizing and perpetuating high quality practices across industry, it is an appropriate time in the program's maturity to explore other sustainable mechanisms of running the program.

The Committee questions the creation of the new Advanced Manufacturing Technology Consortia (AMTech) Program, with a $12.3 million request in FY12. The program would fund facilities, equipment, and research at universities and government laboratories to address long–term research needs of the manufacturing industry. A thorough review of the plans for this program is necessary.

Public Safety Innovation Fund (WIN)

The FY12 budget request includes a plan to invest broadband spectrum receipts in a variety of areas, including $100 million annually provided to NIST for 2012–2016 for research supporting the development and promotion of wireless technologies to advance public safety, Smart Grid" and other broadband capabilities. The Committee commends the Administration for recognizing NIST's history of working closely with industry on interoperability standards.

Department of Homeland Security (DHS)

The Department of Homeland Security Science and Technology Directorate (DHS S&T) funds research, development, testing and evaluation to improve homeland security. The Domestic Nuclear Detection Office (DNDO), whose transformative research program is transferred to DHS S&T in 'the FY12 request, is dedicated to both the development and enhancement of the global nuclear detection architecture, the coordination of nuclear detection research and development, and the establishment of procedures and training for end users of nuclear detection equipment.

The FY12 budget request for DHS S&T is $1.2 billion, an increase of 16.9 percent, or $170 million over the FY10 enacted level. Most of this increase reflects the transfer of R&D' , programs from the DNDO to DHS S&T; Within DNDO, the FY12 budget drops by $51.3 million or 13.4 percent.

The Committee is concerned that if the DNDO transfer and proposed funding for the construction of the National Bio and Agro-Defense Facility is removed, the DHS S&T budget request represents a net 11 percent decrease from FY10 funding levels. The Committee recognizes that robust research and development is necessary to support DHS's mission, and wants to ensure that the S&T Directorate has the resources it needs to keep our nation safe and, borders secure.

Finally, the Committee recognizes the value of both Assistance to Firefighter Grants (AFG) and Staffing for Adequate Fire and Emergency Response (SAFER) grants to our Nation's fire departments. However, the Committee remains concerned that SAFER grant program continues to expand while the FY12 request for AFG reflects a 36 percent decrease below FY10 funding.

Environmental Protection Agency (EPA)

The Science and Technology (S&T) account in the Environmental Protection Agency (EPA) covers research and development activities in several line offices. The activities at the Office of Research and Development (ORD) represent about 70 percent of the S&T budget. The FY12 budget request for S&T is $825.6 million, a 2.6 percent reduction from FY10 enacted levels. The budget request for ORD is $584.1 million, a 2.1 percent decrease from FY10 levels.

Due to EPA's disturbing pattern of regulating based on insufficient or faulty scientific evidence, the Committee feels that it is unnecessary to continue to fund

EPA's research at existing levels until reforms are undertaken. For example, the Air, Climate and Energy (ACE) research programs at ORD include activities to develop tools to assess behavioral responses to mitigation or adaption policies. This type of research does not further EPA's mission of protecting human health and the environment. Instead, these activities seem to be more driven by policy advocacy, which is not an appropriate use of research dollars.

The Committee does not support the 56 percent increase in STAR fellowships. Although fellowships are important for the training and education of the next generation of scientists, the Committee feels that the budgetary constraints we are currently operating under do not afford this type of expenditure.

The Committee has reservations about $0.5 million requested decrease in the Human Health Risk Assessment research program. This program supports the Integrated Risk Information System (IRIS), a risk-based database used by industry and government regulators alike. IRIS has been notoriously late on assessments; and with the decreased transparency that is now embedded into the new assessment process, the Committee has grave concerns about the quality of the assessments produced. Furthermore, the Committee has serious reservations about how this system is being used for ulterior purposes. EPA decision makers for IRIS are focusing on chemicals that a very small percentage of the overall population is exposed to. Given the backlog of chemicals IRIS is assessing, the Committee feels it would make more sense to assess chemicals that potentially affect a much greater percentage of the population. Finally, the Committee does not support the use of poor quality data, reports or information in these IRIS assessments. It has come to our attention that such data is used to make determinations that will have substantial economic and policy implications.

Department of Transportation

Federal Aviation Administration (FAA)—Research, Development and Technology

The FY12 budget request provides $394.4 million for FAA research and development activities, plus an additional $28.4 million for related facilities, adding to a total request of $422.8 million, a $22.2 million increase (5.5%) above the FY11 request. Agency R&D is spread among four accounts:

1. Office of Commercial Space Transportation (OCST) –Safety. The FY12 budget request is $566,000 for OCST Safety, a $401,000 or 243 percent increase over FY11. Among other activities, the additional funds would be used for research and development of the, technical expertise needed to certify human space flight launch systems and capsules now, under development that would be used to carry non-government passengers (astronauts) to orbit.
2. The Research, Engineering and Development account (Aviation Trust Fund), with a FY12 request of $190 million, is $500,000 less than the amount requested in FY11. RE&D conducts research to support a safe, efficient and environmentally acceptable aviation system in five key areas: air traffic services, airport technology, aircraft safety, human factors and the environment.
3. A portion of the Facilities and Equipment account (Aviation Trust Fund) dedicated to engineering, development, test and evaluation, with an FY12 request of $177.5 million, a $22.3 million or 14 percent increase over the FY11 request.
4. A portion of the Airport Improvement Program account (Aviation Trust Fund) with an FY12 request of $44.3 million, an increase of $2.1 million over five percent over FY11.

At a programmatic level we support the FAA's budget request for development and implementation of NextGen, to modernize our nation's air traffic control system. NextGen technologies will ensure that our national airspace system can readily accommodate future growth while maintaining the highest levels of safety. Whether speaking about NextGen R&D, or NextGen generally, it is essential these efforts be supported.

Office of Commercial Space Transportation (OCST)

The FY12 budget request for OCST (operations) is $26.6 million, an increase of $10.9 million or 70 percent over the FY11 request. OCST is responsible for licensing and regulating commercial space launches and reentries to ensure compliance with standards designed to protect public safety. For FYI2, OCST proposes to hire 32 additional FTE staff to develop and implement additional safety processes and requirements specifically for commercial human spaceflight and space traffic management.

Our Committee intends to hold hearings prior to reauthorizing OCST later this year.

Research and Innovative Technology Administration (RITA)

The FY12 Administration research request for RITA is $17.6 million, or $4.6 million above the FY10 enacted. RITA is tasked with coordinating and reviewing all of DOT's research and development programs, representing more than $1 billion across the Department.

The proposed funding levels for research and development for the Federal Highway Administration is $661 million and for the Federal Transit Administration is $30 million. Both of these accounts support portions of the research and development conducted by University Transportation Centers across the country.

The Committee is concerned about long-term, rigorous transportation research and development remaining a high priority, and believes that we must provide realistic and sustainable funding for these programs 'in the future. Furthermore, the Committee is concerned that the Administration's goals for some transportation research programs, such as Livable Communities or green construction, may stray from the fundamental transportation needs of most taxpayers including road safety and congestion mitigation.

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List of Signatures

1. Representative Ralph M. Hall
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3. Representative Steven M. Palazzo
4. Representative Judy Biggert
5. Representative Scott E. Rigell
6. Representative Benjamin Quayle
7. Representative Randy Neugebauer
8. Representative Randy Hultgren
9. Representative Paul C. Broun
10. Representative Larry Buschon
11. Representative Frank D. Lucas
12. Representative James F. Sensenbrenner
13. Representative Mo Brooks
14. Representative Lamar Smith
15. Representative Michael T. McCaul
16. Representative Roscoe G. Bartlett
17. Representative Andy Harris
18. Representative W. Todd Akin
19. Representative Dan Benishek
20. Representative Chip Cravaack
21. Representative Sandy Adams

ADDITIONAL VIEWS
OF HON. DANA ROHRABACHER
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
FISCAL YEAR 2012 BUDGET REQUEST

As we get deeper and deeper into ever more deficit spending, with crushing debt threatening our nation's prosperity, it is more critical than ever that we pay extreme attention to every federal expense. American investments into science and technology have always provided the basis for new industries, which have, in turn, increased the private sector workforce and improved the lives of millions of Americans. These investments have enabled our economy to consistently be the strongest in the world.

We must make every dollar count because we are borrowing 40 cents of every dollar the federal government spends. We must show restraint. We must not duplicate efforts across agencies and departments. And we must not continue to spend by mortgaging the futures of our children by borrowing from our friends and from our enemies. Although I agree with much of the Views and Estimates, there are some specific areas on which I wish to state a different view.

U.S. Global Change Research Program The U.S. Global Change Research Program (USGCRP) is the government-wide program created by Congress in 1990 "to improve understanding of uncertainties in climate science, expand global observing systems, develop science-based resources to support policymaking and resource management, and communicate findings broadly among scientific and stakeholder communities." For FY 2011 the Administration requested a 20.7% increase over the FY 2010 enacted funding. For FY 2012 the Administration has asked for even more. These funds are requested directly in the budgets of NASA, NSF, NOAA, NIST, DOE, and other departments.

I have been blunt before, and I still strongly believe that the entire budget for this program should be zeroed out. Federal global warming research is not reducing uncertainties in climate science. The research is not changing minds. If we spend $2.6 billion in FY 2012, 40% of which we borrow from overseas, it will change zero minds about global warming. Every dollar spent on this is a dollar wasted. The path we are on is irrational and reckless.

National Aeronautics and Space Administration The budget request for Fiscal Year 2012 for the National Aeronautics and Space Administration (NASA) funds every component authorized under the NASA Authorization Act of 2010 (P.L. 111-267) within the same funding level as appropriated for FY 2010 of $18.7 billion, which is $730 million less than authorized. The budget request also includes $548 million for the Space Shuttle Pension Liability commitment, which was not included in that authorization.

NASA is to be commended for proposing to fund every component in the authorization, while absorbing this $1.3 billion reduction in expected funding flexibility.

It is of note that, whatever our space policy will be from this point forward, we will not be able to achieve continued success solely on the backs of our taxpayers. For far too long our space funding has not matched our space mission, creating a dangerous, frustrating situation with no clear path to success. With the 2010 NASA Authorization Act, we have identified the path forward: America's space goals can only be achieved by partnering with other nations and by bringing in funds from the private sector, creating sustainable launchers and vehicles that can serve both public and private markets. This budget request reflects that reality.

This FY 2012 budget request identifies the development of commercial crew services as one of the key short-term components that will help us make use of the $100 billion spent to date on constructing the International Space Station. $850 million to help incentivize the private sector to develop and demonstrate critical technologies leading to multiple, independent, sustainable systems that can bring people safely to orbit and return them to Earth is an investment worth making. The increase of $350 million in this program above authorized levels is small relative to the potential gain for NASA, America, and humanity. The companies involved in the commercial crew services program include both new startups and long-established companies who have been NASA's partners on every human spaceflight mission.

The FY 2012 budget request also seeks funding of $2.8 billion for the SLS and MPCV programs. These vehicles are being developed primarily for exploration beyond Earth orbit, expected to start in 2020, and can also serve as a backup system for Earth-to-orbit transportation in the unlikely event that none of the other systems in development are successful. It would obviously be ill-advised to fund a back-up system at 330% of the cost of the primary system if there were no additional purpose for it. The funding level for these programs is $1.2 billion less than authorized for FY 2012, due mostly to the overall reduction in the NASA request, the required pension liability commitment, and the ongoing process of architecture selection. This reduction is one of those difficult choices that need to be made in our current fiscal environment, and I think it is the correct one.

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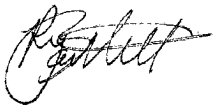

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HOUSE OF REPRESENTATIVES

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TACTICAL AIR AND LAND FORCES
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SMALL BUSINESS
SUBCOMMITTEE:
AGRICULTURE, ENERGY AND TRADE

Additional Views and Estimates

Congressman Roscoe G. Bartlett

Committee on Science, Space and Technology

Fiscal Year 2012

Department of Energy (DOE)

The Committee objects to significant increases in the requested budgets for research, development and demonstration projects by DOE. These increases must be considered not only in the context of the past several fiscal years and our fiscal challenges which I agree must be addressed, but in a broader historical context. As I indicated in charts I shared during my question and answer period with Secretary Chu, the threat to the economic and national security of the United States posed by global peak oil argues for significantly greater, not less funding for research, development and demonstration projects to develop alternative liquid fuels for our most dependent and vulnerable transportation sector.

The United States is now 40 years past our peak crude oil production in 1970-71. The U.S. is producing 5 mpd, half of what we produced in 1970-71 despite production from Alaska and the Gulf of Mexico and new technologies, such as seismic 3-D and horizontal drilling, recently applied to the Bakken shale formation that underlies Montana, North Dakota and Wyoming.

The International Energy Agency (IEA) lowered its estimate of potential global crude oil output in 2035 by 10 mpd between its 2009 and 2010 World Energy Outlook reports from @100 mbd to 90 mbd. In its World Energy Outlook 2010, the IEA asserted that global peak oil has already occurred. Specifically, the IEA said, "Crude oil output reaches an undulating plateau of around 68 - 69 mb/d by 2020, but never regains its all - time peak of 70 mb/d reached in 2006." Furthermore, the IEA projected growing influence in the global oil market by OPEC oil producing countries. "The increasing share of OPEC contributes to the growing dominance of national oil companies: as a group, they account for all of the increase in global production between 2009 and 2035." These countries are governed by predominantly authoritarian regimes, many hostile to the United States, such as Iran and Venezuela. Popular protests that began in Tunisia and Egypt in the Middle East have spread to Bahrain and Saudi Arabia, the key swing and largest producer, contributing to oil price spikes over $100/barrel in the last three months.

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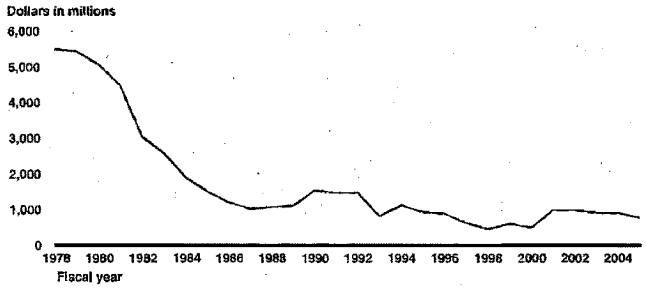
The vulnerability of the U.S. is increasing because we have been producing, that is depleting, our small and declining 2-3 percent share of world oil reserves at a rate four times faster than OPEC. U.S. oil geologist and executive, Ray Leonard, President and CEO, Hyperdynamics Corporation, at the Muehlberger Symposium in Austin, Texas August 2010 reported that, "Present yearly production consumes 1.5% of OPEC reserves, 3.5% of [the Former Soviet Union] FSU, and 7% of the rest of the world (ROW). Extending this trend into the future with current reserve base increases OPEC's reserve share to 80% by 2020. Meanwhile, the rest of the world's share reduces to less than 10% by 2015."

Despite repeated instances and increasing vulnerability of the United States to oil-fueled price spike economic disruptions, funding for research, development and demonstration on energy has declined dramatically. The General Accounting Office (GAO) analyzed the trends of U.S. federal government expenditures on research, development and demonstration projects by DOE in two relevant reports, "Advanced Energy Technologies: Budget Trends and Challenges for DOE's Energy R&D Program," (GAO-08-556) and "Department of Energy: Key Challenges Remain for Developing and Deploying Advanced Energy Technologies to Meet Future Needs" (GAO-07-106). GAO reported to Congress that "DOE's total budget authority for renewable, fossil, and nuclear energy R&D dropped by over 85 percent (in inflation-adjusted dollars) from 1978 to 2005—from about $5.5 billion in fiscal year 1978 to $793 million in fiscal year 2005. (Fig. 2)

Figure 2: DOE's Budget Authority for Renewable, Fossil, and Nuclear R&D, Fiscal Years 1978-2005



Source: GAO analysis of DOE data.

Committee on Science, Space and Technology
Fiscal Year 2012
Additional Views

The Majority Views and Estimates for the Committee on Science, Space and Technology incorporate many positions that I support regarding the future of the various agencies under the Committee's jurisdiction. However, I must emphasize the need to be vigilant in our oversight of these agencies and their budgets. In these difficult economic times and the record breaking deficits and debt levels, it is imperative that the Committee not let the taxpayer down. The federal government cannot be all things to all people; it cannot afford to do everything. We must continue to ask ourselves, "What is the appropriate role of the federal government in science, research and development?"

The American people sent a strong message to Congress last fall; we need to get our financial house in order. They expect us to make the tough financial decisions and make the federal government smaller and more efficient. I am very concerned that much of the massive increases in spending proposed by the Administration for Fiscal Year 2012, coupled with the previous years' increases in spending and massive outlays in 2009 with the American Recovery and Reinvestment Act are unsustainable and in many cases unwarranted. The Administration continues to fund agencies and programs that are often duplicative, wasteful and better done in the private sector.

With each program, the Committee must ask the tough questions. Is this program necessary? Can we afford this program? Are these programs constitutional? Is this program already being done? How do we measure success or failure of the program?

Additionally, I continue to be alarmed that the Administration's budget continues to make climate change a priority. As money is dispersed to this end, I believe we need to make sure that whatever conclusions that may be drawn are in fact based on sound science and that any policy initiatives should not be implemented without Congressional approval and oversight and with this Committee's active participation.

Paul C. Broun, M.D.
Member of Congress

Rep. Hultgren - Additional Views and Estimates of President Obama's Budget Request for issues within the Jurisdiction of the Committee on Science, Space and Technology.
March 16, 2011

While I'm encouraged by the support for the Office of Science, I'm troubled by the Administration's priorities within the Office of Science. The 2012 budget request is essentially a freeze at FY2010 levels for High Energy Physics, while other programs within the Office of Science are slated for increases of 21 to 24 percent. The Administration must not lose sight of the importance of basic research in high energy physics and I strongly disagree with the funding disparity in the FY2012 budget.

Additionally, Fermi National Accelerator Laboratory in my district is the only single purpose high energy particle physics lab in the US, and I'm concerned by the lack of clear, long-term support for the Lab and its mission. This is a critical time for Fermilab as it transitions from the highly successful running of the Tevatron and transitions to new projects and programs at the Intensity Frontier, including the Long Baseline Neutrino Experiment (LBNE) at the Deep Underground Science and Engineering Laboratory (DUSEL). There needs to be greater stress on both keeping the National Science Foundation working as strong a partner in the operation of the DUSEL (which serves as a critical component of Fermi Lab's LBNE) and the future of the lab as a competitive global leader in basic research and high energy physics.

MINORITY VIEWS OF THE DEMOCRATIC CAUCUS OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY ON THE FY 2012 BUDGET REQUEST

The nation's research and development agencies have a long history of investing in research and education programs that return very significant economic payoffs to the American people. The President's FY 2012 budget request continues the commitment to investing in our future while at the same time acknowledging the difficult fiscal environment in which we find ourselves. While we can disagree with some of the specific choices and priorities contained in the Administration's FY 2012 budget request, we share the President's goals of maintaining a strong science and technology enterprise and ensuring that our young people are prepared for the technical careers of the future.

The choice before us as a nation is stark: we can focus on the need to create jobs now and in the coming years by making sure that we are taking the necessary steps to ensure that we remain economically strong and competitive in a challenging international marketplace, or we can engage in short-sighted cutting of our capabilities for innovation and education to meet arbitrary budgetary targets. If the past is any guide, it is clear that investments in science, technology and STEM education must be a cornerstone of any serious long-term strategy to keep America competitive.

The budget resolution that these Views and Estimates are intended to inform is being developed even while the FY 2011 budget remains in play. The House consideration of the FY 2011 budget has been marked by severe cuts to important research and development (R&D) initiatives in order to meet arbitrary fiscal goals. The end result of those cuts, if enacted into law, would be thousands of layoffs and furloughs among the best and brightest of our scientists and engineers; curtailment of critical research activities to protect the public from environmental hazards; fewer innovative technologies to enable the industries of the future; and serious damage to our core scientific and technological capabilities.

The President's FY 2012 budget request, on the other hand, recognizes that even in these challenging economic times, we need not—and should not—sacrifice our future for the sake of crippling cuts to a small fraction of the total federal budget. With vision and perseverance, we can be both fiscally responsible and make the necessary investments to keep the American economy competitive in the coming decades while keeping our people and our environment healthy.

Thus, while there are findings in the Majority's Views and Estimates with which we can agree, it is clear that the overall thrust of those Views and Estimates is in the direction of advocating substantial cuts to important research and development programs and initiatives. While there are undoubtedly areas of savings that could be found by careful examination of programs and projects, the broad-brush notion that whole areas of science and technology are not needed to prepare for an uncertain future does not have a credible basis in either fact or analysis. Thus, vague and unsupported claims that agencies like the Environmental Protection Agency are regulating "based on insufficient or faulty science"—and thus should have their funding cut—do little to advance the debate over appropriate R&D funding priorities nor do they provide thoughtful guidance to the Budget Committee as it attempts to construct an overall federal budget blueprint.

That is not to say that there is nothing of value that can be said about the choices before us as a nation. For example, one need only look at the cuts that were adopted in H.R. 1 to realize that the path advocated in that legislation and in the Majority's Views and Estimates would lead thousands of the most promising scientists and engineers in the nation to lose their jobs and abandon their research. After years of bipartisan calls for young people to come into science and math and engineering, the outcome of enacting H.R. 1 or the policies in the Majority's Views and Estimates would be the same as posting a big "Help Not Needed" sign on every National Laboratory and university throughout the country. That would be a tragedy—and one that the President's FY 2012 budget request seeks to avoid.

Every family understands that there are consumption expenditures and investment expenditures. We sacrifice to make sure our children have shoes, medical care, and a good education. When money is tight, we cut back on restaurant dinners, new clothes for ourselves, and vacation trips—those things that might be nice to have, but are not necessary to keep a roof over our heads today or build a better life for our family tomorrow. Even when times are tough, however, we are willing to take (out loans or take on a second job to help cover the costs of college. People understand that shortchanging our children's education will leave them less prepared for what will come. In our private lives we understand that the investments we make

today, even when times are hard, will pay dividends in the future. This same logic applies to meeting our public responsibilities.

In short, Democratic members of the Committee on Science, Space, and Technology believe that if we do not invest in education, in new ideas, and in new processes, we will deny our children the capacity to deal effectively with the crises that their generation will have to tackle. It is irresponsible not to invest in the future, whether you are talking about your own children or speaking of the legacy we as a society leave the generations that will succeed us.

The Democratic Members of the Committee thus endorse the President's budget request for FY 2012 in the area of research and development. While we might make slightly different recommendations across specific program areas, taken as a whole, the Administration has worked hard to find savings to balance their continuing commitment to investing in our nation's future. We endorse the Administration's approach of guarding from cuts those investments in innovation, education and infrastructure that contribute to the conditions that allow Americans to continue to do what we have done time and again since the founding of the Republic:

- invest to keep America economically competitive and strong and to create good jobs now and in the future;
- build opportunities for every citizen to unleash their potential to be creative, productive and actively contribute to this great democracy; and
- leave for our children a world that is better than the one we inherited.

We should add that these investments will build not just a better society, but also make this country a better place to do business and develop a workforce with the skills to excel, the ambition to create, and the means to succeed.

Programmatic Guidance

While programmatic guidance is of limited utility to the Budget Committee, what follows are specific observations, agency-by-agency, where the agreement or disagreement with the Majority Views and Estimates is significant enough to justify comment.

National Aeronautics and Space Administration (NASA)

While supportive of the President, Democratic members are disappointed with the NASA request, especially in light of the work that Congress undertook last year to forge a constructive path forward for the nation's space program. The compromise that was enacted into law is not reflected in the proposed NASA budget request. The request cuts NASA's overall budget plan and its human exploration budget even further than before, delays the development of the next generation vehicle, and eliminates any concrete destinations or milestones beyond the International Space Station that can inform decisions on needed investments in space technology. We agree with the Majority's view that NASA's FY 2012 request is not reflective of the priorities established in the NASA Authorization Act of 2010 as the Administration has placed a relative higher priority on commercial crew and underfunded development of the Space Launch Vehicle (SLV) and Multiple Purpose Crew Vehicle (MPCV).

Contrary to the Majority's position on Earth Science, Democratic members have been supportive of the higher funding accorded this area in last year's request. NASA has indicated that reduced out-year funding for Earth Sciences will necessitate delaying the start of two missions, CLARREO and DESDynI. While this is unfortunate, Democratic members acknowledge the budgetary challenges facing NASA's Science program. However, we are concerned that delays in initiating these missions could lead to higher development costs and also delay the collection of data. This data would provide significant utility in observing, understanding, and addressing key environmental challenges including complete EI Nino/ La Nina cycles, reflected solar radiation and Earth thermal radiation, earthquakes, volcanic eruptions, landslides as well as new observational information for monitoring forests, agricultural resources, and mountain glaciers.

National Science Foundation (NSF)

Democratic Members strongly support fully funding NSF at the levels requested by the President. There is no record to support the Republican views that " . . . new and expanded Administration priorities continue to excessively divert precious research and development funds from other worthy endeavors." Innovation in science and the creation of cross-disciplinary science initiatives that tie basic re-

search to technology innovation, at agencies that fund research and development both reflect and help drive creativity across the nation's colleges and universities.

Department of Energy (DOE)

Democratic Members strongly reject the Republican preferences for cuts to programs at the DOE. The cuts outlined in the FY 2011 Continuing Resolution would lead to job losses in the thousands spread across the National Labs in California, New Mexico, Washington, Colorado, Illinois, Tennessee, New York, and Virginia, and many thousands more at universities and companies all across the country. Not only would some of the country's best and brightest find their careers interrupted or ended, but the Nation would also lose the fruits of their hard work and creativity. DOE programs and the National Labs fill a void in the U.S. innovation pipeline that industry and universities cannot or will not do alone, tackling some of our most important national challenges at the cutting edge of questions about material sciences, energy sciences, emerging sources of energy, and conservation.

Democratic Members believe that we must take a comprehensive approach to assure a safer, more sustainable energy future for our children, and this includes supporting activities from basic to applied research, and beyond. Assuming that the current level of private investment in energy technologies is sufficient, that companies will do all of the necessary cutting-edge research on their own, or that the marketplace will naturally pick cleaner technologies, grossly oversimplifies the complexity and scale of the energy and environmental challenges that we face today, and threatens our future international competitiveness. With the U.S. accounting for roughly eight percent of global oil reserves and a quarter of global oil demand, we cannot drill our way to energy independence. If the country is to have any hope of developing a long-term solution to the depletion of fossil fuels, or of reducing pollution from our need to continue to use fossil fuels in many applications for generations to come, those answers will likely be found through research by the National Labs, universities, and companies supported by DOE. However, those answers will be much harder to find if we undercut DOE's vital research efforts.

National Oceanic and Atmospheric Administration (NOAA)

Democratic Members endorse the President's request for NOAA. We are particularly concerned that funds sufficient to launch the full array of weather and climate sensors and satellites be made available in the FY 2012 budget. National Institute of Standards and Technology (NIST)

Democratic Members are pleased that the President's request provides support for the NIST lab complex as well as the Industrial Technology Services. The budget request is consistent with COMPETES Act goals and continues the Manufacturing Extension Program (MEP) on its doubling path. The MEP remains a very effective tool for supporting small businesses. This program's focus on improving manufacturing capabilities is almost unique across the Federal government.

Department of Homeland Security (DHS)

The Democratic Members are supportive of the President's request for DHS Science and Technology. We are particularly pleased with the strong support shown in that budget for the Staffing for Adequate Fire and Emergency Response (SAFER) grants which support our Nation's emergency response community. However, the cuts to the Assistance to Firefighter Grants (AFG) program are troubling, and we would prefer that this program be fully funded at the FY 2010 level.

Environmental Protection Agency (EPA)

The Majority's Views and Estimates state that: "Due to EPA's disturbing pattern of regulating based on insufficient or faulty scientific evidence, the Committee feels that it is unnecessary to continue EPA's research at existing levels until reforms are undertaken." Democratic Members strongly reject this view and support the President's request for EPA science.

The Majority make specific reference to the Integrated Risk Information System (IRIS). The Majority's characterization of the program is unrecognizable to anyone who has studied the record. EPA is currently trying to gain greater control over the IRIS process, an effort that the Majority describes as resulting in "decreased transparency" so that they can begin adding entries at a pace greater than two or three a year. The assertion that the IRIS "system is being used for ulterior purposes" is not buttressed by analysis. The problem with science at EPA is not that they do not do it well or that they abuse it, but that it is used by those who fear regulation to postpone risk assessments. IRIS entries go through multi-year reviews and some have even been forced to National Academy Assessments, and these endless efforts

go on more than a decade without ever leading to an entry. That is not EPA's doing, but rather reflects the efforts of those who use the argument of scientific uncertainty to demand just one more study, one more literature review, one more outside panel before any regulation can ever be approved for action. IRIS has been the subject of multiple hearings by the Investigations and Oversight Subcommittee in the 110th and 111th Congresses as well as multiple reports by the Government Accountability Office (GAO)—the facts are available for anyone to review.

Department of Transportation (DOT)

Democratic Members of the Committee support DOT's continuing research into ways to build and maintain infrastructure in a manner that is energy efficient and reduces impacts on the environment; to identify and address deterioration and other potential safety problems with new and existing infrastructure; and to find efficient, sensible ways to reduce traffic congestion. We particularly support programs that would successfully transition research findings to state and local transportation planners. Regarding the Federal Aviation Administration (FAA), Democratic Members are supportive of FAA's Research, Development and Technology initiatives, including NextGen, and urge funding of such initiatives in FY 2012 at the level requested by the Administration. In addition, Democratic Members look forward to receiving additional information at an upcoming hearing before finalizing our views on the proposed increase for the FAA's Office of Commercial Space Transportation.

Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology On the FY2012 Budget Request

Eddie Bernice Johnson

Donna F. Edwards

Ben Ray Luján

Jerry F. Costello

Lynn Woolsey

Hansen Clarke

Brad Miller

Marcia L. Fudge

Daniel Lipinski

Frederica S. Wilson

Paul D. Tonko

J. R. P. Sh

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Terri Sewell

Zoe Lofgren

Jerry McNerney

Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology On the FY2012 Budget Request

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Marcia L. Fudge

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John P. Sarbanes

Terri Sewell

Jerry McNerney

Additional Views of Representative Zoe Lofgren
On the FY2012 Budget Request

The President's proposed budget for fiscal year 2012 includes strategic investments in science and research and development. I agree and join with my Democratic colleagues on the Committee in the Minority Views that "if we do not invest in education, in new ideas, and in new processes, we will deny our children the capacity to deal effectively with the crises that their generation will have to tackle."

I would like to further discuss the proposed National Aeronautics and Space Administration (NASA) budget. While I agree with my colleagues that the President's budget should align with the priorities established by Congress in the NASA Authorization Act of 2010 (P.L. 111-267), I do not share my colleagues' belief that the budget proposal conflicts with the Authorization Act or concerns regarding the budget's funding for commercial space. With the end of the NASA space shuttle program, we all agree that we need to ensure our ability to access the International Space Station (ISS). SpaceX, which is headquartered in Hawthorne, California, became the first commercial company to successfully re-enter a spacecraft from low-Earth orbit and recover that spacecraft with their Dragon demonstration in December. The robust funding provided for commercial in the President's budget would help to leverage private sector investments, like SpaceX, to accelerate the commercial sector's capacity to access the ISS. Further, President's budget includes important funding for technology research that will help ensure the United States remains a leader in space.

Zoe Lofgren
Member of Congress

Additional Views on the FY2012 Budget
Representative Marcia L. Fudge

Though I agree, in large part, with the Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology on the FY2012 Budget Request, I must state my opposition to the stated views on the proposed NASA budget. I believe that the President's Budget Request sets forth the plan needed to develop a robust space and aeronautics industry in the United States. By leveraging private sector funds with federal investments, we will increase our national competition and progress.

However, what is most important to me and my constituents is the proposal's focus on research and development (R&D) within the agency. I believe that we are at a critical time in our history where technology and innovation represent the future of our country. It is the role of the federal government to invest in a diverse portfolio of basic R&D that will carry our space and aeronautics industry forward. If we truly want to build the vehicles of the future, we must make these investments now. I urge my colleagues to protect all R&D funding in the proposal for the sake of our global leadership and future prosperity.

Marcia L. Fudge

Marcia L. Fudge
Member of Congress

Additional Views Submitted by Mr. Tonko for the
FY2012 Budget Request

The President's leadership on science, clean energy, research, and development is once again on display with the FY 2012 budget request. His goal is clear: we must out-innovate our competitors in a global clean energy race to win the future. We cannot win the future, however, if we pull the rug out from under our nation's feet. We cannot afford to go backward. And yet, it seems as though that is exactly what the new majority in the House of Representatives intends for our country to do. H.R. 1 and recent short-term Continuing Resolutions for FY2011 funding have repeatedly made drastic cuts to scientific programs. These cuts would not only stop innovative research from taking place, but would fire some of the nation's leading scientists. Doing so destroys our ability to lead the innovation economy now, and in the future. Cuts of this magnitude will ensure that our country will lose its leadership role and will jeopardize the recovery from our worst economic crisis since the Great Depression.

While I agree with the Minority's Views and Estimates, I want to also highlight programs related to nanotechnology and their importance to our nation's economic future. I hope this guidance will help show the importance of these investments.

Programmatic Guidance

National Institute of Standards and Technology (NIST)

I support the NIST budget level as proposed by the President to continue to support research in nanotechnology, including additional funds for developing measurements to support the manufacture and production of nanotechnology-based products. These increases will support NIST's programs in user facility instrumentation, and increase the support for measurement research necessary to enable the development of nanomanufacturing technologies in support of the Nanotechnology Signature Initiatives. This focus will help bring our remaining manufactures into the innovation economy by enabling them to manufacture new nanotechnologies here at home. Congress should support this effort as an investment in American technology manufacturing.

National Science Foundation (NSF)

The programs outlined below build on the success of past research and their budget requests reflect an attempt by the Obama Administration to meet the overwhelming demand from industry for assistance.

NSF Nanomanufacturing. The full 2012 request is $57.2 million, which is aimed at enabling scaled-up, reliable, and cost-effective manufacturing of nanoscale materials, structures, devices, and systems. More specifically, the increased funding will support new concepts for high-rate synthesis and processing of nanostructures, nanostructured catalysts, nanobiotechnology methods, surface engineering, design and fabrication methods for devices, and assembly of

devices into nanosystems to be incorporated into larger-scale structures of relevance in industry, sustainability, and medicine. Partnerships between research centers and small businesses in the areas of manufacturing and commercialization will be strengthened while maintaining the same level of NSF investment. Creating partnerships is the most effective way to use taxpayer money and the President's budget should be commended for supporting these efforts.

Major Research Facilities & Instrumentation Acquisition. The 2012 request includes $31.5 million, supporting funding for user facilities, acquisition of major instrumentation, and other activities that develop, support, or enhance the scientific infrastructure for the conduct of nanoscale science, engineering, and technology research and development. Partnerships of research centers with small businesses in the areas of nanomanufacturing and commercialization will be strengthened while maintaining the same level of NSF investment.

Sincerely,

Paul D. Tonko
Member of Congress

RALPH M. HALL, TEXAS
CHAIRMAN

EDDIE BERNICE JOHNSON, TEXAS
RANKING MEMBER

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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March 9, 2012

The Honorable Paul Ryan
Chairman
Committee on the Budget
207 Cannon House Office Building
Washington, DC 20515

Dear Chairman Ryan:

Pursuant to the provisions of clause 4(f) of House Rule X of the Rules of the House of Representatives for the 112th Congress and Section 301(d) of the Congressional Budget Act of 1974, as amended, I am transmitting the Views and Estimates, including Additional and Minority Views, of the Committee on Science, Space, and Technology for Fiscal Year 2013.

Sincerely,

Ralph M. Hall

Ralph M. Hall
Chairman
Committee on Science, Space, and Technology

Enclosure

cc: The Hon. Chris Van Hollen, Ranking Member, Committee on the Budget
The Hon. Eddie Bernice Johnson, Ranking Member, Committee on Science, Space, and Technology

VIEWS AND ESTIMATES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
FISCAL YEAR 2013

President Obama transmitted his budget request for Fiscal Year 2013 (FY13) to Congress on February 13, 2012. The President proposes $37.9 billion in FY13 for all non-defense and non-health specific research and development, an 8.7 percent increase over the FY12 spending level. This amount includes basic and applied research, development, and facilities and equipment.

The Committee on Science, Space, and Technology supports the funding of basic research and development activities and believes that wise investments, coupled with favorable tax cuts and reduced regulations, can lead to economic growth, new jobs, and innovation. However, the Committee is mindful that in order to realize gains on investment, the Nation needs to be on a sound economic footing. We remain in a challenging economic environment. The Congressional Budget Office estimates that Federal spending will exceed $3.6 trillion or 23.2 percent of GDP this year and while slightly less than last year, it remains elevated by historical standards. We are running a deficit of $1.3 trillion and our gross Federal debt now exceeds $15 trillion. Not only are these levels truly unsustainable, but the Administration ignores the crisis in the FY13 Budget Request. This budget would increase the gross national debt by $11 trillion over ten years to $26 trillion in 2022. Congress, and this Committee, must address this challenge by reducing spending further and finding ways to cut unnecessary, duplicative, and wasteful programs so that we deliver the most efficient and effective programs for the country.

The following are the views of the Committee on Science, Space, and Technology on the budget for programs within the Committee's jurisdiction.

National Aeronautics and Space Administration (NASA)

The National Aeronautics and Space Administration is our Nation's primary civilian space and aeronautics research and development agency, planning and executing missions that increase our understanding of Earth, the solar system, and the universe. NASA operates the International Space Station, a fleet of satellites throughout our solar system, Mars rovers, and a small number of research aircraft. It carries out our Nation's largest portfolio of civil aeronautics research and development projects, helping to ensure that our national airspace system and aerospace industry remain the world's safest and most efficient. NASA also undertakes activities in technology development and transfer, education, outreach, and participates in a number of interagency activities such as the Next Generation Air Transportation System, information technology, and climate change research.

A notable event occurred last year that distinguishes the FY13 NASA budget request from submissions sent up during the previous three decades. On July 21, 2011, NASA retired the Shuttle program with the landing of STS-135, Shuttle *Atlantis*, bringing to an end a 30-year reign of American dominance in human space flight. The United States currently has no domestic

capability to ferry astronauts to and from the International Space Station. NASA is working now on developing two follow-on systems that will be discussed below in further detail.

The Committee supports NASA's FY13 budget request of $17.7 billion, which is $58 million less (0.3 percent reduction) than appropriated amounts for FY12. In FY11, NASA received $18.4 billion; and in FY10, the agency was funded at $18.7 billion. For FY13, NASA is authorized to receive $19.9 billion.

NASA has articulated three agency priorities that are reflected in its budget request: (1) completing the James Webb Space Telescope; (2) operating the International Space Station (ISS), including development of commercial cargo and crew capabilities to sustain ISS; and (3) building the Space Launch System to enable future manned space flight missions into deep space.

The budget request for NASA's Science Mission Directorate is $4.91 billion, which is $162.5 million less than FY12. The Mars Exploration Program sees a precipitous drop in funding, going from $587 million in FY12 to $360.8 million for FY13. The proposed budget effectively ends the planned joint European Space Agency (ESA) - NASA 2016 and 2018 Mars missions. While the Committee understands that the tremendous budgetary pressures faced by NASA must be met with prudent and tough decisions, the Committee is concerned that these plans will result in the loss of uniquely U.S. capabilities, particularly for entry, descent and landing that will be necessary for future robotic and human exploration. Furthermore, the Committee is concerned about how this decision may affect our ability to develop mutually beneficial international partnerships in the future. According to NASA, efforts are already underway to re-plan a less expensive Mars Exploration program with the goal of delivering a new architecture to Congress in spring 2012. The Committee is concerned that NASA's re-plan will come too late to inform the appropriations process and, due to the short time span in which it will be preformed, is unlikely to yield any recommendations that are superior to the current well-vetted program.

As expected, the James Webb Space Telescope (JWST) receives a generous increase to reflect the newly established baseline targeting a launch date of October 2018. This resulted from a lengthy re-plan process completed by NASA last year after experiencing extensive cost and schedule overruns. Per the re-plan, JWST would receive $627.6 million in FY13, an increase of over 20 percent when compared to the FY12 estimate of $518.6 million. The Committee will continue to provide thorough oversight to ensure the program remains on track and within budget.

Last year, the Committee noted with concern planned increases to Earth Science programs, particularly given the tight fiscal environment. We are pleased to see a more tempered approach; the budget reflects increasing launch costs and delays development of new missions.

Regarding the science portfolio at NASA in general, the Committee notes that several missions now in development are threatened with significant cost growth primarily due to increasing launch vehicle costs. We will continue to monitor this and seek innovative solutions to ensure our future earth and space science programs are not sidelined by escalating launch costs.

The budget request for the Aeronautics Research Mission Directorate (ARMD) is a 3.1 percent reduction in funding, dropping from $569.4 million in FY12 to $551.5 million in FY13. ARMD continues support in cutting-edge research to improve aviation safety, efficiency and air traffic management. Of particular note, hypersonic research has been combined with supersonic research and responsibility for "entry, descent and landing" (EDL) research has been transferred to the Space Technology account. The transfer of EDL research accounts for a significant amount of the ARMD funding reduction in FY13. The Committee is concerned that reductions in hypersonic research will negatively impact and delay game changing technology development for future rocket propulsion systems.

With regard to human space flight, the NASA Authorization Act directed the Agency to prioritize development of the Space Launch System (SLS) and Multi Purpose Crew Vehicle (MPCV) to replace the Space Shuttle, which was retired in 2011. The Act also authorized NASA to continue activities related to development of a commercial crew launch system, but articulated Congressional intent that NASA develop the SLS and MPCV as soon as possible to ensure U.S. backup access to the ISS in case commercial crew or cargo capabilities fail to materialize. NASA's FY13 budget proposes to reverse the priorities established by Congress in both authorization and appropriation legislation. NASA seeks to reduce funding for the continued development of the SLS by 11 percent or $162 million below FY12 levels to $1.34 billion, and reduce funding for the Orion MPCV by 14.6 percent or $175 million from FY12 levels to $1.02 billion. Under this budget proposal, the SLS/MPCV system will not be operational until 2021, one year after the current ISS program is due to expire. The Committee finds it unacceptable for the U.S. to rely on the Russian Soyuz system for the remainder of the ISS program and believes NASA should give higher priority to the SLS and MPCV programs.

For Commercial Crew Development activities, NASA's FY13 budget proposal diverges from previous Congressional direction by requesting $830 million, which is $424 million or 104 percent above the FY12 appropriated level and $330 million (66 percent) more than the FY13 authorization of $500 million.

The FY13 budget also includes increased funding for Space Technology development. The FY13 request seeks $699 million, an increase of $125.3 million or 21.8 percent above FY12 levels. The Committee supports this endeavor generally, but believes this level of increase is not warranted.

National Science Foundation (NSF)

The National Science Foundation (NSF) provides over 20 percent of federal support for all basic research at U.S. colleges and universities and is second only to the National Institutes of Health (NIH) in support for all academic research. It is the primary source of federal funding for non-medical basic research, providing approximately 40 percent of all federal support, and serves as a catalyst for science, technology, engineering, and mathematics (STEM) education improvement at all levels of education. It supports the fundamental investigations that ultimately serve as the foundation for progress in nationally significant areas such as national security, technology-driven economic growth, energy independence, health care, nanotechnology, and networking and information technology.

The FY13 budget request for NSF is $7.4 billion, a 4.8 percent increase over the FY12 level. The Committee recognizes the importance of making appropriate investments in science, space, and technology basic research, development, and STEM education in order for the United States to remain a world leader in competitiveness and innovation. However, while supporting a healthy budget request for NSF, the Committee remains concerned that the levels requested exceed what is fiscally responsible in the current economic climate. Further, new and expanded Administration priorities continue to seriously divert precious research and development (R&D) funds from other worthy endeavors.

The Committee applauds the Administration's $67 million in cuts and consolidations, but regrets that it did not go further in identifying additional areas for significant savings to the American taxpayer. This additional savings could go a long way in helping to protect the integrity of the Nation's essential basic R&D portfolio.

Research and Related Activities (RRA)

The FY13 budget request includes over $5.9 billion for Research and Related Activities (RRA) an increase of $294 million or 5.2 percent over FY12. Beginning in FY13, NSF plans to enable seamless operations across organizational and disciplinary boundaries through a new OneNSF Framework. The OneNSF Framework encompasses a set of currently funded investments to "create new knowledge, stimulate discovery, address complex societal problems, and promote national prosperity."[1] OneNSF Framework priorities for FY13 include: $257 million for Cyber-Enabled Materials, Manufacturing, and Smart Systems (CEMMSS) to transform static systems and processes into adaptive "smart" systems; $106 million for Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21) to address the science-driven integration of cyberinfrastructure; $49 million for Expedition in Education (E^2) to establish a partnership with the research directorates and the Education and Human Resources directorate to integrate and expand STEM education research; $19 million for NSF Innovation Corps (I-Corps) to assess opportunities to transition emerging technologies into new products; $63 million for Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE) to integrate existing interdisciplinary investments with new Foundation-wide activities; and $110 million for Secure and Trustworthy Cyberspace (SaTC) to align Foundation investments with the national cybersecurity strategy.

OneNSF Framework priorities also incorporate the existing Science, Engineering and Education for Sustainability (SEES) program, which crosses all NSF directorates and has a goal of advancing "climate and energy science, engineering, and education to inform the societal actions needed for environment and economic sustainability and sustainable human well-being." The FY13 budget request for SEES is $202.5 million, an increase of $45.5 million or 29 percent over the FY12 estimate. When compared to the FY12 budget request of $998.19 million, the SEES portfolio request appears to have shrunk dramatically. The FY12 request estimated spending on SEES for FY11 to be $660.74 million; the FY13 request reflects FY11 actual spending to be $87.96 million or $572.78 million less than reported in the previous year. The Committee is greatly concerned that the Foundation continues to fund activities that "advance climate and

[1] *FY13 NSF Budget Request to Congress*, p. 3.

energy science, engineering, and education to inform the societal actions needed for environmental economic sustainability and sustainable human well-being"[2] well above the amounts currently reflected in the FY13 budget request and far above what is fiscally responsible at this time.

The overall budget request for OneNSF Framework activities is $807 million, an increase of $291 million or 56 percent over the FY12 level. While the Committee is appreciative of the Foundation's goal to enable a seamless operation across organizational and disciplinary boundaries and supports the majority of funding priorities for this Framework, it is concerned that the additional funding requests continue to exceed what is prudent in this economic climate. In addition to the SEES request, the Committee questions the necessity of $49 million in new funding for the E^2 initiative, $29 million of which is funded through the RRA account. Further, the Committee is concerned with the $19 million request for I-Corps and believes the implementation and expansion of this program, which "builds upon fundamental research" but moves beyond that to "guide the output of scientific research towards the development of technologies, products, and processes that benefit society" continues to move the Foundation from its core mission of supporting basic R&D to significantly more support for applied areas of R&D, which are best left to market forces or agencies with specific applied R&D goals to advance their mission. The Committee believes that while basic research can and should lead to entrepreneurship, it is not an appropriate role for NSF to use its limited research dollars to provide additional federal funds to grantees in order to "increase the number of entrepreneurs emerging from university laboratories,"[3] as is stated as a priority goal of I-Corps. The Committee believes this is primarily a university responsibility. Further, it is the Committee's view that this program runs the risk of picking winners and losers.

In addition to OneNSF Framework investments, the FY13 NSF RRA budget request also illustrates the manner in which NSF plans to advance all fields of science and engineering and educate the workforce of tomorrow through their portfolio. NSF will continue investments in a number of multifaceted programs, including a $335 million investment in Clean Energy, a $149 investment in Advanced Manufacturing, a $216 million investment in the Faculty Early Career Development program (CAREER), a $243 million investment in the Graduate Research Fellowship program (GRF), and a $158 million investment in the Experimental Program to Stimulate Competitive Research (EPSCoR).

Education and Human Resources (EHR)

The FY13 budget request for Education and Human Resources (EHR) is $845.6 million, a $46.6 million or 5.6 percent increase over the FY12 level and the largest percentage increase for the agency.

Significant increases in the FY13 budget request include $20 million, a $12 million or 150 percent increase over FY12, for the Widening Implementation and Demonstration of Evidence-based Reforms (WIDER)/E^2 program and $20.5 million for a new Expedition in Education (E^2) initiative to engage, empower, and energize learners in STEM. Again, while fully supporting

[2] *FY12 NSF Budget Request to Congress*, NSF-Wide Investments, p. 37
[3] *FY13 NSF Budget Request to Congress*, NSF-Wide Investments, p. 28.

STEM education research, the Committee questions the use of limited resources on new, unproven initiatives, while cutting funding for proven ones.

The FY13 budget request continues to flat fund the Robert Noyce Scholarship Program (NOYCE) at $54.9 million and the Math and Science Partnership (MSP) at $57 million and decreases funding for the federal Cyber Service: Scholarship for Service/Cybercorps (SFS) program by 44 percent to $25 million. Likewise, the Administration's budget request continues to place a high priority on Graduate Research Fellowships (GRF) by increasing the funding to $121.5 million, a 10.8 percent increase over the FY12 level, while significantly reducing funding for the Integrative Graduate Education and Research Traineeship Program (IGERT) to $22.9 million, a 26.7 percent cut. The Committee continues to believe that increasing the number of GRFs is a laudable goal in a better economic environment, but continuing to increase the funding level for GRFs while essentially ignoring other graduate programs, is not fiscally responsible.

Several new or reprogrammed initiatives are to be carried out in conjunction with the Department of Education (ED), the Office of Science and Technology Policy (OSTP), and other federal science mission agencies to address national priorities in STEM education through a coordinated STEM education investment strategy. While the Committee supports a more engaged ED with regards to STEM education, it continues to believe that the STEM-related research and expertise that NSF can and does provide is world-class and needs to be included in any appropriate larger, overarching STEM education activities carried out by the federal government.

The FY13 request also calls for fundamentally reframing the EHR investment portfolio into three categories: Core R&D, Leadership, and Expeditions. The Core R&D investments include four divisions: STEM learning, STEM learning environments, broadening participation and institutional capacity in STEM, and STEM professional workforce preparation. A new $5 million "Core Launch Fund" to allow a first round of grant awards will shape each division. The Leadership investments will focus on the next generation of STEM researchers and educators. And finally, the Expedition investments will be a key component for EHR to partner with other NSF directorates and offices and with ED to take on specific challenges over defined periods of time. The Committee understands and commends the reconceptualization of the EHR directorate, but believes $20 million in new funding is excessive and not necessary to launch this endeavor, and encourages the use of existing and lesser funds.

While the Committee commends the decision to reduce funding for the Climate Change Education Program, it continues to believe the program should be eliminated in its entirety, as other funds within the Foundation may already be used to support similar activities.

Major Research Equipment and Facilities Construction (MREFC)

The FY13 budget request includes $196.2 for the Major Research Equipment and Facilities Construction (MREFC) account. This is a slight 0.4 percent decrease from FY12. The request includes funding for four existing projects: 1) $91 million for the National Ecological Observatory Network (NEON); 2) $25 million for the Advanced Technology Solar Telescope (ATST); 3) $15 million for the Advanced Laser Interferometer Gravitational-Wave Observatory

(AdvLIGO); and $65 million for the Ocean Observatories Initiatives (OOI). The IceCube Neutrino Observatory (IceCube) and the Atacama Large Millimeter Array (ALMA) no longer require MREFC funding.

Department of Energy (DOE)

The Department of Energy (DOE) funds a wide range of research, development, demonstration and commercial application activities. The overall FY13 budget request for DOE is $27.2 billion, which represents an $856 million or 3.2 percent increase over FY12 levels. Approximately one third of this amount is directed to research, development, and demonstration programs.

President Obama once more made clean energy technology development a centerpiece proposal of his State of the Union and reiterated his call for a clean energy standard (CES), which would require at least 80 percent of electricity to be generated by "clean" sources by 2035. The Committee recognizes the importance of energy technology development to America's economic future, but has serious concerns with the overall spending and relative prioritization within the President's budget request.

Office of Science (SC)

The DOE Office of Science (SC) is the federal government's primary supporter of long-term basic research in the physical sciences, as well as design, construction, and operation of major scientific user facilities. Office of Science activities are organized into the following six major programs: Basic Energy Sciences (BES), Advanced Scientific Computing Research (ASCR), Biological and Environmental Research (BER), Fusion Energy Sciences (FES), High Energy Physics (HEP), and Nuclear Physics (NP). The FY13 budget request for SC is $5.0 billion, a 2.4 percent increase over FY12 levels.

The Committee recognizes the key scientific role the Office of Science performs in the federal government's research capabilities. The Office of Science has an established record of making crucial scientific discoveries and serves as a long-term driver of innovation and economic growth. We also acknowledge SC's record of excellence in managing world-class scientific facilities, which deliver revolutionary scientific breakthroughs in numerous scientific disciplines. Accordingly, the Committee believes the SC should be the highest priority for DOE R&D programs.

However, in light of budget circumstances, the Committee believes there are some areas within the Office of Science budget that warrant consideration for reductions in spending. Of particular interest in this regard is SC BER activities, which fund significant research in areas ancillary to DOE's primary mission or potentially duplicative of research funded elsewhere in the government (such as climate change). Specifically, the Committee is concerned that the Atmospheric System Research and the Climate and Earth Systems Modeling programs are duplicative of research programs at the National Oceanic and Atmospheric Administration (NOAA) and the National Science Foundation (NSF). Additionally, although the Committee supports Fusion Energy Sciences, the program is an area of concern due to high-risk program

management and international funding and cooperation challenges associated with the ITER project, while the relative value of SC spending on science education and workforce development also warrants further review.

The Committee objects to the budget request to have the Office of Science redirect funding and administrative and technical support to the President's Council of Advisors on Science and Technology (PCAST). PCAST serves exclusively to advise the President, and is charged with providing science and technology advice on matters concerning all federal agencies, not just the DOE Office of Science. As such, funding and administrative support should be requested and appropriated through the White House Office of Science and Technology Policy, and not be re-directed from other agencies.

Advanced Research Projects Agency – Energy (ARPA-E)

The Administration request for the Advanced Research Projects Agency – Energy (ARPA-E) is $350 million, a $75 million or 27.3 percent increase over FY12. In FY11, ARPA-E received $180 million. The DOE budget request states that in FY13, ARPA-E will emphasize: (1) $184 million for Transportation Systems, including batteries and systems for electric vehicles and development of market competitive fuels using domestic resources such as natural gas; and (2) $130 million for Stationary Power, including challenges associated with "power electronics, solar, wind, osmotic power, smart grid technologies, natural gas, geothermal, and waste heat capture."[4]

When ARPA-E was established, many expressed concern that it would be funded at the expense of priority basic research programs within the Office of Science. In 2006, DOE Secretary Chu, then-Director of the Lawrence Berkeley National Laboratory and appearing before the Committee on behalf of the National Academies' *"Rising Above the Gathering Storm"* panel testified, "In funding ARPA-E, it is critical that its funding not jeopardize the basic research supported by the Department of Energy's Office of Science. The committee's recommendations are prioritized and its top recommendation in the area of research is to increase the funding for basic research by 10 percent per year over the next seven years."[5] The Committee agrees with the National Academies' panel that basic research at the Office of Science should be a higher funding priority than ARPA-E and is disappointed that the budget does not reflect this recommendation.

The Committee also believes ARPA-E can improve its focus to better ensure it avoids funding late-stage technology development and commercialization activities more appropriately supported by the private sector. While most ARPA-E funding appears directed toward high-quality, high-risk research that is too risky for private investment, in some instances ARPA-E funding has accelerated existing private efforts. The Committee is also concerned that ARPA-E has allowed awardees to incur costs of questionable appropriateness, including using award funds to seek additional government funding and using funds for meeting with investors, as well as for commercialization, marketing, and promotion of ARPA-E funded technologies.

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[4] *Department of Energy, Detailed Budget Request Volume 4*, p. 417.
[5] Steven Chu, testimony before the Committee on Science *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* hearing, March 9, 2006.

Accordingly, the Committee recommends that ARPA-E funding not exceed its FY12 House Appropriations Committee-passed level of $100 million, and that the agency place greater emphasis on overcoming fundamental scientific challenges and pursuing potentially transformational early-stage applied research.

Nuclear Energy (NE)

The Administration request for Office of Nuclear Energy (NE) R&D programs is $770.4 million, a .7 percent increase ($5.1 million) from the FY12 level. NE's four primary research programs - Reactor Concepts RD&D, Fuel Cycle R&D, Light Water Reactor Small and Modular Reactor Licensing Technical Support (LWR SMR Technical Support), and Nuclear Enabling Energy Technologies (NEET) - comprise approximately half of the total NE request The total NE research declines significantly in the request. The majority of this decrease is proposed to come out of the Reactor Concepts program (decreased by $41.2 million), including the Next Generation Nuclear Plant (NGNP, decreased by $19.2 million), advanced small modular reactors (decreased by $9.5 million), and advanced reactor concepts (decreased by $9.5 million).

The Committee recommends additional funding to advance nuclear energy technology and is disappointed the budget significantly reduces key NE research programs. The March 2011 earthquake and ensuing tsunami near Fukushima, Japan serves as a strong reminder of the need to ensure nuclear reactors continue to operate with maximum attention to public health and safety. Accordingly, the Committee supports continuing analytical examination of issues associated with nuclear safety in the Light Water Reactor Sustainability subprogram, such as identifying advanced fuel cladding to provide additional safety measures in the event of an unforeseen event.

The budget includes $59.7 million for the third year of the Used Fuel Disposition Research and Development subprogram, which examines issues associated with managing the back end of the nuclear fuel cycle. The Committee supports moving forward with the deep geologic repository for spent nuclear fuel and recognizes near-term activities have the potential to reduce uncertainties associated with handling of spent nuclear fuel.

The budget requests $65 million for the second year of the LWR SMR Technical Support program, a decrease of $2 million or 3 percent from FY12 levels. SMRs hold great potential to impact electricity generation; however, still require approval and licensing from the Nuclear Regulatory Commission (NRC). The second year of funding for this program will begin development of the license application for SMR designs. DOE should further its work with NRC to complete the licensing process.

Energy Efficiency and Renewable Energy (EERE)

The Office of Energy Efficiency and Renewable Energy (EERE) funds a wide array of energy efficiency and renewable energy technologies. The Administration's budget request of $2.3 billion for EERE represents a 29.1 percent ($527.4 million) increase from the FY12 level. This reflects President Obama's continued emphasis on increasing spending to develop clean energy

technologies. Many EERE programs receive notable funding increases relative to the FY12 level. Specifically, the Advanced Manufacturing Program (formerly the Industrial Technologies Program) receives a $174.4 million increase (151 percent), of which over $100 million is added to the Systems Integration subprogram to demonstrate manufacturing processes. Geothermal Technology would see an increase of $27.1 million (71.7 percent) to expand the enhanced geothermal subprogram and the Building Technologies program would receive an additional $90.8 million (41.4 percent) to advance technologies and reduce market barriers.

The Committee objects to the requested increase in EERE's budget. This concern is based on: (1) EERE's focus on incremental, relatively low-impact technological advances through technology development, demonstration, commercialization, and deployment activities, many of which are unnecessary and represent inappropriate involvement in the marketplace, resulting in the government "picking winners and losers" among competing companies and technologies; (2) EERE's recent significant budget increases, which reflect a 56 percent increase since FY06, in addition to $16.5 billion in stimulus funding; and (3) the significant potential for overlap and duplication resulting from DOE's multitude of clean tech-focused programs and activities. Further, beyond specific programmatic concerns, the ability of the office to responsibly manage and effectively oversee a nearly 30 percent year-over-year budget increase is questionable.

EERE aligns its budget portfolio into four program activities based on Technology Readiness Levels:[6] Innovations (TRL 2-3), Emerging Technologies (TRL 3-6), Systems Integration (TRL 6-8), and Market Barriers (TRL 8-10). The Committee commends EERE for this informative characterization, but is concerned that nearly 40 percent of EERE funding is directed to late stage TRLs closest to market deployment and commercialization. For example, the Biomass and Biorefinery Systems program requests an additional $60.9 million to support deployment of a feedstock demonstration unit. The Solar Energy Technologies program requests a 140 percent increase to address "market barriers" by "using standard scientific techniques of data collection, analysis and the development of algorithms to reduce the permitting costs/time for solar installation."[7] The Committee believes the marketplace is best positioned to reduce associated installation costs, not the federal government.

Included in EERE's budget is a request by the Department for legislative language allowing the Secretary of Energy to transfer up to $100 million to the Defense Production Act Fund. According to the request, this transfer would support biofuel pilot demonstration projects as well as certain activities in the Advanced Manufacturing Program. The Committee questions the appropriateness of the request and seeks clarification as to the financial and programmatic consequences of such.

These concerns exemplify general trepidation associated with EERE. The Committee will continue to fulfill its oversight responsibilities of EERE and conduct a thorough examination of

[6] Technology Readiness Levels (TRL) are a method to characterize the maturity of a technology. The Department of Energy has detailed the descriptions of each level, which generally translate to the following stages of technology evolution: 1-2 Basic Technology Research; 2-3 Research to Prove Feasibility; 4 Technology Development; 5-6 Technology Demonstration; 7-8 System Commissioning; and 9 System Operation. For more information see "Technology Readiness Assessment Guide (DOE G 413.3-4)." United States Department of Energy, Office of Management. October 12, 2009.

[7] DOE Detailed budget p. 88.

EERE's programs. Recognizing the tight budgetary outlook, the Committee recommends reducing spending on EERE to maximize the value of limited taxpayer dollars, and focusing programs on early-stage applied research activities with the broadest potential benefits.

Electricity Delivery and Energy Reliability (OE)

The Office of Electricity Delivery and Energy Reliability (OE) oversees the modernization of the electric grid, the reliability of energy infrastructure, and conducts research and development for energy delivery-related technologies. Research and Development within OE would be funded at $103.4 million in the President's FY13 budget request. This would reflect an increase of $4.3 million (4.3 percent) from FY12 levels. Additionally, the President requests $20 million for the creation of an Electricity Systems Hub to be administered by OE.

The Committee notes the potential contributions of OE efforts to enhance electricity reliability and grid security, but remains concerned the OE portfolio includes R&D significantly overlapping with and potentially duplicative of other DOE programs. For example, the Office of Science, EERE's Vehicle Technologies Program and multiple ARPA-E programs all fund battery and energy storage research programs that, while generally distinct, appear to support potentially duplicative technology areas. The Committee also has reservations about the creation of a new Energy Innovation Hub. The proposed OE Hub would address issues associated with the nexus of power and information flows to reduce integration and coordination barriers. However, ARPA-E's "GENI" program and OE's other research programs currently fund R&D to integrate advanced power systems with the grid. These activities as well as others throughout DOE may potentially overlap with the Hub's activities. Additionally, the Committee finds it premature to fund a new Hub prior to thorough consideration of the performance of existing Hubs, including review of the assessment called for by the FY12 appropriations bill.

Fossil Energy (FE)

The DOE Office of Fossil Energy (FE) supports research and development focused on coal (including "clean coal" technologies), natural gas, and petroleum and also supports the federal government's Strategic Petroleum Reserve. The President's total budget request for the Office of Fossil Energy (FE) is $650.8 million. FE's research and development budget is $420.6 million, an increase of $73.9 million, or 21.3 percent, from FY12 levels. The FY12 level of $533.7 million included a rescission of $187 million resulting from termination of a major carbon capture and sequestration (CCS) demonstration project funded in a previous fiscal year. The base budget request for FE R&D, before accounting for this rescission, represents a decrease of $105.2 million, or 19.7 percent.

The FY13 budget request includes $275.9 million for Coal R&D, $17 million for the Natural Gas Technology Program, and proposes to terminate the Unconventional Fossil Energy Technologies program. Within the Carbon Capture and Storage and Power Systems Subprogram, the budget request proposes to eliminate the Hydrogen from Coal, Coal and Coal-Biomass to Liquids, and Solid Oxide Fuel Cells activities.

The Committee continues to support an "all-of-the-above" approach to energy policy centered on aggressively developing domestic energy resources to ensure access to abundant and affordable energy. We are disappointed to see the budget again propose to eliminate the Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Program established in Section 999 of the Energy Policy Act of 2005 (P.L. 109-58). Section 999H(a) sets the funding for this program at a level of $50-million-per-year provided from federal lease royalties, rents, and bonuses paid by oil and gas companies – not taxpayers. It should be clear that the overall program was initiated and carried out to reach energy known to exist in the areas targeted – energy that was impossible to produce without new technology – and that the required technology would be eventually be paid for from the energy captured. Further, the Section 999 program is the only R&D program in the federal government capable of addressing drilling safety and accident prevention-related technology needs in a timely and effective manner.

The Committee disagrees with the myopic focus of FE's Coal R&D on near term Carbon Capture and Sequestration (CCS) programs at the expense of other research that could enable increased efficiency of coal-fired electricity, reducing operating costs and traditional criteria pollutant emissions. For example, the budget decreases the funding for Advanced Energy Systems $45 million. FE's goal to capture carbon dioxide at "no more than a 35 percent increase"[8] in electricity costs is indicative of FE's misguided approach. DOE should seek to reduce the cost of electricity, rather than raise it. The Committee appreciates FE's recognition that CCS by itself is not economically viable and the need to acquire commercial value of sequestered carbon through a Carbon Capture, Utilization, and Sequestration (CCUS) program. However, the Committee remains concerned this approach is still imprudent and will result in increased costs on American energy consumers.

The Committee is pleased the budget did not request additional funding for the Clean Coal Power Initiative (CCPI), choosing instead to focus on its portfolio of existing demonstration projects. Key milestones are scheduled for FY12 and FY13 for the current portfolio of CCPI demonstration projects, and the Committee expects to actively monitor the status of those projects.

The Committee is skeptical of the request for $17 million for the Natural Gas Technologies Program, of which $12 million is dedicated to a new priority collaboration with the Environmental Protection Agency and the U.S. Geological Survey to "understand and minimize the potential environmental, health, and safety impacts of shale gas development through hydraulic fracturing" as recommended by an Administration appointed panel. The budget provides very little information on what research topics or questions this funding seeks to answer, and the Committee is concerned this program is intended to simply identify additional opportunities for the Administration to regulate hydraulic fracturing. The Committee supports the current practice of state regulation of hydraulic fracturing and is concerned that the Administration seems to be actively searching for a reason to regulate this abundant domestic energy resource.

Loan Guarantee Program Office (LPO)

[8] Department of Energy, Detailed Budget Request, Volume 3, p. 414.

Title 17 of the Energy Policy Act of 2005 authorizes DOE to make loan guarantees to encourage early commercial use of new or significantly improved technologies in energy projects. Projects supported must avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; employ new or significantly improved technologies; and offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation.

The FY13 budget for the Loan Guarantee Program Office requests $38 million for administrative operations "to focus on portfolio management and monitoring activities on the existing portfolio as well as originating new loan guarantees to utilize remaining loan authority in the nuclear power, front-end nuclear, fossil, and renewable and energy efficiency sectors."[9] The Administration proposes to offset requested spending with an equivalent amount of fee collections for a net-zero budget request. Additionally, the budget request states that the Department still has $170 million in credit subsidy funds available from prior appropriations that it intends to deploy.

The loan guarantee program offers businesses the ability to secure below market financing rates. Private financial institutions have a record of supporting economically feasible and valuable projects. Highly-developed financial markets have the necessary tools to evaluate the relative worth of an energy project and provide the appropriate level of financing. Accordingly, the federal government should avoid interference in energy technology markets that results in "picking winners and losers" among competing companies and technologies. This concern is further exacerbated by the appearance that political favoritism drove decision-making associated with loan decisions, particularly with respect to Solyndra, but potentially in the case of other loans as well.

In light of the loan guarantee program's troubling record, the Committee supports funding only those activities necessary to support management and oversight of the existing portfolio of loans, and recommends returning remaining credit subsidy funds to deficit reduction.

National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) carries out its mission of science, service, and stewardship through activities to improve the understanding of oceans and atmosphere and how their interactions affect human life, property and ecosystem health. NOAA provides critical weather and climate data necessary to protect lives and to enhance commerce through the National Weather Service (NWS) and the National Environmental Satellite, Data, and Information Service (NESDIS). NOAA is responsible for mapping and charting coastal areas and other navigation support services through the National Ocean Service (NOS). NOAA also manages fisheries and conducts research on marine ecosystems and marine mammals through the National Marine Fisheries Service (NMFS). Finally, NOAA supports atmospheric and oceanic research through its Office of Oceanic and Atmospheric Research (OAR).

NOAA's FY13 budget request is 5.1 billion, an increase of $153.9 million or 3.1 percent above the FY12 level.

[9] *Department of Energy, Budget Highlights*, p. 52.

National Environmental Satellite, Data and Information Service (NESDIS)

The FY13 budget request for the National Environmental Satellite, Data and Information Service (NESDIS) is $2.04 billion, a $163.6 million or 8.7 percent increase over FY12 levels. This line office accounts for 40 percent of NOAA's total budget request. The bulk of the request is for the Joint Polar Satellite System (JPSS)[10] and the Geostationary Operational Environmental Satellites (GOES-R) program.

The budget request for JPSS is $916 million, a $7.4 million or 0.8 percent decrease below FY12. While the Committee was pleased to see the successful launch of the research-turned-operational NPOESS Preparatory Project (NPP) satellite in October 2011, the Committee remains extremely concerned about the potential for a data gap between the time that NPP expires and the first JPSS satellite launch in 2018. Furthermore, the Committee does not agree with NOAA's characterization of the gap as the result of insufficient funding in prior fiscal years. For years, this program and its predecessor have been plagued with cost over-runs, poor management, agency infighting, technical problems and contractor mistakes. The program restructuring in 2010 also increased costs and delayed the program schedule.[11] Furthermore, in the two years since the Administration announced the separation of the original program, NOAA has not re-baselined the JPSS budget as required under P.L. 110-161 and P.L. 109-155. This inaction and delay is troubling, and significantly hinders the Committee's ability to conduct proper oversight and undertake a complete assessment of the program's future. Additionally, the Committee is extremely concerned that NOAA has not developed a viable plan for acquiring necessary data if the gap materializes as expected. The Committee recommends an immediate focus on such an effort and believes that any such plan should be developed in a scientific manner, utilizing the resources and expertise of other NOAA line offices.

The largest increase in the NESDIS request is for the GOES-R program. NOAA is requesting $802.0 million for FY13, a $186.4 million or 30.3 percent increase above FY12 levels. The Committee supports this increase as part of the planned ramp-up for this program, which is critical for weather forecasting and must remain on track for replacing existing geostationary satellites when they become nonoperational.

Office of Oceanic and Atmospheric Research (OAR)

The FY13 request for the Office of Oceanic and Atmospheric Research (OAR) is $413.8 million, an increase of $29.1 million or 7.6 percent above the FY12 level. The Committee supports a strong research enterprise at NOAA but disagrees with the Administration's prioritization and proposal to direct new funding almost exclusively to climate research. Rather, the Committee

[10] This program was previously the National Polar-orbiting Operational Environmental Satellite System (NPOESS), a tri-agency program with the National Aeronautical and Space Administration (NASA) and the Department of Defense (DoD). As part of the FY2011 budget request, the Administration split NPOESS into two programs. NOAA and NASA have responsibility for the JPSS program to cover the afternoon satellite orbit. DoD has already canceled its separate polar weather satellite program for the early morning orbit.
[11] See footnote #1.

believes the top priorities for OAR should be weather research to better protect American lives and property and fundamental science and basic research supported by its labs.

Specifically, the Committee notes its support for specific investment in three targeted weather forecasting and prediction innovations. The Multi-function Phased Array Radar (MPAR) R&D will greatly improve next generation weather radar forecasting accuracy and capability. Unmanned Aircraft Systems (UAS) R&D will allow for the testing and use of UAVs with NOAA instruments for significantly enhanced data and observations, especially useful when forecasting hurricanes. Baseline Information Technology R&D resources will enable integration of graphic processing units (GPUs) into supercomputers enabling weather and climate models to run significantly faster, more accurately, and at lower cost.

Within the climate research program, the Committee is supportive of NOAA's request for funding for the National Integrated Drought Information System, a vital program for researching and communicating information on droughts. However, the Committee does not support the increase requested for the climate portal, NOAA's climate website that has raised concerns regarding the objectivity and scientific robustness of the information posted to it. Instead, the Committee would encourage funding for such climate program to be used to offset the requested reduction to the Great Lakes Environmental Research Laboratory.

Funding for many programs have suffered significant budget cuts in the last few years as a direct result of NOAA redirecting funding to satellite programs. The Committee believes the above-mentioned OAR priorities—of small relative cost that can be offset by a redirection of lower priority climate research—will provide tremendous returns in terms of out-year budget savings, protection of lives and safety, and the potential avoidance of billions of dollars in property damages.

National Weather Service (NWS)

The Committee is generally supportive of the overall National Weather Service (NWS) FY13 budget request of $972.2 million which is a 2.0 percent decrease from the FY12 level of $991.9 million. The Committee is pleased that NWS plans to establish regional Information Technology (IT) Collaboration units to capitalize on efficiencies made through previous investments, and the resulting $9.7 million decrease in the request for these programs from FY12 levels of $12.1 million indicates NWS is heeding Congress' call to become more efficient while still providing exemplary services. Furthermore, the Committee supports the $7 million increase for the NWS telecommunications gateway and believes planned improvements will increase the ability of NWS to ensure timely flow of critical information to the public. With continuing concerns about the quality of the surface temperature data used for climate prediction, the Committee is hesitant about the zeroing out of funding for the National Mesonet Network. The Mesonet Network was established in response to the National Academy of Sciences expressing concern regarding the lack of integration of distributed monitoring and observational networks. While NWS will be able to achieve quality forecasts using existing networks, the quality of data generated by outside groups and the ability of NWS to properly integrate it into its own databases is a concern. Therefore, the Committee would support a decreased amount of funding for the Mesonet Network as opposed to a complete elimination of the program, as long as this would not increase

the total proposed budgetary request. Finally, while there is concern about the virtual elimination of the NOAA Profiler Network, which provides Doppler Radar wind profile data, the Committee understands that upgrades to this system would be prohibitively expensive. The Committee believes NWS should develop a plan to help replace data provided by the Profiler Network.

National Ocean Service (NOS)

The Committee is supportive of the National Ocean Service (NOS) FY budget request of $478.1 million which is a 2.4 percent decrease from the FY12 level of $490 million. Despite this overall decrease, the Committee supports the budget increases requested for the Integrated Ocean Observing System and competitive research in the National Centers for Coastal Ocean Science. Both are critical to understanding harmful algal blooms and hypoxia conditions that occur in U.S. waters. Despite the Administration's intent to implement Coastal and Marine Spatial Planning (CMSP), a comprehensive plan to zone the ocean, NOAA did not include any funding request in the FY13 budget. The Committee believes that any sweeping initiative such as CMSP requires a strong basis in science and that the lack of a request for CMSP in the NOAA budget suggests the Administration intends to implement this policy without the necessary scientific justification. The Committee strongly objects to NOAA carrying out any such policy until the appropriate research has been conducted and is available to inform decision-makers.

National Institute of Standards and Technology (NIST)

The National Institute of Standards and Technology (NIST) is a non-regulatory laboratory of the federal government tasked with innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our quality of life.

In FY13, the Administration has requested a funding level of $857 million or a 14.1 percent increase from FY12 funding for NIST. The budget request would provide $648 million for NIST's core Scientific and Technical Research and Services (STRS); $60 million for Construction of Research Facilities (CRF); and $149 million for Industrial Technology Services (ITS) programs, including $128 million for the Manufacturing Extension Partnership (MEP) program, and $21 million for the Advanced Manufacturing Technology (AMTech) Consortia Program.

Research and Facilities

The FY13 NIST budget request for Scientific and Technical Research and Services (STRS) is $648 million, an increase of $81 million or 14.3 percent over the FY12 level, and contains an increase of $45 million in measurement science research for advanced manufacturing. The budget request also includes $20 million to establish four competitively selected Centers for Excellence in measurement science areas defined by NIST.

The Committee remains supportive of NIST STRS activities and recognizes the importance of these activities to the economic security of the country. However, while the Committee believes it is prudent to support a modest increase in STRS funding, it will continue to scrutinize the specifics of the FY13 request. The Committee will expect additional information from NIST on its proposed increases for measurement science research for advanced manufacturing to ensure that these programs remain pre-competitive and have the potential to result in significant innovations in the future.

The FY13 budget request for Construction of Research Facilities (CRF) is $60 million, an 8.3 percent increase over the FY12 level. CRF funding would support maintenance and repair of existing NIST buildings ($48.2 million) as well as continue the interior renovation efforts of Building 1 on the NIST-Boulder campus ($11.8 million). The Committee supports the completion of the renovations of Building 1, and believes funding for maintenance and repair of existing facilities should be prioritized over any new construction activity.

Industrial Technology Services (ITS)

The FY13 budget request for Industrial Technology Services (ITS) is $149 million, an increase of $20.6 million or 16 percent over the FY12 level.

The Committee believes the $128 million request for the Manufacturing Extension Partnership (MEP) program, a $0.4 million or 0.3 percent decrease from the FY12 level, is appropriate. The MEP program is a public/private partnership run by Centers in all 50 states and Puerto Rico that provides technical assistance for small and medium-sized manufacturers to modernize their operations and adapt to foreign competition. MEP Centers are supported by equal contributions from federal funds, state funds, and industry client fees.

The Committee continues to question the creation of the proposed Advanced Manufacturing Technology Consortia (AMTech) Program, which did not receive funding in FY12, and which has an FY13 request of $21.0 million. This program would establish industry-led consortia to identify and prioritize research projects supporting long-term industrial research needs. Continued scrutiny of this program and its funding request is necessary.

National Network for Manufacturing Innovation

The Committee has significant conerns about the creation of a $1 billion National Network for Manufacturing Innovation (NNMI). This proposed program exceeds the entire annual budget of NIST in a time of fiscal crisis. To date, the Committee has not received an adequate description of the program, its goals, or its parameters for success. The Committee will need to further scrutinize this request.

Wireless Innovation Fund

In FY13, the Administration has included a plan to invest broadband spectrum auction proceeds in a variety of areas, including providing NIST with up to $300 million for a Wireless Innovation (WIN) Fund to establish a competitive grant program designed to award grants for public safety

communications research, development, and demonstration projects. NIST's participation is a piece of the $7 billion National Wireless Initiative included in the American Jobs Act. The Committee will thoroughly review the plans for this program, but is generally supportive of dedicating broadband spectrum auction proceeds to address both public safety communications research and development at NIST and deficit reduction.

Department of Homeland Security (DHS)

The Department of Homeland Security Science and Technology Directorate (DHS S&T) funds research, development, and testing and evaluation to improve the security of the Nation. The Domestic Nuclear Detection Office (DNDO) is dedicated to both the development and enhancement of the global nuclear detection architecture, the coordination of nuclear detection research and development, and the establishment of procedures and training for end users of nuclear detection equipment.

The FY13 budget request for DHS S&T is $831.5 million, an increase of $163.5 million or 24.5 percent from the FY12 level. Within DNDO, the FY13 budget is $328 million, a $38 million or 11.6 percent increase from the FY12 level.

The Committee recognizes the important role that research and development plays in supporting DHS's mission, and believes that the S&T Directorate should be provided with the resources it needs to keep our nation safe and our borders secure. However, in a constrained fiscal environment, it is essential that DHS gets the most out of each and every scarce dollar by providing tangible results that further the Department's mission, and coordinating with other agencies to maximize efficiencies. The Committee is pleased that the funding increase at DHS S&T is focused on the Research, Development, and Innovation (RD&I) account, and specifically R&D for DHS S&T's stated priorities: biological threat security ($135.4 million), cybersecurity ($64.5 million), explosives/aviation security ($119.7 million), and first responder technology development ($49.3 million).

The Committee notes that the DNDO FY13 budget request indicates a departure from the beleaguered Advanced Spectroscopic Portal (ASP) Program, and a shift towards a new "Commercial First" acquisitions strategy, as well as increased investments in Human Portable Radiation Detection Systems. This transition to a reliance on Commercial-Off-The-Shelf (COTS) technology, and increased prioritization of next generation Radio-Isotope Identification Devices (RIIDs) will require continued oversight of the Department's test and evaluation (T&E) operations and proposed concept of operations in order to ensure its success.

The Committee recognizes the value of both the Assistance to Firefighter Grants (AFG) and Staffing for Adequate Fire and Emergency Response (SAFER) grants to our Nation's fire departments. The AFG and SAFER grant programs are funded at $335 million each, a slight reduction from FY12 funding. The Committee is pleased that the Administration has provided parity in the funding requests for the AFG and SAFER grant programs in FY13, ensuring that the two programs can continue to serve their complementary purposes. However, the Committee remains concerned that the Administration continues to expand the SAFER program with the

proposed creation of a $1 billion First Responder Stabilization Fund. The fund would provide assistance for the hiring of firefighters, with a preference on programs and policies that focus on the recruitment of post-9/11 veterans for firefighter positions. The Committee is concerned that the proposed fund exceeds the total funding for the AFG and SAFER grants combined, and would surpass historical appropriations for both grant programs.

The Committee supports the Administration's FY13 request for the United States Fire Administration (USFA) of $42.5 million. The Committee recognizes the USFA's important mission of providing leadership, coordination, and support for the Nation's fire prevention and control, training and education, and emergency medical services activities.

Environmental Protection Agency (EPA)

The Science and Technology (S&T) account at EPA covers research and development activities at the Agency's Office of Research and Development (ORD) as well as activities in other line offices. ORD activities represent 68 percent of the overall S&T budget, and the S&T account provides 96 percent of ORD funds. The FY13 budget request for S&T is $807.3 million, a 1.7 percent increase from FY12 levels. The request for ORD is $576.6 million, a 1.3 percent increase from FY12 levels.

The President's ambitious regulatory agenda relies heavily on EPA authorities, and appropriate use of those authorities is dependent on objective, transparent scientific and technical information. Unfortunately, Committee oversight efforts have identified numerous instances in which such information was distorted, withheld from scrutiny, and selectively used to advance a pre-determined agenda. As a result of EPA's advocacy-driven scientific activities and the lack of transparency in major environmental research funded by the Agency, the Committee sees fundamental reforms and adherence to the newly-developed Scientific Integrity Policy as a prerequisite to funding EPA research at even existing levels.

In addition to requesting $6 million for ongoing research on hydraulic fracturing and drinking water, the Agency has requested an additional $8 million as part of a $45 million effort with the Department of Energy and the U.S. Geological Survey to examine the impacts of hydraulic fracturing on air, water quality, and ecosystems. The budget provides very little information on what research topics or questions this funding seeks to answer, and the Committee views this indiscriminate, "kitchen-sink" approach as indicative of an Administration in search of evidence to support a precautionary policy, ignoring and sidestepping the expertise and authority of the States. Furthermore, the request for additional funds for new research on hydraulic fracturing has reduced funding available for research on pathogen exposure and drinking water technologies. Due to these concerns, as well as the Agency's haphazard and nontransparent approach to research conducted thus far on hydraulic fracturing, the Committee does not support any additional funding for EPA research in this area.

In light of the numerous problems with the Agency's Integrated Risk Information System (IRIS) that have been highlighted by the National Academy of Sciences, Government Accountability Office, and in testimony before the Committee, the Committee recommends that resources be directed to ensure that all ongoing assessments adhere to more rigorous peer review, as well as

the requirements outlined in the conference report of the Consolidated Appropriations Act of 2012, as well as the recommendations in chapter seven of the National Academy of Sciences' Review of EPA's Draft IRIS Assessment of Formaldehyde. Despite EPA's assurances, recently-released IRIS assessments for dioxin and trichloroethylene have failed to incorporate these reforms, further undermining the credibility of the program. The Committee also notes concern with potential duplication and conflicts between the IRIS program and health assessment programs in other agencies. Although individual programs have unique charges and purposes, multiple assessments with differing conclusions may lead to confusion and unwarranted fear that does nothing to protect public-health and safety.

Also within ORD, the Committee is concerned that the request for an additional $2 million to support the creation of a new "Center for Innovative Estuarine Approaches" ignores budgetary decisions by partner agencies on estuarine research, and may unnecessarily duplicate efforts. Within the budget request for the Air, Climate, and Energy research program, the Committee does not support EPA's proposal to significantly increase funding for climate change-related activities, including $3.3 million in new funding requested for research on the interactions between climate change and air quality. The Committee views this request as an unnecessary and duplicative use of limited resources, demonstrated since similar research is already conducted by NASA and NOAA using the very models EPA proposes to use. Furthermore, despite technical challenges associated with final and forthcoming regulations on mercury and particulate matter, the Agency has proposed to eliminate its Mercury Research Program and to reduce funding for exposure assessment tools and particulate matter decision support tools by almost $2 million. The Committee is concerned that the Agency's research focus on potential air quality and environmental impacts from hydraulic fracturing and climate change is representative of EPA's future regulatory agenda and ignores the real technical problems created by existing regulations.

EPA has pledged to operationalize the National Academy of Sciences' recommendations on sustainability, and the budget states that "[t]he EPA will incorporate sustainability principles into our policies, regulations, and actions."[12] The Committee is concerned about the lack of a detailed and useful definition of "sustainability," and fears that attempting to incorporate a value-laden interpretation in Agency actions could undermine quality science and sober analysis.

Department of Transportation

Federal Aviation Administration (FAA) – Research, Development and Technology

The FY13 budget request provides $333.5 million for Federal Aviation Administration (FAA) research and development activities, plus an additional $20.5 million for related activities, adding to a total request of $354 million, a $68.8 million decrease (16 percent) compared to the FY12 request. Agency R&D is spread among four accounts:

1. The Research, Engineering and Development (RE&D) account (Aviation Trust Fund), with a FY13 request of $180 million, is $10.0 million less than the amount requested in FY12. RE&D conducts research to support a safe, efficient and environmentally

[12] *Environmental Protection Agency, FY 2013 Budget in Brief*, p. 63.

acceptable aviation system in four key areas: Improve Aviation Safety; Improve Efficiency; Reduce Environmental Impact; and Mission Support.

2. A portion of the Facilities and Equipment account (Aviation Trust Fund) supporting engineering, development, test and evaluation, with an FY13 request of $118.4 million, a $59.1 million decrease (33 percent) compared to the FY12 request.

3. A portion of the Airport Improvement Program account (Aviation Trust Fund) with an FY13 request of $44.3 million, the same as requested in FY12.

4. Office of Commercial Space Transportation, with an FY13 R&D request of $1 million, a $0.4 million increase (76 percent) compared to the FY12 request.

Office of Commercial Space Transportation (AST)

The FY13 budget request for the Office of Commercial Space Transportation (AST) (operations) is $16.7 million, an increase of $429,000 over FY12. AST is responsible for licensing and regulating commercial space launches and reentries to ensure compliance with standards designed to protect public safety. The Committee intends to conduct necessary and appropriate oversight of AST.

Office of the Assistant Secretary for Research and Technology

The Department of Transportation FY13 budget request has moved all activities currently performed by the ***Research and Technology Administration (RITA)*** to a new Office within the Office of the Secretary. The RITA Administrator would become the Assistant Secretary for Research and Technology.

The FY13 budget request for the research and development activities of the new Office of the Assistant Secretary for Research and Technology is $13.7 million, a decrease of $2.3 million, or 14.4 percent from the FY12 levels for RITA. The Assistant Secretary will be charged with coordinating and reviewing the Department's research, development, and technology portfolio. The Office has direct budgetary authority over salaries and administrative expenses, alternative fuels research and development, research and development and technology coordination, the Nationwide Differential Global Positioning System, and Positioning, Navigation, and Timing.

The Office also administers the University Transportation Center (UTC) program and the Bureau of Transportation Statistics.

The Committee is pleased that the Assistant Secretary will be playing a more significant role in coordinating research across the entire Department, and is supportive of the Secretary's increasing focus in the UTC program on longer-term research projects. The Committee remains concerned about the Department's focus on research programs such as Livable Communities at the expense of highway safety, infrastructure improvements, and congestion mitigation.

The Committee will continue its long-standing jurisdiction over Department of Transportation research activities through vigorous oversight of the new Office of the Assistant Secretary for Research and Technology.

Ralph M. Hall

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LIST OF SIGNATURES

1. Representative Ralph M. Hall
2. Representative James F. Sensenbrenner
3. Representative Lamar Smith
4. Representative Chip Cravaack
5. Representative Randy Hultgren
6. Representative Steven M. Palazzo
7. Representative Scott E. Rigell
8. Representative Michael T. McCaul
9. Representative Mo Brooks
10. Representative Larry Buschon
11. Representative Sandy Adams
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13. Representative Roscoe G. Bartlett
14. Representative Judy Biggert
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16. Representative Andy Harris
17. Representative Charles J. Fleischmann
18. Representative Benjamin Quayle
19. Representative Dan Benishek
20. Representative Randy Neugebauer

ADDITIONAL VIEWS
OF HON. DANA ROHRABACHER
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
FISCAL YEAR 2013 BUDGET REQUEST

American science and technology provides the basis for new industries, which increase the private sector workforce and improved the lives of millions of Americans. We must continue to enable our citizens to grow the economy, which is consistently the strongest in the world. This is difficult, when deficit spending and crushing debt threaten our nation's prosperity and freedom.

We must make every dollar count because we are borrowing 40 cents of every dollar the federal government spends. We must show restraint. We must not duplicate efforts across agencies and departments. And we must not continue to spend by mortgaging the futures of our children by borrowing from our friends and from our enemies. Although I agree with much of the Views and Estimates, there are some specific areas on which I wish to state a different view.

U.S. Global Change Research Program The Administration asks for more and more and more to spend on the U.S. Global Change Research Program (USGCRP), the government-wide program created by Congress in 1990 "to improve understanding of uncertainties in climate science, expand global observing systems, develop science-based resources to support policymaking and resource management, and communicate findings broadly among scientific and stakeholder communities." For FY 2013 the requested increase is 5.6% over FY 2012. These funds are requested directly in the budgets of NASA, NSF, NOAA, NIST, DOE, and other departments.

I must continue to be clear and direct - the entire budget for this program should be zeroed out. Federal global warming research is not reducing uncertainties in climate science. The research is not changing minds. If we spend $2.6 billion in FY 2013, 40% of which we borrow from overseas, it will change zero minds about global warming. Every dollar spent on this is a dollar wasted. This path, which the Administration refuses to leave, is irrational and reckless.

National Aeronautics and Space Administration The budget request for Fiscal Year 2013 for the National Aeronautics and Space Administration (NASA) is significantly lower than expected by the NASA Authorization Act of 2010 (P.L. 111-267).

With our Exploration program, we are repeating history. Not the history of Apollo, but the history of Constellation. The funding is inadequate to the mission. The plan didn't fit under the expected funding level, and now that we have considerably less to work with we refuse to acknowledge reality. The single most important message of the Augustine

Commission was that you cannot succeed when your mission does not match your funding. The Administration continues to say that the SLS will fly in 2017 despite this significant budget pressure, but I remain skeptical.

I agree with the Committee that it is "unacceptable for the U.S. to rely on the Russian Soyuz system for the remainder of the ISS program" for crew transportation, but I strongly disagree about their suggested solution. In order to fix this problem we must fully fund the commercial crew program at the requested $830 million. Commercial crew is our most critical near-term civil space goal, and it's time we acted like it. We underfund this critical program, and then complain that it isn't progressing quickly enough.

Our use of the $100 billion International Space Station hangs in the balance. We currently rely on the Russians, who have been good partners, but the Soyuz is a single point of failure. We have it within our grasp to create redundancy by creating multiple, independent, sustainable systems that can bring people safely to orbit and return them to Earth. And NASA is spending $450 million for crew access to ISS every year that we fail to create domestic, private sector crew transportation. The increase of $330 million in this program above authorized levels is small relative to the potential gain for NASA, America, and humanity.

We continue to hear that the SLS/MPCV system will serve as a back-up for Earth-to-orbit transportation in the unlikely event that none of the other systems in development are successful. The FY 2013 request for this "back-up system" is 280% of the request of the primary system. By acting on this type of faulty logic, we have created a national debt as large as our GDP and still our nation refuses to take its foot off the deficit spending accelerator.

Department of Energy The Nuclear Energy R&D programs request continues the trend of maintaining the past instead of creating the future. In FY 2011, DOE's high temperature reactor programs - which include fast spectrum reactors, NGNP, and other advanced reactors - accounted for nearly 25 % of the DOE nuclear energy program, while in this request it is less than 15 %. During that same time, light water reactor programs have increased from 36 % up to 42 % of the program.

While the $65 million request for the SMR program shows that we are moving forward on some fronts, it will be disappointing if that program only funds light water reactor designs.

This request doubles down on old technologies and slows down on new technologies. We should accelerate the design and construction of commercially viable fast spectrum reactors, which can create vast amounts of energy while consuming 97% or more of the so-called waste material. We, as a nation, are pursuing a strategy of dumping nuclear waste in a deep hole instead of using it as the energy resource it is. We should partner with industry to pursue these technical advancements to enhance our energy future.

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Tuesday, March 6, 2012

THE HONORABLE RANDY NEUGEBAUER (R-TX)
U.S. House Committee on Science, Space, and Technology

Additional Views: Fiscal Year 2013 Budget

Chairman Hall:

The U.S. national debt reached $15 trillion last year, meaning that our irresponsible spending has now given each citizen a $50,000 share of our debt. Unfortunately, while European countries' debt crises are providing examples of the unsustainable road we are following, Washington has failed to make even the slightest dent in our habit of overspending. The President's budget request for Fiscal Year 2013 forces us even further down the path toward a major debt crisis. This proposal is yet another example of the Administration's intention to drastically increase spending and run massive deficits year in and year out.

The President proposes increasing all non-defense and non-health specific research and development spending by 8.7 percent over FY12 levels, for a total of $37.9 billion. This is fundamentally unsustainable, particularly at a time when the United States is borrowing 40 cents for every dollar we spend. While research and development funding in many scientific endeavors can have positive results, we must heavily scrutinize every single dollar of hard-earned taxpayer money that we send out the door. Unfortunately, our habit of repeatedly increasing spending each year cannot continue in our current fiscal environment, and research and development funding is no exception.

Specifically, the president proposes $27.2 billion for the Department of Energy (DOE) in FY13. This is an increase of $856 million (or 3.2 percent) over FY12 levels. Roughly one third of this is directed to DOE's research and development programs. The DOE Office of Science request is $5 billion, representing an increase of 2.4 percent. While this office does perform important R&D activities, I believe that we must expect greater austerity and more effective leveraging of federal dollars by better utilizing private and university partnerships. It is absolutely essential that we end our pattern of enormous yearly increases in expenditures. Spending cuts at DOE and the Office of Science must be part of that plan.

The case can be made that many federal programs merit additional appropriations. Yet I refuse to pass this massive burden of debt and an ever-expanding federal government to our children and grandchildren. Some cuts in spending may be painful, but every program must be on the table. Unfortunately, the President's FY13 budget request reinforces his pattern of massive spending and record deficits.

Sincerely,

Randy

Randy Neugebauer
Member of Congress

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RESEARCH AND SCIENCE EDUCATION SUBCOMMITTEE
CHAIRMAN

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House of Representatives

Additional Views and Estimates

Congressman Mo Brooks

Committee on Science, Space and Technology

Fiscal Year 2013

National Aeronautics and Space Administration:

The NASA Authorization Act of 2010 authorizes $2.64 billion for the Space Launch System (SLS) and other *necessary* support for FY 2013. The President's FY 2013 Request allows for only $1.3 billion for SLS, attributing the decrease to a diversion of approximately $405 million to a new account entitled Exploration Ground Systems. While ground systems support is necessary for SLS, I continue to have concerns that the amount of funding being diverted to the Exploration Ground Systems account may not be fully necessary at this time and will continue to seek clarification on this issue.

According to Section 302 of the Authorization Act, the NASA Administrator "shall, as soon as practicable after the date of the enactment of this Act, initiate development of a Space Launch System meeting the minimum capabilities requirements specified in subsection (c)." Furthermore, per Section 302(c)(1)(D), the Space Launch System shall have, at a minimum, "The capability to serve as a backup system for supplying and supporting ISS cargo requirements or crew delivery requirements not otherwise met by available commercial or partner-supplied vehicles."

In addition, the Act states that the Administrator "shall continue the development of a multi-purpose crew vehicle to be available as soon as practicable, and no later than for use with the Space Launch System." I am pleased to see that the SLS and MPCV are finally underway but fail to see where this directive was carried out "as soon as practicable."

Furthermore, the Act states that the Administrator "shall ensure critical skills and capabilities are retained, modified, and developed, as appropriate, in areas related to solid and liquid engines, large diameter fuel tanks, rocket propulsion, and other ground test capabilities for an effective transition to the follow-on Space Launch System." Also related to this, Section 306 of the Act states the following:

> (a) Report Required--Not later than 120 days after the date of the enactment of this Act, the Administrator shall submit to Congress a report setting forth an assessment, prepared by the Administrator, in consultation with the Secretary of Defense and the Secretary of Commerce, of the effects of the retirement of the Space Shuttle, and of

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the transition to the Space Launch System developed pursuant to section 302, on the solid rocket motor industrial base and the liquid rocket motor industrial base in the United States.

(b) Matters To Be Addressed.--In preparing the assessment required by subsection (a), the Administrator shall address the following:

(1) The effects of efficiencies and efforts to stream-line the industrial bases referred to in subsection (a) for support of civil, military, and commercial users.

(2) The extent to which the United States is reliant on non-United States systems, including foreign rocket motors and foreign launch vehicles.

(3) Such other matters as the Administrator, in consultation with the Secretary of Defense and the Secretary of Commerce, may consider appropriate.

The intent of Congress is clear, and I am concerned that NASA continues to overfund programs such as Commercial Crew Development while underfunding the Space Launch System. The President's FY 2013 budget request for Commercial Crew is $829.7 million, $329.7 million *above* the amount authorized for FY2013 by the 2010 Authorization Act.

While it is good for the private sector to build commercial capabilities, it is a critical matter of national security that the United States maintains government access to space. This sentiment is echoed in Section 2 (9) of the 2010 Authorization Act, which states that "While commercial transportation systems have the promise to contribute valuable services, it is in the United States national interest to maintain a government operated space transportation system for crew and cargo delivery to space."

NASA, by law, continues to be a civilian space agency; however, the existence of dual use technologies and the liquid and solid rocket motor industrial base inherently tie the space agency with U.S. military capabilities. The Authorization Act states that "In the 50 years since the establishment of NASA, the arena of space has evolved substantially. As the uses and users of space continue to expand, the issues and operations in the regions closest to Earth have become increasingly complex, with a growing number of overlaps between civil, commercial and national security activities. These developments present opportunities and challenges to the space activities of NASA and the United States."

By continuing to divert funds from SLS, this Administration puts America at risk of indefinite reliance on the Russians for access to space. Meanwhile, countries such as China seek to develop military capabilities under the auspices of a civilian space agency and make no apology for this. Yet this Administration apparently fails to recognize the importance of United States government access to space. This is very troubling to me, and I will continue to closely monitor the progress of the SLS and MPCV.

Mo Brooks, ALO

Rep. Hultgren - Additional Views and Estimates of President Obama's Budget Request for Issues within the Jurisdiction of the Committee on Science, Space and Technology.
March 8, 2012

I truly believe the story of American exceptionalism is a story of our investments in basic research and exploration. And I do not believe that the President's budget takes us there; in fact, I believe it undercuts that investment.

First, with regard to NASA, the President has decimated our Mars exploration budget, cancelled our plans to return to space exploration, and left us entirely dependent on the Russians with no contingency plans. And that is just his proposal for NASA; his proposal for fundamental science research and our national labs is even worse.

I am deeply troubled by the administration's lack of commitment to basic science research. Within the Department of Energy, the Office of Science received a modest 2.4% increase, well below the rate required to double its investment over the next 10 years. The story for dedicated High Energy Physics is worse.

The Administration's budget is not only unsupportive of Fermilab, it actively undermines both the current operations and future of the lab. The Long Baseline Neutrino Experiment (LBNE) represents a strong flagship project for the future of the lab, and the administration's request would essentially end it. The President has proposed a nearly 10% cut to Fermilab's budget. Fermilab is our nation's only single purpose high energy physics lab, and I view the President's request as a slap in the face to the lab's legacy of scientific achievement.

Specifically, the administration's FY2013 budget for Fermilab is $365,000,000, a $30,000,000 cut from the current budget levels. The huge cut from Fermi's operations will have severe consequences for both staffing levels and their scientific program, which are inextricably intertwined.

Our national labs and the lack of commitment from the President for all forms of basic research at the other labs and other programs is similarly disheartening.

Moreover, it's not as if the President is proposing to cut spending across the board and science and NASA happen to be a casualty; no. The President is still trying to grow government and increase spending by hundreds of billions of dollars; he just happens to be proposing cuts to one of the few productive areas of government to pay for his expansion. And that is shameful.

And it's shameful because High Energy Physics and our broader scientific portfolio go beyond parochial interests and local politics; these endeavors are inextricably linked to both our national success and, fundamentally, our national character. Unfortunately, in addition to the President proposing cuts to High Energy Physics and Fermilab, he's also shown lukewarm

support for the Department of Energy's Office of Science, all while his political pet projects like Solyndra style green energy gambles receive 30% increases.

And it's on this point that I think a constituent physicist of mine phrased it best: science is divided into "Edisonian" science – the research that leads to light bulbs and other tangible inventions – and "Einsteinian" science that not only seeks answers to questions about the nature of our world, but also provokes new questions.

American free enterprise and the private sector do an outstanding job of the Edisonian science, and our national labs have done an incredible job of the fundamental Einsteinian science. However, the President's budget sacrifices "Einsteinian" science at the political alter of trying to compete with the private sector and pick market winners.

Science requires a certain infrastructure. And the President's budget undermines the core part of this infrastructure; a part of the infrastructure that drives long-term economic growth and innovation. It is no accident that our investments in these various NASA and science endeavors in the 60s and 70s lead to that generation of adolescents creating companies like Microsoft, Apple and Amazon in their adult years. I fear our short sightedness now will cost us the leading companies of the future.

The U.S. research system is unique. We've found an incredibly powerful combination, wedding education and research by incorporating universities, user facilities and Department of Energy resources. With a pedigree spanning over half a century, it is self-evident that this basic research drives our understanding of the universe and our economic growth. These are new ideas and new innovations that spawn new products, new services, new companies and new industries.

But this system is only as stable as our commitment to it, which is why sustained and predictable research funding is crucial. The 2007 reorganization under America COMPETES was a good first step, but Congress must redouble its efforts to provide a clear, predictable, long-term path mapping out the seriousness of our investment. The President's budget represents a backward trend in this front.

With growing competition from overseas and economic uncertainty here at home, it is more important than ever that we reinforce our national commitment to basic research. Our long-term success in economic innovation, problem-solving, and inspiring future generations of Americans depends on it.

Europe now leads us in physics, China leads us in solar technology, India leads us in job creation, and we rely 100% on the Russians to get us into space. To say this concerns me is an understatement. I believe the seed corn for turning all of this around is our investment in both basic research and NASA's exploration. The President's budget request, however, undercuts both of those activities by sacrificing our seed corn to his political talking points. We must not let this continue.

Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology on the FY2013 Budget Request

We are pleased to see that the President's budget for FY2013 continues to propose investments in this Nation's future even as it takes steps to reign in the government's long-term deficit challenge. All of us believe that investing in the future of America--in its infrastructure, in research and innovation, and in the education of our children and workforce--represents the most important step the Federal government can do to ensure long-term economic success for the American people.

Cutting these investments would be detrimental to our capacity to balance the budget in the long-term and to sustain a high quality of life. Imagine parents who are able to send their children to college but choose not to do so because they want to cut back on family expenses. Based on average outcomes, such a decision would consign those children to a lifetime of reduced earnings--the latest census finds that annual earnings for a college graduate are approximately $51,000 while those for a high school graduate are just $28,000. So it is with the Nation. Balancing the budget through cuts to investments in infrastructure, education, and research and development would leave us poorer as a society with a harder road towards meeting our debts and growing our economy.

Therefore, we cannot support the Majority's Views and Estimates that are being submitted to the Committee on the Budget.

One overarching problem with the Majority's Views and Estimates is their lack of consistency on the issue of basic research versus technology investments. It seems that the only programs the Majority supports are basic research, except when the applied technology program--for example at NASA or in DOE nuclear technologies--involves a program they like. Our view is that a broad and balanced portfolio of investments, at all levels of research and development and across the full range of fields is a necessary condition for a robust national science and engineering enterprise. While we certainly prefer some investments over others, we have no ideological blinders when it comes to seeking benefits for the American taxpayer or American business.

Our view is informed by an appreciation that this country's economic success has always hinged on a creative interaction between government and the private sector. America's historical approach towards economic development has been pragmatic. Government--whether at the local, State, or Federal level--has taken steps to encourage private capital to support public goals and has used its revenues in part to make investments that will support private initiative. This approach represents neither a managed economy nor free-wheeling markets. Instead, public interest and private interest work together for mutual benefit, and the result has been one of the great economic miracles of the modern age.

Reflecting on the elaborate systems that tie our communities together into the most

accomplished and dynamic country in the world, there is not a single system that has not involved significant government actions to improve its effectiveness of safety. Our Nation's entire infrastructure--its ports, airports, national airspace, railways, waterways, roads and highways, drinking water and sewer systems, telecommunications systems, information systems, and energy distribution systems have been established and maintained through collaboration between private capital and government. Increasingly, successful public-private collaborations in all of those areas have benefited from federal investments in science and technology.

We thus strongly encourage the Budget Committee to work to find the space in the budget to protect a diverse, robust, and wide-ranging set of research and development activities, and science, technology, engineering, and mathematics (STEM) education programs. Despite claims to the contrary, there is no evidence that any of the programs called out for cuts in the Majority's Views and Estimates are duplicative or ineffective or stray beyond the bounds of what Congress authorized agencies to do. While some of us have differences with the Administration on specific programs and activities, we endorse in the strongest possible terms the Obama Administration's budget request for the broad budget functions used by the Budget Committee for the purposes of meeting your obligations under the Budget Control Act.

We include some specific comments regarding agency-level issues as part of these Minority Views and Estimates. While we appreciate that some of these comments are at too fine-grained a level to inform your work, we include this material to help elucidate some areas of concern or disagreement with the proposed budget or with comments made by the Majority.

PROGRAMMATIC COMMENTS ON THE FY2013 BUDGET FOR SCIENCE AND TECHNOLOGY

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

In December, the Office of Science and Technology Policy (OSTP) in the Executive Office of the President released an inventory of Federal STEM programs required by the *America COMPETES Reauthorization Act of 2010*. In total, 13 agencies reported 252 distinct investments in STEM education for a total of $3.4 billion in FY 2010. OSTP will complete its detailed STEM strategic plan this spring. A recent GAO report, requested by Chairmen Kline and Hunter, is consistent with OSTP's findings and expresses support for OSTP's STEM education strategic planning and evaluation efforts.

Due to the phasing out of a large program at the Department of Education (ED) and the consolidation, and/or phasing out of a number of smaller programs across the government, the total request for FY 2013 is $2.95 billion, a 2.6 percent increase from FY 2012. The total number of programs in FY 2013 would stand at 209. We support this overall level of funding as well as OSTP's ongoing effort to evaluate and lead a

reorganization of these important activities.

Of the approximately $3 billion in federal funding for STEM education, one-third is spent on activities--primarily scholarships and research experiences for undergraduate and graduate students--that specifically target the unique workforce needs of science mission agencies. As the current wave of retirements at our federal science agencies continues to be a challenge for these agencies, we support full funding for these STEM workforce development programs.

Of the remaining $2 billion spent on broader STEM education, much less than $1 billion is targeted to K-12 learning audiences and K-12 teacher professional development. The remainder is directed to strengthening STEM education and opportunities in higher education and to education research at the National Science Foundation (NSF) and ED. Approximately $1 billion of the total across program types and audience levels is spent on activities with the primary goal of targeting groups that are underrepresented in STEM. We go into this level of detail primarily to serve as a counterpoint to the Majority's tendency to imply that the Federal government is spending $3 billion on K-12 STEM education alone.

A number of the mission agencies, including the National Oceanic and Atmospheric Administration (NOAA), the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the National Aeronautics and Space Administration (NASA), take 20 percent or larger cuts to their respective STEM education budgets, while ED would see a 21.5 percent increase and NSF would see a 3.4 percent increase. Until OSTP's STEM strategic plan is available for review and evaluation, it is hard to offer specific guidance on agency-by-agency STEM funding levels. However, as a general matter, the Committee has had concerns in the past about over-reliance on ED for STEM initiatives because of its history of checkered accomplishment in this area. We are aware of Secretary Duncan's passion for this issue, but we are also mindful of organizational interests and limits that tend to outlast even the most inspiring of Cabinet Secretaries, and that leads us to believe that agencies with a stronger track record might be better positioned to keep these STEM initiatives going.

National Science Foundation (NSF)

Overall, the NSF budget request would see a 4.8 percent increase to $7.37 billion, including a 5.2 percent increase for Research and Related Activities (R&RA) and a 5.6 percent increase for Education and Human Resources (EHR). This is the first time in recent memory that EHR will see a greater relative increase than R&RA. We support these funding requests. Also for the first time in memory, NSF is requesting a flat budget for its Agency Operations and Awards Management. We support this request with some reservations about the agency's ability to find such savings in operations after several years of flat funding while the research budgets have grown. We support the proposed budget for ongoing construction of the National Ecological Observatory Network (NEON),

as well as the funding for the remaining major research facility construction projects.

We note the Majority's concerns that NSF needs to better explain the rescoping of the Science, Engineering and Education for Sustainability program. However, we remain supportive of NSF's role in fundamental research on the environment and sustainability science and engineering, including areas of research critical to understanding, predicting, and responding to global climate change. We believe that NSF's level of support in these areas of research is appropriate given both the challenges and NSF's mission.

The Innovation Corps (I-Corps) program is a public - private partnership that connects NSF-funded researchers with the technological, entrepreneurial, and business communities to help identify basic research that could be used as emerging technology concepts that hold the promise of transitioning, after several more steps, into new companies and jobs. The Majority calls this picking winners and losers; we could not disagree more. I-Corps sits on the boundary of the core mission of NSF to support basic research. But it fills a much-needed gap that no other agency is better suited to fill and that the universities themselves are too cash-strapped to fill. We support the proposed level of funding for I-Corps.

NSF is proposing significant changes for its Education and Human Resources Directorate, including realignment of the four subdivisions of EHR and creation of two new cross-directorate initiatives: Expeditions in Education and the Core Launch Fund. At the same time, NSF is proposing flat funding for several STEM education programs that are long-standing priorities of this Committee, including the Noyce Teacher Scholarship Fund, the Math and Science Partnerships program, the Advanced Technological Education program, and the full suite of programs targeted primarily to broadening participation in STEM. We are particularly concerned with the significant cut to informal STEM education at a time when every science mission agency is also proposing cuts to its respective informal STEM education activities.

We support NSF's ongoing efforts to strengthen the quality, coherence, focus, and management of EHR programs. The Expeditions in Education initiative will strengthen the collaborations between EHR and the R&RA Directorates, and between EHR and other agencies, in particular the Department of Education. We reiterate our concern, however, that collaboration not lead to an increasing role for ED at the expense of NSF. The Core Launch Fund is consistent with a House-passed provision in the *America COMPETES Reauthorization Act of 2010* that called on NSF to work with the research community to define grand challenges in education research and to make those grand challenges a priority in their education research portfolio. Having said that, we believe that $20 million seems excessive for this effort and some of those funds might be put to better use in increasing support for the previously mentioned ongoing programs that have been cut or held flat.

National Aeronautics and Space Administration (NASA)

Successive NASA Authorization Acts have directed that NASA implement a balanced portfolio of science, aeronautics, human spaceflight, and that NASA pursue a stepping stone approach to human exploration of the solar system that includes the Moon, near-Earth asteroids, Lagrangian points, and Mars. The overall funding level in the FY 2013 NASA budget request, while lower than a number of our Members think is needed, is reasonably good in light of the overall budget constraints. However, some of our Members are concerned that the mixed signals about programmatic priorities shifting from last year to this year need to be clarified and raise concerns about how priorities are being set for the Agency and what the Agency most hopes to achieve.

The Administration request would fund NASA at a level of $17.7 billion, a $58.6 million reduction from the FY 2012 appropriation (when the $30 million recission is included). NASA indicates that the FY 2013 budget request is designed to fund the agency's stated priorities and major elements of the NASA Authorization Act of 2010. Within that total amount, NASA's Science program is cut by $162.5 million, or about 3.2 percent from the FY 2012 appropriated amount and within the Science account, the funding for Planetary Exploration is cut by $309 million or about 21percent; funding for Aeronautics is cut by about 2 percent; funding for the Space Launch System/Multipurpose Crew Vehicle (SLS/MPCV) is cut by several hundred million dollars or about 12.5 percent; NASA's Education program is cut by $36 million or about 26 percent; and funding for the institutional needs of the agency and its field Centers is cut by almost 5 percent. The account that is increased the most in the budget request is the Commercial Crew Program, whose budget would more than double (from an FY 2012 appropriation of $406 million to a requested level of $830 million). In addition, the Space Technology account (which includes SBIR/STTR as well as technology R&D programs) would be increased by about $125.3 million (21.8 percent). When compared to the NASA Authorization Act of 2010, both the proposed cuts and the proposed increases are inconsistent with the Act's authorization levels for the accounts mentioned above.

Mars Exploration. In the area of Mars exploration, the Administration is signaling a significant departure from prior plans. The FY 2013 budget request for Mars exploration is $361 million, a $226 million decrease (about 39 percent) from the amount appropriated in FY 2012. More significantly, projections for future year budgets show even more drastic reductions. NASA has indicated it will no longer participate with the European Space Agency in previously agreed-to collaborative Mars missions in 2016 and 2018 and has initiated an analysis of how it can implement an integrated strategy for long-term human and robotic exploration of Mars. We are concerned that this course of action will result in a stand-down in developing Mars missions, or at least those that address top scientific priorities, and could also result in a loss of highly critical capabilities in landing and operating spacecraft on Mars, a capability that at present only the United States possesses. We are also concerned about the potential negative message we send to our long-term partners by stepping back from planned collaborations on joint missions with them, especially at a time when fiscal pressures argue for increased and enhanced

international collaboration in undertaking challenging missions.

Human Spaceflight and Supplying the International Space Station (ISS). The Administration's funding request for development of a Multipurpose Crew Vehicle (MPCV) and a Space Launch System (SLS) is hundreds of millions of dollars less than the amount appropriated in FY 2012 and significantly below the authorized amounts for those programs in FY 2013. Making such cuts is typically not consistent with providing programmatic stability to an ongoing vehicle development program. NASA indicates that the FY 2013 funding requested for the MPCV and SLS, coupled with projected funding through FY 2017, will enable the agency to conduct unmanned test flights in FY 2014 and 2017. Despite direction in the NASA Authorization Act of 2010 that the MPCV/SLS system be developed on a timetable to allow it to serve as a back-up transportation system for crew and cargo to the ISS, NASA so far has taken no steps nor allocated any funding to address that Congressional requirement.

As noted above, the request for development of commercial crew transportation capabilities to low Earth orbit and the ISS is more than twice the FY 2012 appropriation level and $330 million higher than that authorized for FY 2013. This increased request for commercial crew development comes shortly after conferees noted in the Joint Explanatory Statement accompanying the FY 2012 appropriations that "significant unanswered questions remain about the long-term viability of the commercial space market" and provided $406 million for FY2012, less than half the requested amount for that year. NASA has not yet provided an independent cost and schedule estimate for its commercial crew program.

National Institute of Standards and Technology (NIST)

The FY 2013 budget for NIST includes an increase of $106.2 million (14.1 percent) from FY 2012.

Manufacturing. More than half of the proposed increase in funding would be focused on advanced manufacturing research. As part of this expanded focus on manufacturing, the budget proposes the creation of the Advanced Manufacturing Technology Consortia (AMTech) which would be focused on the creation of industry-led public-private consortia to identify research projects supporting long-term, precompetitive industrial research needs in advanced manufacturing. AMTech was first proposed as part of the FY 2012 budget, but was ultimately not funded by Congress. We believe that the Majority has not been supportive of the concept due to concerns about the appropriate role of the Federal Government in funding research by the private sector. The budget also proposes $1 billion in mandatory funding to NIST for the establishment of a National Network for Manufacturing Innovation (NNMI). The budget describes NNMI as collaboration between NIST, the Department of Defense, the Department of Energy, and the National Science Foundation to promote the development of manufacturing technologies with broad applications. While we await more details on this collaborative proposal, as a general

matter we strongly encourage the Budget Committee to provide sufficient allocations to fund manufacturing technology initiatives designed to create American jobs and support American businesses.

Cybersecurity. The budget request for FY 2013 once again supports NIST's important cybersecurity activities. We strongly support NIST's longstanding responsibilities relating to cybersecurity and remain committed to ensuring that NIST's technical expertise in this area, particularly as it relates to the development of cybersecurity standards and guidelines for Federal agencies and U.S. industry, continues to be an integral part of the Federal Government's cybersecurity efforts.

Forensic Science. Since the release of the National Research Council's report on forensic science more than three years ago, we have been committed to improving forensic science in the United States and have been particularly interested in identifying the appropriate role for NIST in accomplishing this goal. For this reason, we are pleased that the FY 2013 budget request focuses on enhancing the scientific validity of forensic evidence and enabling reliable and accurate forensic practice through the development of new measurement tools and stronger measurement methodologies.

Technology Innovation Program. Our Members are disappointed that, for the first time in 25 years, NIST will not be operating a program providing early stage investment to accelerate the development of innovative technologies with the potential for significant commercial payoffs. While we understand that the decision to end the Technology Innovation Program (TIP) was forced upon NIST by Congress in the FY 2012 appropriations bill, we are concerned about the void created by the termination of this promising program and its future implications for economic growth and jobs. We hope to work with the Budget Committee, our other colleagues in Congress, and the Administration in finding an appropriate replacement for TIP as soon as possible.

National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration's (NOAA) budget request for FY 2013 is $5.1 billion, a 3 percent increase ($154 million) over the FY12 enacted levels. The President's Request for NOAA reflects numerous tough choices, resulting in program terminations and budget cuts that include cutting the NOAA Education Program by more than half (a $14 million decrease) and terminating the National Mesonet.

Satellites. The bulk of the NOAA increase is for the Procurement, Acquisition, and Construction of the Geostationary Operational Environmental Satellite – R Series (GOES-R), which gets a $186 million increase. GOES-R is scheduled to be launched in 2015. There is a decrease of $34 million for the Joint Polar Satellite System (JPSS), formerly the National Polar-orbiting Operational Environmental Satellite (NPOESS) and its climate sensors We understand and support the necessity of this ramp-up in funding for GOES-R in order to ensure that it is ready for launch by 2015. However, we remain

concerned about ensuring adequate funding requests to keep JPSS-1 on track, as well as the potential data gap between the current Suomi National Polar-orbiting Partnership (Suomi NPP) satellite and the launch of JPSS-1.

National Weather Service. The National Weather Service is the only line office within the agency to receive a significant decrease in funding. In the FY 2013 budget request, NWS receives a $30 million decrease in the operations and research budget for local warnings and forecasts during a time of increased severe weather around the country.

While we generally support the President's request for NOAA, we are concerned that funding for the NWS and JPSS may be insufficient to meet the Nation's needs and provide the best warnings and forecasts, but we must await more details from the agency before we can make a final decision on these specific requests.

Environmental Protection Agency (EPA)

The EPA R&D account includes a modest $8 million increase that reflects investments in many of our Committee's priorities. The Science and Technology account shifts priorities, with increases in some areas and decreases in others. The proposed decreases will still allow EPA to maintain much of its intramural research activities.
Despite claims in the Majority's Views that they have conducted oversight revealing weak science at EPA, the record reviewed to date largely reveals that EPA's problems with science have been a result of underfunding of its research enterprise and lack of a sufficient degree of independence to carry out its day-to-day activities. No facts that have been brought before the Committee would lead to a reasoned conclusion that the way to fix EPA is to cut its science budget. We support the Administration's request for EPA's R&D account.

Department of Energy (DOE)

We understand that prioritization is important in a time of fiscal austerity. This theme appears to be reflected throughout the Department of Energy's budget as a number of programs are slated to sustain large cuts while others see significant boosts in support. This is a significant departure from budget requests of recent years which typically included steady increases of varying degrees for most programs. In fact, the overall request of $27.1 billion for DOE is considerably less ambitious than last year's request of $29.5 billion. Generally, we agree with the budget's shift towards more of a focus on emerging "clean" energy technology research, and less of a focus on technology development for the conventional and commercially-mature energy sectors. However, we do not agree that this is the appropriate time to make substantial cuts to fundamental basic research activities within the Office of Science, and we urge the Budget Committee to allocate sufficient funding to sustain the research communities and world-class facilities it supports.

Our over-reliance on foreign, heavily-polluting, and finite sources of energy and on a rapidly aging energy infrastructure threaten our national security, economic well-being, and environmental health, as well as our standing as the world leader in technology development. Now, more than ever, it is critical for the U.S. to invest in an energy research and innovation system that matches the scale and complexity of the energy challenges we face. The path is simple. Federal investment in research leads to technological innovation, which in turn leads to economic development, well-paying jobs, and a more sustainable future.

The DOE Office of Science is the nation's primary supporter of basic research in the physical sciences, operating 10 of DOE's National Laboratories, and supporting roughly 25,000 government, academic, and industry researchers from all 50 states in facilities both here and abroad. It supports research in fields as diverse as materials science, biology, nanotechnology, plasma science, and supercomputing – all of which are essential to the development of advanced energy technologies - as well as fundamental research in particle and nuclear physics. The Office of Science oversees the construction and operation of some of the world's most advanced R&D user facilities, including supercomputers, particle accelerators, x-ray light sources, and neutron scattering facilities that enable the examination of materials and chemical processes for a wide range of industrial and basic energy research applications. We are concerned that a number of cuts proposed in this budget will force these facilities to reduce, suspend, or terminate operations, and thus greatly hinder our ability to maintain U.S. technological competitiveness, develop new energy solutions, and educate the next generation of scientists, innovators, and technicians.

We support the request for the Office of Science's Biological and Environmental Research (BER) and feel strongly that its activities are consistent with the Department's mission. BER focuses on generating breakthroughs in biological system science critical to development of biomass-based liquid transportation fuels, biobased products, and bioenergy. Furthermore, BER conducts research to understand the fundamental science associated with climate change, as well as DOE's environmental challenges related to legacy nuclear waste management. Congress authorized DOE to conduct climate research in the Global Change Research Act of 1990. As with the other agencies in the US Global Change Research Program, there are unique and indispensable technical and scientific capabilities found only at DOE. Furthermore, in its charge to support the development of a national energy system that is both secure and environmentally sound, the Department must anticipate the effect of these systems on the future global climate. We do not agree that climate change is a subject unworthy of study and reasoned action based on knowledge.

Investments in the Office of Energy Efficiency and Renewable Energy serve to strengthen U.S. scientific and economic leadership by advancing innovation in a range of technology areas, supporting the next generation of scientists and technology leaders, seeding the industries of tomorrow, and ultimately laying the groundwork for a cleaner, more

sustainable energy future. We do not agree with those in the Majority who think that increased investments in energy efficiency or in non-fossil fuel sources of energy are ill-considered. We recognize that precious taxpayer dollars are better leveraged in a constrained budgetary environment by increased investment in research on the clean energy technologies that EERE focuses on, and less on the conventional energy sectors that have already enjoyed decades of government support and resulting commercial success. While we commend the Administration for prioritizing its innovation programs by shifting some resources away from commercially-mature areas within EERE, we are concerned that additional cuts to EERE would limit the program's ability to pursue emerging research areas, and ultimately do lasting harm to our ability to meet our energy objectives and compete in the global marketplace.

Every Member feels the pressure to act to bring down energy prices now and insulate our economy from future price shocks. With less than 8% of technically-recoverable global oil reserves, the U.S. cannot drill its way to energy independence, regardless of the technological advances in drilling. Furthermore, oil, gas, nuclear, and coal have benefitted from decades of direct taxpayer support and are now among the most profitable industries in the world. Members recognize the value of these industries to the U.S. economy, and understand that some continued taxpayer-funded research can yield improvements in efficiency and environmental impact. However, Democratic Members believe that a better balance must be achieved within the DOE research portfolio.

It is also time to take seriously the need to modernize our energy infrastructure and transition away from outdated technologies. We have extended the lifetimes and stretched the infrastructure's capacity to the point where massive new investments will be needed in the near future. We understand we must take this opportunity and leverage our resources to transition to a new, cleaner, more efficient, and "smarter" energy grid that gives both energy suppliers and consumers more control, and therefore we support the President's request for the Office of Electricity Deliverability and Energy Reliability.

Finally, ARPA-E has been an undeniable success. If allowed the time and resources to thrive, ARPA-E may well represent the first of a new generation of smaller, more agile and effective, and more efficient research programs. ARPA-E is oversubscribed, seeing far more good ideas than it can afford to sponsor. For ARPA-E to be effective, it must continue to grow beyond its relatively modest current level of $250 million, and because of its structure it is well-suited to do so. Therefore we support the proposed increase in the President's budget request.

Department of Homeland Security (DHS)

The FY 2013 budget for the Department of Homeland Security's Science and Technology Directorate is $831.5 million, a $163.5 million (24.5 percent) increase over FY 2012 levels. This funding level would return the S & T Directorate to its FY 2011 funding level, which was still $180 million less than the funding level in FY 2010.

As the Directorate has experienced sharp decreases in funding in recent years, it has been forced to prioritize some research areas over others and fund only its top priorities (biological defense, cybersecurity, explosive detection, and first responder technologies) with its limited resources. With the proposed increase in funding, the Directorate has identified a number of additional priorities (border security, chemical attack resiliency, counterterrorism, and information sharing and interoperability) as areas for which it will resume funding.

We support the level of the President's request and believe that the Congress should expand DHS's research enterprise back to its FY2011 level with an eye to stabilizing it in that range for the coming years. The yo-yoing of funding that has occurred to date is disruptive to the agency and damages its research enterprise.

Department of Transportation

Research and development at the Department of Transportation (DOT) has historically often been conducted in a stove-piped manner, meaning that research projects are very specific to the needs of a specific mode (i.e. railroads, freight, or mass transit). The stove-piped nature of DOT research has resulted in research gaps, duplication, and a fragmented national agenda. Our Committee has tried to improve the coordination of research across DOT's components through the establishment of the Research and Innovative Technology Administration (RITA). While RITA is charged with coordinating DOT's research programs and advancing the deployment of cross-cutting technologies, its impact has been limited in part by a lack of prominence within DOT. The President's FY2013 budget request proposes to address these concerns by transforming RITA into a new office, the Office of the Assistant Secretary for Research and Technology within the Office of the Secretary, funded at $14 million. According to the proposal, this will strengthen research functions across DOT by providing a prominent centralized focus on research and technology. We certainly support these goals and look forward to learning more about the proposal. We remain committed to ensuring an effective and coordinated research strategy at DOT.

Economic Development Administration

The FY 2013 budget also requests $25 million in dedicated funding for the Regional Innovation Strategies Program at the Economic Development Administration (EDA). This program, which was authorized in the *America COMPETES Reauthorization Act of 2010*, will encourage the development of new businesses, products, or services through strategic investments that help communities leverage their regional assets to spur innovation. Although dedicated funding was also requested for this program in FY 2012, Congress chose instead to require EDA to support these activities out of its Economic Adjustment Assistance (EAA) account. We strongly support the request for a separate account line for the Regional Innovation Strategies Program. A distinct line of funding will enable EDA to carry out this program as intended

in the *America COMPETES Reauthorization Act* without being unnecessarily constrained by the limitations inherent in the EAA program.

Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology on the FY2013 Budget Request

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Additional Views on the FY2013 Budget Request
Representative Zoe Lofgren

I wanted to submit additional views regarding the President's budget for Fiscal Year 2013.

The Administration has made an effort to invest smartly in science and technology; however, I am troubled by the potential impact of the Department of Energy (DOE) National Nuclear Security Administration's (NNSA) budget on domestic inertial confinement fusion research. The National Ignition Facility, located at Lawrence Livermore National Laboratory, is a basic science project that has enjoyed bipartisan support for many decades. It is the leading inertial confinement fusion experiment in the world and plays an important role in the stewardship of the nation's nuclear weapons, for the advancement of science and potentially for energy. China and Russia have accelerated efforts to compete in inertial confinement fusion but remain behind this premier U.S. effort.

Below is a letter from NIF that highlights the detrimental results of these proposed budget changes:

NIF

March 7, 2012

The Honorable Zoe Lofgren
U.S. House of Representatives
1401 Longworth House Office Building
Washington, DC 20515

Subject: Implications of the President's FY2013 budget and language on the NIF and Laser Fusion Program

Dear Representative Lofgren,

This is in response to your request regarding the effect of the President's FY13 budget guidance on the National Ignition Facility and the Laser Inertial Confinement Fusion program for our nation.

The result would be profound and negative.

In the President's budget there are two key directions reducing the funding of the Ignition Program at LLNL by $30,000,000 and eliminating the Self-Constructed Asset Pool (SCAP) overhead rate at LLNL.

The $30,000,000 funding reduction will result in the termination of approximately 100 highly trained staff jeopardizing our ability to support the Stockpile Stewardship and fusion energy missions for the nation. The elimination of the SCAP rate (without appropriate funding adjustments) will result in an additional reduction in spending power of approximately $140,000,000 and would, to first order, result in the elimination of the inertial confinement fusion program at NIF. The NIF staff would be reduced by another 450 key scientific, engineering and operations staff and NIF would be placed in a standby condition. Additional collateral damage would include the loss of the capabilities of key industrial high technology partners that we have cultivated over the last 30 years who are world leaders in these technologies.

This is occurring as we are on the verge of long-awaited ignition milestones and most importantly as France, China and Russia are following our nation's lead in building NIF-like laser fusion facilities.

We are in conversations with NNSA to understand their intent and to explore what could be done to mitigate this very unfortunate situation.

Sincerely,

Edward Moses
Director, National Ignition Facility

Lawrence Livermore National Laboratory

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Fusion energy has the potential to become a game-changer in our efforts to reduce our dependence on dirty fossil fuels. In order to achieve practical fusion, though, we must have a robust fusion research program. I am concerned that the President's NNSA budget proposal may have a mothballing effect on NIF and inhibit the progress of domestic inertial confinement fusion research.

Additionally, the Department of Energy has yet to adequately justify the budget's reductions to the High Performance Computing and Network Facilities subprogram under the Advanced Scientific Computing Research program, and I continue to have concerns regarding this proposal.

Zoe Lofgren
Member of Congress

MARCIA L. FUDGE
11TH DISTRICT, OHIO

COMMITTEES:
AGRICULTURE
RANKING MEMBER, SUBCOMMITTEE ON
DEPARTMENT OPERATIONS, OVERSIGHT, AND CREDIT

SUBCOMMITTEE ON CONSERVATION,
ENERGY, AND FORESTRY

SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON SPACE AND AERONAUTICS

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Washington, DC 20515

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March 8, 2012
Additional Views on the FY2013 Budget

Though I agree, for the most part, with the Minority Views of the Democratic Caucus of the Committee on Science, Space, and Technology on the FY2013 Budget Request, I must state my difference of opinion on the proposed NASA budget. I believe that the President's Budget Request sets forth the plan needed to develop a robust space and aeronautics industry in the United States. By leveraging private sector funds with federal investments, we will increase our national competition and progress.

However, what is most important to me and my constituents is the proposal's focus on research and development (R&D) within the agency, specifically that within the Space Technology account. I believe that we are at a critical time in our history where technology and innovation represent the future of our country. It is the role of the federal government to invest in a diverse portfolio of basic R&D that will carry our space and aeronautics industry forward. If we truly want to build the vehicles of the future, we must make these investments now. I urge my colleagues to protect funding for space technology in the proposal for the sake of our global leadership and future prosperity.

Sincerely,

Marcia L. Fudge

Marcia L. Fudge
Member of Congress

PRINTED ON RECYCLED PAPER

HISTORY OF APPOINTMENTS
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
FOR THE ONE HUNDRED TWELFTH CONGRESS

January 6, 2011—H. Res. 6

Ralph M. Hall, Texas, named Chair of the Science, Space, and Technology Committee.

January 5, 2011—H. Res. 7

Eddie Bernice Johnson, Texas, named Ranking Member of the Science, Space, and Technology Committee.

January 18, 2011—H. Res. 37

Republican Members assigned to the Committee on Science, Space, and Technology:

F. James Sensenbrenner, Jr., Lamar S. Smith of Texas, Dana Rohrabacher, Roscoe G. Bartlett, Frank D. Lucas, Judy Biggert, W. Todd Akin, Randy Neugebauer, Michael T. McCaul, Paul C. Broun of Georgia, Sandy Adams, Benjamin Quayle, Charles J. "Chuck" Fleischmann, E. Scott Rigell, Steven M. Palazzo, Mo Brooks, Andy Harris.

January 19, 2011—H. Res. 39

Democratic Members assigned to the Committee on Science, Space, and Technology:

Jerry F. Costello, Lynn C. Woolsey, Zoe Lofgren of California, David Wu, Brad Miller of North Carolina, Daniel Lipinski, Gabrielle Giffords, Donna F. Edwards, Marcia L. Fudge, Ben R. Lujan, Paul D. Tonko, Jerry McNerney, John P. Sarbanes, Terri A. Sewell, Frederica S. Wilson, Hansen Clarke.

February 9, 2011—H. Res. 78

Randy Hultgren, Chip Cravaack, Larry Bucshon, and Dan Benishek appointed to the Committee on Science, Space, and Technology.

August 3, 2011

Mr. Wu resigned from the United States House of Representatives.

January 26, 2012

Ms. Giffords resigned from the United States House of Representatives.

February 16, 2012—H. Res. 533

Ms. Bonamici appointed to the Committee on Science, Space, and Technology.

March 20, 2012—H. Res. 590

Mr. Sarbanes resigned from the Committee on Science, Space, and Technology.

March 20, 2012—H. Res. 590

Ms. Fudge resigned from the Committee on Science, Space, and Technology.

SUBCOMMITTEE SELECTION

February 9, 2011—Republican Subcommittee Assignments

ENERGY & ENVIRONMENT:

Andy Harris (Chair), Dana Rohrabacher, Roscoe G. Bartlett, Frank D. Lucas, Judy Biggert, W. Todd Akin, Randy Neugebauer, Paul C. Broun, Charles J. "Chuck" Fleischmann, Ralph M. Hall (Ex Officio)

INVESTIGATIONS & OVERSIGHT:

Paul C. Broun (Chair), F. James Sensenbrenner, Jr., Sandy Adams, Randy Hultgren, Larry Bucshon, Dan Benishek, Ralph M. Hall (Ex Officio)

RESEARCH & SCIENCE EDUCATION:

Mo Brooks (Chair), Roscoe G. Bartlett, Benhamin Quayle, Steven M. Palazzo, Andy Harris, Randy Hultgren, Larry Bucshon, Dan Benishek, Ralph M. Hall (Ex Officio)

SPACE & AERONAUTICS:

Steven M. Palazzo (Chair), F. James Sensenbrenner, Lamar S. Smith, Dana Rohrabacher, Frank D. Lucas, W. Todd Akin, Michael T. McCaul, Sandy Adams, E. Scott Rigell, Mo Brooks, Ralph M. Hall (Ex Officio)

TECHNOLOGY & INNOVATION:

Benjamin Quayle (Chair), Lamar S. Smith, Judy Biggert, Randy Neugebauer, Michael T. McCaul, Charles J. "Chuck" Fleischmann, E. Scott Rigell, Randy Hultgren, Chip Cravaack, Ralph M. Hall (Ex Officio)

February 9, 2011—Democratic Subcommittee Assignments

ENERGY & ENVIRONMENT:

Brad Miller (Ranking Member), Lynn C. Woolsey, Ben R. Lujan, Paul D. Tonko, Zoe Lofgren, Jerry McNerney, Eddie Bernice Johnson (Ex Officio)

INVESTIGATIONS & OVERSIGHT:

Donna F. Edwards (Ranking Member), Zoe Lofgren, Brad Miller, Jerry McNerney, Eddie Bernice Johnson (Ex Officio)

RESEARCH & SCIENCE EDUCATION:

Daniel Lipinski (Ranking Member), Hansen Clarke, Paul D. Tonko, John P. Sarbanes, Terri A. Sewell, Eddie Bernice Johnson (Ex Officio)

SPACE & AERONAUTICS:

Gabrielle Giffords (Ranking Member), Marcia L. Fudge, Jerry F. Costello, Terri A. Sewell, David Wu, Donna F. Edwards, Frederica S. Wilson, Eddie Bernice Johnson (Ex Officio)

TECHNOLOGY & INNOVATION:

David Wu (Ranking Member), John P. Sarbanes, Frederica S. Wilson, Daniel Lipinski, Gabrielle Giffords, Ben R. Lujan, Eddie Bernice Johnson (Ex Officio)

October 26, 2011—Democratic Subcommittee Assignments

Ms. Edwards assigned as Ranking Member of the Subcommittee on Technology Innovation.

Mr. Tonko assigned as Ranking Member on the Subcommittee on Investigations and Oversight.

Mr. Clarke assigned to the Subcommittee on Space and Aeronautics.

January 26, 2012

Ms. Giffords resigned from the United States House or Representatives.

March 20, 2012

Mr. Sarbanes resigned from the Subcommittee on Research and Science Education and Subcommittee on Technology and Innovation.

March 20, 2012

Ms. Fudge resigned from the Subcommittee on Space and Aeronautics.

March 28, 2012

Ms. Bonamici was assigned to the Subcommittee on Research and Science Education and the Subcommittee on Technology and Innovation.

July 10, 2012

Mr. Tonko resigned his seat on the Subcommittee on Research and Science Education

November 29, 2012

Mr. Curson was assigned to the Committee on Science, Space, and Technology

RULES GOVERNING PROCEDURE, COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY FOR THE 112TH CONGRESS

RULE 1. GENERAL PROVISIONS

(a) IN GENERAL.—The Rules of the House of Representatives, so far as applicable, shall govern the Committee and its Subcommittees, except that a motion to recess from day to day, or a motion to recess subject to the call of the chair (within 24 hours), or a motion to dispense with the first reading (in full) of a bill or resolution, if printed copies are available, is a non-debatable motion of privilege in the Committee. [House Rule XI 1(a)]

(b) SUBCOMMITEES.—Each Subcommittee is a part of the Committee and is subject to the authority and direction of the Committee and its rules so far as applicable. Written rules adopted by the Committee, not inconsistent with the Rules of the House, shall be binding on each Subcommittee of the Committee. [House Rule XI 1(a)]

(c) COMMITTEE RULES.—The Committee's rules shall be publicly available in electronic form and published in the Congressional Record not later than 30 days after the Chair of the Committee is elected in each odd-numbered year. [House Rule XI 2(a)(2)]

(d) AVAILABILITY OF PUBLICATIONS.—To the maximum extent feasible, the Committee shall make its publications available in electronic form, including on the Committee website. [House Rule XI 2(e)(4)]

(e) COMMITTEE WEBSITE.—The Chair of the Committee shall maintain an official Committee website for the purpose of furthering the Committee's legislative and oversight responsibilities, including communicating information about the Committee's activities to Committee Members and other Members of the House. The Ranking Minority Member of the Committee may maintain a similar website for the same purpose, including communicating information about the activities of the minority to Committee Members and other Members of the House.

(f) VICE CHAIR; PRESIDING MEMBER.—The Chair shall designate a member of the majority party to serve as Vice Chair of the Committee, and shall designate a majority member of each Subcommittee to serve as Vice Chair of each subcommittee. The vice chair of the Committee or subcommittee, as the case may be, shall preside at any meeting or hearing during the temporary absence of the Chair. If the Chair or Vice Chair of the Committee or Subcommittee are not present at any meeting or hearing, the ranking member of the majority party who is present shall preside at the meeting or hearing. [House Rule XI 2(d)]

(g) MOTION TO GO TO CONFERENCE.—The Chair is directed to offer a motion under clause l of Rule XXII of the Rules of the House whenever the Chair considers it appropriate. [House Rule XI 2(a)(3)]

(h) CONFERENCE COMMITEES.—Recommendations of conferees to the Speaker shall provide a ratio of majority party Members to minority party Members which shall be no less favorable to the majority party than the ratio of the Committee.

(i) USE OF HEARING ROOMS.—In consultation with the Ranking Minority Member, the Chair of the Committee shall establish guidelines for the use of Committee hearing rooms.

(j) NATIONAL SECURITY INFORMATION.—All national security information bearing a classification of secret or higher which has been received by the Committee or a Subcommittee shall be deemed to have been received in Executive Session and shall be given appropriate safekeeping. The Chair of the Committee may establish such regulations and procedures as in the Chair's judgment are necessary to safeguard classified information under the control of the Committee. Such procedures shall, however, ensure access to this information by any Member of the Committee or any other Member of the House of Representatives who has requested the opportunity to review such material.

(k) OTHER PROCEDURES.—The Chair of the Committee, after consultation with the Ranking Minority Member of the Committee, may establish such

other procedures and take such actions as may be necessary to carry out these rules or to facilitate the effective operation of the Committee.

Rule 2. REGULAR, ADDITIONAL, AND SPECIAL MEETINGS

(a) REGULAR MEETINGS.—Unless dispensed with by the Chair of the Committee, the Committee shall meet on the second (2nd) Wednesday of each month at 10:00 a.m. if the House is in session. If the House is not in session on that day and the Committee has not met during such month, the Committee shall meet at the earliest practicable opportunity when the House is again in session. [House Rule XI 2(b)]

(b) ADDITIONAL MEETINGS.—The Chair of the Committee may call and convene, as the Chair considers necessary and in accordance with Rule 4(b), additional meetings of the Committee for the consideration of any bill or resolution pending before the Committee or for the conduct of other Committee business. The Committee shall meet for such purpose under that call of the Chair. [House Rule XI 2(c)(1)]

(c) SPECIAL MEETINGS.—Rule XI 2(c) of the Rules of the House of Representatives is hereby incorporated by reference. [House Rule XI 2(c)(2)]

Rule 3. MEETINGS AND HEARINGS GENERALLY

(a) IN GENERAL.—Meetings and hearings of the Committee shall be called to order and presided over by the Chair, or in the Chair's absence, by the Vice Chair of the Committee or by the ranking majority member of the Committee present as Acting Chair. [House Rule XI 2(d)]

(b) OPENING STATEMENTS.—Insofar as is practicable, the Chair, after consultation with the Ranking Minority Member, shall limit the total time of opening statements by Members to no more than 10 minutes, the time to be divided equally between the Chair and Ranking Minority Member.

(c) ADDRESSING THE COMMITTEE.—The time any one (1) Member may address the Committee on any bill, motion, or other matter under consideration by the Committee or the time allowed for the questioning of a witness at hearings before the Committee will be limited to five (5) minutes, and then only when the Member has been recognized by the Chair. This time limit may be waived by the Chair pursuant to unanimous consent. [House Rule XI 2(j)(2)]

(d) REQUESTS FOR WRITTEN MOTIONS.—Any motion made at a meeting of the Committee and which is entertained by the Chair of the Committee or the Subcommittee shall be presented in writing upon the demand of any Member present and a copy made available to each Member present.

(e) OPEN MEETINGS AND HEARINGS.—Each meeting for the transaction of business, including the markup of legislation, and each hearing of the Committee or a Subcommittee shall be open to the public, including to radio, television, and still photography coverage, unless closed in accordance with clause 2(g) or 2(k)(5) of rule XI of the Rules of the House of Representatives.

(f) AUDIO AND VISUAL COVERAGE.———

(1) Whenever a hearing or meeting conducted by the Committee is open to the public, these proceedings shall be open to coverage by audio and visual means, except as provided in Rule XI 4(f)(2) of the House of Representatives.

(2) To the maximum extent practicable the audio and video coverage shall be in a manner that allows the public to easily listen to and view the proceedings.

(3) Operation and use of any Committee internet broadcast system shall be fair and nonpartisan and in accordance with all other applicable rules of the Committee and the House.

(4) To the maximum extent practicable, the Committee shall maintain the recordings of the coverage of such hearings or meetings in a manner easily accessible to the public.

(5) The Chair of the Committee or Subcommittee may not limit the number of television, or still cameras to fewer than two (2) representatives from each medium (except for legitimate space or safety considerations, in which case pool coverage shall be authorized).

(6) Radio and television tapes, television films, and Internet recordings of any Committee hearings or meetings that are open to the public may

not be used, or made available for use, as partisan political campaign material to promote or oppose the candidacy of any person for elective public office.

(7) It is, further, the intent of this rule that the general conduct of each meeting or hearing covered under authority of this rule by audio or visual means, and the personal behavior of the Committee Members and staff, other government officials and personnel, witnesses, television, radio, and press media personnel, and the general public at the meeting or hearing, shall be in strict conformity with and observance of the acceptable standards of dignity, propriety, courtesy, and decorum traditionally observed by the House in its operations, and may not be such as to:

(A) distort the objects and purposes of the meeting or hearing or the activities of Committee Members in connection with that meeting or hearing or in connection with the general work of the Committee or of the House; or

(B) cast discredit or dishonor on the House, the Committee, or a Member, Delegate, or Resident Commissioner or bring the House, the Committee, or a Member, Delegate, or Resident Commissioner into disrepute.

(8) The coverage of Committee meetings and hearings by audio and visual means shall be permitted and conducted only in strict conformity with the purposes, provisions, and requirements of this rule.

(9) The following shall apply to coverage of Committee meetings or hearings by audio or visual means:

(A) If audio or visual coverage of the hearing or meeting is to be presented to the public as live coverage, that coverage shall be conducted and presented without commercial sponsorship.

(B) The allocation among the television media of the positions or the number of television cameras permitted by a Committee or Subcommittee Chair in a hearing or meeting room shall be in accordance with fair and equitable procedures devised by the Executive Committee of the Radio and Television Correspondents' Galleries.

(C) Television cameras shall be placed so as not to obstruct in any way the space between a witness giving evidence or testimony and any member of the Committee or the visibility of that witness and that member to each other.

(D) Television cameras shall operate from fixed positions but may not be placed in positions that obstruct unnecessarily the coverage of the hearing or meeting by the other media.

(E) Equipment necessary for coverage by the television and radio media may not be installed in, or removed from, the hearing or meeting room while the Committee is in session.

(F) (i) Except as provided in subdivision (ii), floodlights, spotlights, strobe lights, and flashguns may not be used in providing any method of coverage of the hearing or meeting.

(ii) The television media may install additional lighting in a hearing or meeting room, without cost to the Government, in order to raise the ambient lighting level in a hearing or meeting room to the lowest level necessary to provide adequate television coverage of a hearing or meeting at the current state of the art of television coverage.

(G) If requests are made by more of the media than will be permitted by a Committee or Subcommittee Chair for coverage of a hearing or meeting by still photography, that coverage shall be permitted on the basis of a fair and equitable pool arrangement devised by the Standing Committee of Press Photographers.

(H) Photographers may not position themselves between the witness table and the members of the Committee at any time during the course of a hearing or meeting.

(I) Photographers may not place themselves in positions that obstruct unnecessarily the coverage of the hearing by the other media.

(J) Personnel providing coverage by the television and radio media shall be currently accredited to the Radio and Television Correspondents' Galleries.

(K) Personnel providing coverage by still photography shall be currently accredited to the Press Photographers' Gallery.

(L) Personnel providing coverage by the television and radio media and by still photography shall conduct themselves and their coverage activities in an orderly and unobtrusive manner. [House Rule XI (4)]

Rule 4. CONSIDERATION OF MEASURE OR MATTER

(a) IN GENERAL.—Bills and other substantive matters may be taken up for consideration only when called by the Chair of the Committee, except those matters which are the subject of special call meetings outlined in Rule 2(c).

(b) NOTICE.———

(1) (A) The Chair of the Committee shall announce the date, place, and subject matter of a committee meeting, which may not commence earlier than the third day on which members have notice thereof. [House Rule XI 2(g)(3)]

(B) A committee meeting may begin sooner than specified in subdivision (A) (in which case the Chair shall make the announcement specified in subdivision (A) at the earliest possible time) if———

(i) the Chair of the Committee, with the concurrence of the ranking minority member, determines there is good cause to do so; or

(ii) the Committee so determines by majority vote, a quorum being present. [House Rule XI 2(g)(3)]

(2) (A) At least 24 hours prior to the commencement of a meeting for the consideration of a measure or matter, or at the time of the announcement under (b)(1)(B) made within 24 hours before such meeting, the Chair shall cause the text of such measure or matter to be made publicly available in electronic form. [House Rule XI 2(g)(4)]

(B) To the maximum extent practicable, a written copy of the measure or matter to be considered and the original text of the measure to be considered for purposes of markup shall be made publicly available in electronic form for at least 48 hours in advance of consideration, excluding Saturdays, Sundays and legal holidays.

(3) A notice provided shall be published promptly in the Daily Digest and made publicly available in electronic form. [House Rule XI 2(g)(3)]

(c) SUBMISSION OF AMENDMENTS.—To the maximum extent practicable, amendments to a measure or matter shall be submitted in writing to the Clerk of the Committee at least 24 hours prior to the consideration of the measure or matter.

(d) INVESTIGATIVE OR OVERSIGHT REPORTS.—A proposed investigative or oversight report shall be considered as read in Committee if it has been available to the Members for at least 24 hours (excluding Saturdays, Sundays, or legal holidays except when the House is in session on such a day). [House Rule XI 1(b)(2)]

(e) PRIVATE BILLS.—No private bill will be scheduled by the Chair of the Committee if there are two (2) or more Members who object to its consideration.

Rule 5. POWER TO SIT AND ACT; SUBPOENA POWER

(a) IN GENERAL.———

(1) Notwithstanding paragraph (2), a subpoena may be authorized and issued in the conduct of any investigation or series of investigations or activities to require the attendance and testimony of such witnesses and the production of such books, records, correspondence, memoranda, papers and documents as deemed necessary, only when authorized by majority vote of the Committee or Subcommittee (as the case may be), a majority of the Committee or Subcommittee being present. Authorized subpoenas shall be signed only by the Chair of the Committee, or by any Member designated by the Chair. [House Rule XI 2(m)(3)(A)]

(2) The Chair of the Committee, after consultation with the Ranking Minority Member of the Committee, or, if the Ranking Member cannot be reached, the Ranking Minority Member of the relevant Subcommittee, may authorize and issue such subpoenas as described in paragraph (1) during any period in which the House has adjourned for a period longer than three (3) days. [House Rule XI 2(m)(3)(A)]

(3) A subpoena duces tecum may specify terms of return other than at a meeting or a hearing of the Committee. [House Rule XI 2(m)(3)(B)]

(4) The Chair, or any Member of the Committee designated by the Chair, may administer oaths to witnesses before the Committee. [House Rule XI 2(m)(2)]

(b) SENSITIVE OR CONFIDENTIAL INFORMATION.—Unless otherwise determined by the Committee or Subcommittee, certain information received by the Committee or Subcommittee pursuant to a subpoena not made part of the record at an open hearing shall be deemed to have been received in Executive Session when the Chair of the Committee, in the Chair's judgment and after consultation with the Ranking Minority Member of the Committee, deems that in view of all of the circumstances, such as the sensitivity of the information or the confidential nature of the information, such action is appropriate.

Rule 6. QUORUMS AND VOTING

(a) QUORUMS.———

(1) One-third (1/3) of the Members of the Committee shall constitute a quorum for all purposes except as provided in paragraphs (2) and (3) of this Rule. [House Rule XI 2(h)(3)]

(2) A majority of the Members of the Committee shall constitute a quorum for the purposes of reporting any measure or matter, authorizing a subpoena, closing a meeting or hearing pursuant to clause 2(g) of Rule XI of the House, releasing executive session material pursuant to clause 2(k)(7) of Rule XI of the Rules of the House, or where required by any other Rule of the House.

(3) Two (2) Members of the Committee shall constitute a quorum for taking testimony and receiving evidence, which, unless waived by the Chair of the Committee after consultation with the Ranking Minority Member of the Committee, shall include at least one (1) Member from each of the majority and minority parties. [House Rule XI 2(h)(2)]

(b) VOTING BY PROXY.—No Member may authorize a vote by proxy with respect to any measure or matter before the Committee. [House Rule XI 2(f)]

(c) REQUESTS FOR RECORD VOTE.—A record vote of the Members may be had at the request of three (3) or more Members or, in the apparent absence of a quorum, by anyone (1) Member.

(d) POSTPONEMENT OF PROCEEDINGS.—The Chair of the Committee, or of any Subcommittee, is authorized to postpone further proceedings when a record vote is ordered on the question of approving a measure or matter or on adopting an amendment, and to resume proceedings on a postponed question at any time after reasonable notice. Upon resuming proceedings on a postponed question, notwithstanding any intervening order for the previous question, an underlying proposition shall remain subject to further debate or amendment to the same extent as when the question was postponed. [House Rule XI 2(h)(4)]

Rule 7. HEARING PROCEDURES

(a) ANNOUNCEMENT OF HEARING.—The Chair shall make a public announcement of the date, place, and subject matter of a hearing, and to the extent practicable, a list of witnesses at least one (1) week before the commencement of the hearing. If the Chair, with the concurrence of the Ranking Minority Member, determines there is good cause to begin the hearing sooner, or if the Committee so determines by majority vote, a quorum being present for the transaction of business, the Chair shall make the announcement at the earliest possible date. Any announcement made under this Rule shall be promptly published in the Daily Digest, and made available in electronic form. [House Rule XI 2(g)(3)]

(b) WITNESS STATEMENT; TESTIMONY.———

(1) Insofar as is practicable, no later than 48 hours in advance of his or her appearance, each witness who is to appear before the Committee shall file in printed copy and in electronic form a written statement of his or her proposed testimony and a curriculum vitae. [House Rule XI 2(g)(5)]

(2) Each witness shall limit his or her presentation to a five (5) minute summary, provided that additional time may be granted by the Chair of the Committee or Subcommittee when appropriate.

(3) In the case of a witness appearing in a nongovernmental capacity, a written statement of proposed testimony shall include a disclosure of the amount and source (by agency and program) of each Federal grant (or subgrant thereof) or contract (or subcontract thereof) received during the current fiscal year or either of the two previous fiscal years by the witness or by an entity represented by the witness. Such statements, with appropriate redactions to protect the privacy of the witness, shall be made publicly available in electronic form not later than one day after the witness appears. [House Rule XI 2(g)(5)]

(c) QUESTIONING WITNESSES.—The right to interrogate a witness before the Committee shall alternate between Majority and Minority Members. Each Member shall be limited to five (5) minutes in the interrogation of witnesses until such time as each Member present who wishes to be recognized has been recognized once for that purpose. No member may be recognized for a second period of interrogation until each Member present has been recognized at least once. [House Rule XI 2(j)(2)]

(d) EXTENDED QUESTIONING OF WITNESSES BY MEMBERS.—Notwithstanding Rule 3(c), upon a motion, the Chair, in consultation with the Ranking Minority Member, may designate an equal number of Members from each party to question a witness for a period of time equally divided between the majority party and the minority party, not to exceed one (1) hour in the aggregate or, upon a motion, may designate staff from each party to question a witness for equal specific periods that do not exceed one (1) hour in the aggregate. [House Rule XI 2(j)(2)]

(e) MINORITY WITNESSES.—Whenever any hearing is conducted by the Committee on any measure or matter, the minority Members of the Committee shall be entitled, upon request to the Chair by a majority of them before the completion of the hearing, to call witnesses selected by the minority to testify with respect to the measure or matter during at least one (1) day of hearing thereon. [House Rule XI 2(j)(1)]

(f) ADDITIONAL QUESTIONS FOR THE RECORD.—Members of the Committee have two (2) weeks from the date of a hearing to submit additional questions for the record to be answered by witnesses who have appeared in person. The letters of transmittal and any responses thereto shall be printed in the hearing record.

(g) ADDITIONAL HEARING PROCEDURES.—Rule XI 2(k) of the Rules of the House of Representatives is hereby incorporated by reference.

Rule 8. PROCEDURES FOR REPORTING MEASURES OR MATTERS

(a) FILING OF REPORTS.———

(1) It shall be the duty of the Chair of the Committee to report or cause to be reported promptly to the House any measure approved by the Committee and to take or cause to be taken the necessary steps to bring the matter to a vote. To the maximum extent practicable, the written report of the Committee on such measures shall be made available to the Committee membership for review at least 24 hours in advance filing. [House Rule XIII 2(b)(1)]

(2) The report of the Committee on a measure which has been approved by the Committee shall be filed within seven (7) calendar days (exclusive of days on which the House is not in session) after the day on which there has been filed with the Clerk of the Committee a written request, signed by the majority of the Members of the Committee, for the reporting of that measure. Upon the filing of any such request, the Clerk of the Committee shall transmit immediately to the Chair of the Committee notice of the filing of that request. [House Rule XIII 2(b)(2)]

(b) CONTENTS OF REPORT.—The report of the Committee on a measure or matter that has been approved by the Committee shall include the matters required by clauses 2(c) and 3 of rule XIII of the Rules of the House.

(c) SUPPLEMENTAL; MINORITY, OR ADDITIONAL VIEWS.—Clause 2(I) of House Rule XI is hereby incorporated by reference.

(d) IMMEDIATE PRINTING; SUPPLEMENTAL REPORTS.—This Rule does not preclude———

(1) the immediate filing or printing of a Committee report unless a timely request for the opportunity to file supplemental, minority, or additional views has been made as provided by this Rule; or

(2) the filing by the Committee of any supplemental report upon any measure or matter which may be required for the correction of any technical error in a previous report made by that Committee upon that measure or matter.

(e) REPORT LANGUAGE ON USE OF FEDERAL RESOURCES.—No legislative report filed by the Committee on any measure or matter reported by the Committee shall contain language which has the effect of specifying the use of federal resources more explicitly (inclusively or exclusively) than that specified in the measure or matter as ordered reported, unless such language has been approved by the Committee during a meeting or otherwise in writing by a majority of the Members.

Rule 9. OTHER COMMITTEE PUBLICATIONS

(a) HOUSE REPORTS.———

(1) Any document published by the Committee as a House Report, other than a report of the Committee on a measure which has been approved by the Committee, shall be approved by the Committee at a meeting, and Members shall have the same opportunity to submit views as provided for in Rule 8(c).

(2) Not later than the 30th day after June 1 and December 1, the Committee shall submit to the House a semiannual report on the activities of the Committee.

(b) OTHER DOCUMENTS.———

(1) Subject to paragraph (2) and (3), the Chair of the Committee may approve the publication of any document as a Committee print which in the Chair's discretion the Chair determines to be useful for the information of the Committee.

(2) Any document to be published as a Committee print which purports to express the views, findings, conclusions, or recommendations of the Committee or any of its Subcommittees, other than a report of the Committee on a measure which has been approved by the Committee, must be approved by the Committee or its Subcommittees, as applicable, in a meeting or otherwise in writing by a majority of the Members, and such Members shall have the right to submit supplemental, minority, or additional views for inclusion in the print within at least 48 hours after such approval.

(3) Any document to be published as a Committee print, other than a document described in subsection (2) of this Rule, shall———

(A) include on its cover the following statement: "This document has been printed for informational purposes only and does not represent either findings or recommendations adopted by this Committee;" and

(B) not be published following the sine die adjournment of a Congress, unless approved by the Chair of the Committee after consultation with the Ranking Minority Member of the Committee.

(c) JOINT INVESTIGATION OR STUDY.—A report of an investigation or study conducted jointly by the Committee and one (1) or more other Committee(s) may be filed jointly, provided that each of the Committees complies independently with all requirements for approval and filing of the report. [House Rule XI 1(b)(2)]

(d) POST ADJOURNMENT FILING OF COMMITTEE REPORTS.———

(1) After an adjournment of the last regular session of a Congress sine die, an investigative or oversight report approved by the Committee may be

filed with the Clerk at any time, provided that if a Member gives notice at the time of approval of intention to file supplemental, minority, or additional views, that Member shall be entitled to not less than seven (7) calendar days in which to submit such views for inclusion with the report. [House Rule XI 1(b)(4)]

(2) After an adjournment sine die of a regular session of a Congress or after December 15, whichever occurs first, the Chair of the Committee may file the second and fourth semiannual Activity Report for that Congress with the Clerk of the House at anytime and without the approval of the Committee, provided that a copy of the report has been available to each Member of the Committee for at least seven (7) calendar days and that the report includes any supplemental, minority, or additional views submitted by a Member of the Committee. [House Rule XI 1(d)]

Rule 10. GENERAL OVERSIGHT AND INVESTIGATIVE RESPONSIBILITIES

(a) OVERSIGHT.———

(1) IN GENERAL.—The Committee shall conduct oversight of matters within the jurisdiction of the Committee in accordance with House Rule X, clause 2 and shall review and study on a continuing basis laws, programs, and Government activities relating to nonmilitary research and development. [House Rule X 3(k)]

(2) OVERSIGHT PLAN.—Not later than February 15 of the first session of a Congress, the Committee shall meet in open session, with a quorum present, to adopt its oversight plan for that Congress for submission to the Committee on Oversight and Government Reform and the Committee on House Administration, in accordance with the provisions of clause 2(d) of Rule X of the House of Representatives. [House Rule X 2(d)]

(b) INVESTIGATIONS.———

(1) IN GENERAL.—The Chair of the Committee may undertake any formal investigation in the name of the Committee after consultation with the Ranking Minority Member of the Committee.

(2) SUBCOMMITEE INVESTIGATIONS.—The Chair of any Subcommittee shall not undertake any formal investigation in the name of the Committee or Subcommittee without formal approval by the Chair of the Committee, in consultation with other appropriate Subcommittee Chairs, and after consultation with the Ranking Minority Member of the Committee. The Chair of any Subcommittee shall also consult with the Ranking Minority Member of the Subcommittee before undertaking any investigation in the name of the Committee.

Rule 11. SUBCOMMITTEES

(a) ESTABLISHMENT AND JURISDICTION OF SUBCOMMITEES.—The Committee shall have the following standing Subcommittees with the jurisdiction indicated.

(1) SUBCOMMITTEE ON ENERGY AND ENVIRONMENT.—Legislative jurisdiction and general oversight and investigative authority on all matters relating to energy research, development, and demonstration and projects therefor, commercial application of energy technology, and environmental research, including:

(A) Department of Energy research, development, and demonstration programs;

(B) Department of Energy laboratories;

(C) Department of Energy science activities;

(D) energy supply activities;

(E) nuclear, solar and renewable energy, and other advanced energy technologies;

(F) uranium supply and enrichment, and Department of Energy waste management and environment, safety, and health activities, as appropriate;

(G) fossil energy research and development;

(H) clean coal technology;

(I) energy conservation research and development;

(J) energy aspects of climate change;

(K) pipeline research, development, and demonstration projects;

(L) energy and environmental standards;

(M) energy conservation, including building performance, alternate fuels for and improved efficiency of vehicles, distributed power systems, and industrial process improvements;

(N) Environmental Protection Agency research and development programs;

(O) the National Oceanic and Atmospheric Administration, including all activities related to weather, weather services, climate, the atmosphere, marine fisheries, and oceanic research;

(P) risk assessment activities; and

(Q) scientific issues related to environmental policy, including climate change.

(2) SUBCOMMITEE ON TECHNOLOGY AND INNOVATION.—Legislative jurisdiction and general oversight and investigative authority on all matters relating to competitiveness, technology, standards, and innovation, including:

(A) standardization of weights and measures, including technical standards, standardization, and conformity assessment;

(B) measurement, including the metric system of measurement;

(C) the Technology Administration of the Department of Commerce;

(D) the National Institute of Standards and Technology;

(E) the National Technical Information Service;

(F) competitiveness, including small business competitiveness;

(G) tax; antitrust, regulatory and other legal and governmental policies as they relate to technological development and commercialization;

(H) technology transfer, including civilian use of defense technologies;

(I) patent and intellectual property policy;

(J) international technology trade;

(K) research, development, and demonstration activities of the Department of Transportation;

(L) surface and water transportation research, development, and demonstration programs;

(M) earthquake programs (except for NSF) and fire research programs, including those related to wildfire proliferation research and prevention;

(N) biotechnology policy;

(O) research, development, demonstration, and standards-related activities of the Department of Homeland Security;

(P) Small Business Innovation Research and Technology Transfer; and

(Q) voting technologies and standards.

(3) SUBCOMMITEE ON RESEARCH AND SCIENCE EDUCATION.—Legislative jurisdiction and general oversight and investigative authority on all matters relating to science policy and science education, including:

(A) the Office of Science and Technology Policy;

(B) all scientific research, and scientific and engineering resources (including human resources), science, technology, engineering and mathematics education;

(C) intergovernmental mechanisms for research, development, and demonstration and cross-cutting programs;

(D) international scientific cooperation;

(E) National Science Foundation, including earthquake programs;

(F) university research policy, including infrastructure and overhead;

(G) university research partnerships, including those with industry;

(H) science scholarships;

(I) computing, communications, networking, and information technology;

(J) research and development relating to health, biomedical, and nutritional programs;

(K) research, development, and demonstration relating to nanoscience, nanoengineering, and nanotechnology;

(L) to the extent appropriate, agricultural, geological, biological and life sciences research;

(M) and materials research, development, and demonstration and policy.

(4) SUBCOMMITTEE ON SPACE AND AERONAUTICS.—Legislative jurisdiction and general oversight and investigative authority on all matters relating to astronautical and aeronautical research and development, including:

(A) national space policy, including access to space;

(B) sub-orbital access and applications;

(C) National Aeronautics and Space Administration and its contractor and government-operated labs;

(D) space commercialization, including commercial space activities relating to the Department of Transportation and the Department of Commerce;

(E) exploration and use of outer space;

(F) international space cooperation;

(G) the National Space Council;

(H) space applications, space communications and related matters;

(I) earth remote sensing policy;

(J) civil aviation research, development, and demonstration;

(K) research, development; and demonstration programs of the Federal Aviation Administration; and

(L) space law.

(5) SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT.—General and special investigative authority on all matters within the jurisdiction of the Committee on Science, Space, and Technology.

(b) RATIOS.—A majority of the majority Members of the Committee shall determine an appropriate ratio of majority to minority Members of each Subcommittee and shall authorize the Chair of the Committee to negotiate that ratio with the minority party; Provided, however, that the ratio of majority Members to minority Members on each Subcommittee (including any ex-officio Members) shall be no less favorable to the majority party than the ratio for the Committee.

(c) EX–OFFICIO MEMBERS.—The Chair of the Committee and Ranking Minority Member of the Committee shall serve as ex-officio Members of all Subcommittees and shall have the right to vote and be counted as part of the quorum and ratios on all matters before the Subcommittee.

(d) REFERRAL OF LEGISLATION.—The Chair of the Committee shall refer all legislation and other matters referred to the Committee to the Subcommittee or Subcommittees of appropriate primary and secondary jurisdiction within two (2) weeks of the matters being referred to the Committee, unless the Chair of the Committee deems consideration is to be by the Committee. Subcommittee Chairs may make requests for referral of specific matters to their Subcommittee within the two (2) week period if they believe Subcommittee jurisdictions so warrant.

(e) PROCEDURES.———

(1) No Subcommittee shall meet to consider for markup or approval any measure or matter when the Committee or any other Subcommittee of the Committee is meeting to consider any measure or matter for markup or approval.

(2) Each Subcommittee is authorized to meet, hold hearings, receive testimony or evidence, mark up legislation, and report to the Committee on all matters referred to it. For matters within its jurisdiction, each Subcommittee is authorized to conduct legislative, investigative, forecasting, and general oversight hearings; to conduct inquiries into the future; and to undertake budget impact studies.

(3) Subcommittee Chairs shall set meeting dates after consultation with the Chair of the Committee and other Subcommittee Chairs with a view toward avoiding simultaneous scheduling of Committee and Subcommittee meetings or hearings wherever possible.

(4) Any Member of the Committee may have the privilege of sitting with any Subcommittee during its hearings or deliberations and may participate in such hearings or deliberations, but no Member who is not a Member of the Subcommittee shall vote on any matter before such Subcommittee, except as provided in subsection (c) of this Rule.

(5) During consideration of any measure or matter for markup or approval in a Subcommittee proceeding, a record vote may be had at the request of one (1) or more Members of that Subcommittee.

(6) Each Subcommittee of the Committee shall provide the Full Committee with copies of such records of votes taken in the subcommittee and such other records with respect to the subcommittee as the Chair deems necessary for the Committee to comply with the rules and regulations of the House.

(f) CONSIDERATION OF SUBCOMMITTEE REPORTS.—After ordering a measure or matter reported, a Subcommittee shall issue a Subcommittee report in such form as the Chair of the Committee shall specify. To the maximum extent practicable, reports and recommendations of a Subcommittee shall not be considered by the Committee until after the intervention of 48 hours, excluding Saturdays, Sundays and legal holidays, from the time the report is submitted and made available to the Members of the Committee and printed hearings thereon shall be made available, if feasible, to the Members of the Committee, except that this Rule may be waived at the discretion of the Chair of the Committee after consultation with the Ranking Minority Member of the Committee.

Rule 12. COMMITTEE RECORDS

(a) TRANSCRIPTS.—The transcripts of those hearings conducted by the Committee and Subcommittees shall be published as a substantially verbatim account of remarks actually made during the proceedings, subject only to technical, grammatical, and typographical corrections authorized by the person making the remarks involved. Transcripts of markups shall be recorded and published in the same manner as hearings before the Committee and shall be included as part of the legislative report unless waived by the Chair of the Committee. [House Rule XI 2(e)(1)(A)]

(b) KEEPING OF RECORDS.———

(1) The Committee shall keep a complete record of all Committee action, which shall include a record of the votes on any question on which a record vote is demanded. The result of each record vote shall be included in the report of the Committee, made available by the Committee for inspection by the public at reasonable times in the offices of the Committee and shall be made publicly available in electronic form within 48 hours of such record vote. [House Rule XI 2(e)(1)(B)]

(2) Information made available for public inspection shall include a description of the amendment, motion, order, or other proposition and the name of each Member voting for and each Member voting against such amendment, motion, order, or proposition, and the names of those Members present but not voting. [House Rule XI 2(e)(1)(B)]

(3) Not later than 24 hours after the adoption of any amendment to a measure or matter considered by the Committee, the Chair shall cause the text of each such amendment to be made publicly available in electronic form. [House Rule XI 2(e)(6)]

(c) AVAILABILITY OF ARCHIVED RECORDS.—The records of the Committee at the National Archives and Records Administration shall be made available for public use in accordance with Rule VII of the Rules of the House of Representatives. The Chair of the Committee shall notify the Ranking Minority Member of the Committee of any decision, pursuant to Rule VII 3(b)(3) or clause 4(b) of the Rules of the House of Representatives, to withhold a record otherwise available, and the matter shall be presented to the Committee for a determination on the written request of any Member of the Committee. [House Rule XI 2(e)(3)]

(d) PROPERTY OF HOUSE.———

(1) Except as provided for in paragraph (2), all Committee hearings, records, data, charts, and files shall be kept separate and distinct from the congressional office records of the Member serving as its Chair. Such records shall be the property of the House, and each Member, Delegate, and Resident Commissioner, shall have access thereto.

(2) A Member, Delegate, or Resident Commissioner, other than Members of the Committee on Standards of Official Conduct, may not have access to the records of the Committee respecting the conduct of a Member, Delegate, Resident Commissioner, officer, or employee of the House without the specific prior permission of the Committee. [House Rule XI 2(e)(2)]

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
Feb. 10, 2011	Organizational Meeting of the Committee on Science, Space, and Technology (Meeting held by the Committee on Science, Space, and Technology)	Business Meeting–1
Feb. 16, 2011	A Review of the Federal Aviation Administration's Research and Development Programs. (Hearing held by the Subcommittee on Space and Aeronautics)	112–1*
Feb. 17, 2011	An Overview of the Administration's Federal Research and Development Programs. (Hearing held by the Committee on Science and Technology).	112–2*
Mar. 2, 2011	The National Aeronautics and Space Administration Fiscal Year 2012 (Hearing held by the Committee on Science and Technology).	112–3*
Mar. 3, 2011	The Department of Energy Fiscal Year 2012 Research and Development Budget Request. (Hearing held by the Subcommittee on Research and Science Education).	112–4*
Mar. 10, 2011	An Overview of the Fiscal Year 2012 Research and Development Budget Proposals at the National Oceanic and Atmospheric Administration and the Environmental Protection Agency. (Hearing held by the Committee on Science, Space, and Technology)	112–5*
Mar. 11, 2011	An Overview of the Fiscal Year 2012 Budget Proposals at the National Science Foundation and the National Institute of Standards and Technology. (Hearing held by the Committee on Science, Space, and Technology)	112–6*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
Mar. 15, 2011	An Overview of Science and Technology Research and Development Programs and Priorities at the Department of Homeland Security. (Hearing held by the Subcommittee on Technology and Innovation)	112–7*
Mar. 17, 2011	H. R. 970, the Federal Aviation Research and Development Reauthorization Act of 2011 (Markup held by the Committee on Science, Space, and Technology)	H. Rept. 112–52**
Mar. 30, 2011	A Review of NASA's Exploration Program in Transition: Issues for Congress and Industry. (Hearing held by the Subcommittee on Space and Aeronautics)	112–8*
Mar. 31, 2011	Climate Change: Examining the Processes Used to Create Science and Policy. (Hearing held by the Committee on Science, Space, and Technology)	112–9*
Mar. 31, 2011	The Role of Small Business in Innovation and Job Creation: The SBIR and STTR Program. (Hearing held by the Subcommittee on Technology and Innovation).	112–10*
Apr. 6, 2011	Behavioral Science and Security: Evaluating TSA's SPOT Program. (Hearing held by the Subcommittee on Investigations and Oversight)	112–11*
Apr. 6, 2011	Offshore Drilling Safety and Response Technologies. (Hearing held by the Subcommittee on Energy and Environment)	112–12*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
Apr. 7, 2011	Are We Prepared? Assessing Earthquake Risk Reduction Reduction in the United States. (Hearing held by the Subcommittee on Technology and Innovation)	112–13*
Apr. 13, 2011	Green Jobs and Red Tape: Assessing Federal Efforts to Encourage Employment. (Hearing held by the Subcommittee on Investigations and Oversight)	112–14*
Apr. 13, 2011	The Creating Jobs Through Small Business Innovation Act of 2011 (Markup held by the Subcommittee on Technology and Innovation)	H. R. 1425
Apr. 14, 2011	Nanotechnology: Oversight of the National Nanotechnology Initiative and Priorities for the Future. (Hearing held by the Subcommittee on Research and Science Education)	112–15*
May 4, 2011	H. R. 1425, Creating Jobs Through Small Business Innovation Act of 2011 (Markup held by the Committee on Science, Space, and Technology)	H. REPT. 112–90 PT. 1**
May 5, 2011	Office of Commercial Space Transportation's Fiscal Year 2012 Budget Request. (Hearing held by the Subcommittee on Space and Aeronautics)	112–16*
May 11, 2011	Review of Hydraulic Fracturing Technology and Practices (Hearing held by the Committee on Science, Space, and Technology).	112–17*
May 13, 2011	Nuclear Energy Risk Management (Joint Hearing held by the Subcommittees on Investigations and Oversight and Energy and Environment)	112–18*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
May 25, 2011	Protecting Information in the Digital Age: Federal Cybersecurity Research and Development Efforts. (Joint Hearing held by Subcommittees on Research and Science Education and Technology and Innovation)	112–19*
May 26, 2011	NASA's Commercial Cargo Providers: Are They Ready to Supply the Space Station in the Post Shuttle Era? (Hearing held by the Subcommittee on Space and Aeronautics)	112–20*
June 1, 2011	Harmful Algal Blooms: Action Plans for Scientific Solutions. (Hearing held by the Subcommittee on Energy and Environment)	112–21*
June 2, 2011	Social, Behavioral and Economic Science Research: Oversight of the Need for Federal Investments and Priorities for Funding. (Hearing held by the Subcommittee on Research and Science Education)	112–22*
June 14, 2011	Transportation Research Priorities: Maximizing Return on Investment of Taxpayer Dollars. (Hearing held by the Subcommittee on Technology and Innovation)	112–23*
June 14, 2011	The Federal Perspective on a National Critical Materials Strategy. (Hearing held by the Subcommittee on Investigations and Oversight)	112–24*
June 15, 2011	An Examination of DOE's Clean Technology Programs. (Hearing held by the Subcommittee on Energy and Environment)	112–25*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
June 16, 2011	STEM Education in Action: Learning Today. Leading Tomorrow. (Hearing held by the Full Committee on Science, Space and Technology)	112–26*
June 22, 2011	First Semiannual Report of Activities of the Committee on Science, Space, and Technology.	Business Meeting–2 H. REPT. 112–112**
June 22, 2011	Examining NOAA's Climate Service Proposal. (Hearing held by the Full Committee on Science, Space, and Technology)	112–27*
July 7, 2011	Hitting the Ethanol Blend Wall: Examining the Science on E15. (Hearing held by the Full Committee on Science, Space, and Technology)	112–28*
July 12, 2011	A Review of NASA's Space Launch System. Oversight of the Need for Federal Investments and Priorities for Funding. (Hearing held by the Subcommittee on Research and Science Education)	112–29*
July 13, 2011	Border Security Technology Innovation Act of 2011. (Markup held by the Subcommittee on Technology and Innovation)	H. R. 2463
July 14, 2011	Harmful Algal Blooms and Hypoxia Research and Control. Amendments Act of 2011 (Markup held by the Subcommittee on Energy and Environment)	H. REPT. 112–333, Part I**
July 14, 2011	EPA's IRIS Program: Evaluating the Science and Process Behind Chemical Risk Assessment. (Hearing held by the Subcommittee on Investigations and Oversight)	112–30*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
July 21, 2011	H.R. 2096, Cybersecurity Enhancement Act of 2011. (Markup held by the Full Committee on Science, Space, and Technology)	H. REPT. 112–264**
July 26, 2011	The Merit Review Process: Ensuring Limited Federal Resources are Invested in the Best Science. (Hearing held by the Subcommittee on Research and Science Education)	112–31*
July 28, 2011	H.R. 2484, Harmful Algal Blooms and Hypoxia Research and Control Amendments Act of 2011 (Markup held by the Full Committee on Science, Space, and Technology)	H. REPT. 112–333, PART I**
September 8, 2011	Empowering Consumers and Promoting Innovation Through the Smart Grid. (Hearing held by the Subcommittee on Technology and Innovation)	112–32*
September 8, 2011	Impacts of the LightSquared Network on Federal Science Activities. (Hearing held by the Full Committee on Science, Space, and Technology)	112–33*
September 13, 2011	STEM in Action: Inspiring the Science and Engineering Workforce of Tomorrow. (Hearing held by the Full Committee on Science, Space, and Technology)	112–34*
September 15, 2011	Out of Thin Air: EPA's Cross-State Air Pollution Rule. (Hearing held by the Full Committee on Science, Space, and Technology)	112–35*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
September 21, 2011	The Next IT Revolution: Cloud Computing Opportunities and Challenges.	112–36*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
	(Hearing held by the Subcommittee on Technology and Innovation)	
September 21, 2011	Oversight of the Networking and Information Technology Research and Development Program and Priorities for the Future. (Hearing held by the Subcommittee on Research and Science Education)	112–37*
September 22, 2011	NASA Human Spaceflight Past, Present, and Future: Where Do We Go From Here? (Hearing held by the Full Committee on Science, Space, and Technology)	112–38*
September 23, 2011	From NPOESS to JPSS: An Update on the Nation's Restructured Polar Weather Satellite Program. (Joint Hearing held by the Subcommittee on Investigations and Oversight and the Subcommittee on Energy and Environment)	112–39*
September 26, 2011	STEM Education in Action: Communities Preparing for Jobs of the Future. (Field Hearing–Hearing held by the Full Committee)	112–40*
October 4, 2011	Quality Science for Quality Air. (Hearing held by the Subcommittee on Energy and Environment)	112–41*
October 12, 2011	What Makes for Successful K–12 STEM Education: A Closer Look at Effective STEM Education Approaches. (Hearing held by the Subcommittee on Research and Science Education)	112–42*
October 12, 2011	The International Space Station: Lessons from the Soyuz Rocket Failure and Return to Flight. (Hearing held by the Subcommittee on Space and Aeronautics)	112–43*

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
October 13, 2011	The Endangered Species Act: Reviewing the Nexus of Science and Policy. (Hearing held by the Subcommittee on Investigations and Oversight)	112–44*
October 13, 2011	Advancing Coal Research and Development for a Secure Energy Future. (Hearing held by the Subcommittee on Energy and Environment)	112–45*
October 26, 2011	NASA's Commercial Crew Development Program: Accomplishments and Challenges. (Hearing held by the Committee on Science, Space, and Technology)	112–46*
October 27, 2011	Review of the Blue Ribbon Commission on America's Nuclear Future Draft Recommendations. (Joint Hearing held by Subcommittee on Investigations and Oversight and Subcommittee on Energy and Environment)	112–47*
November 2, 2011	Creating and Growing New Business: Fostering U.S. Innovation. (Hearing held by Subcommittee on Technology and Innovation)	112–48*
November 2, 2011	Conflicts and Unintended Consequences of Motor Fuel Standards. (Hearing held by Subcommittee on Energy and Environment)	112–49*
November 3, 2011	STEM In Action: Transferring Knowledge from the Workplace to the Classroom. (Hearing held by the Subcommittee on Research and Science Education)	112–50*
November 15, 2011	Natural Hazards Risk Reduction Act 2011 (Markup held by Subcommittee on Technology and Innovation)	Committee Print, the ''Natural Hazards Risk Reduction Act 2011''

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
November 15, 2011	Exploring Mars and Beyond: What's Next for U.S. Planetary Science? (Hearing held by Subcommittee on Space and Aeronautics)	112–51*
November 17, 2011	Fostering Quality Science at EPA: The Need for Common Sense Reform. (Hearing held by Subcommittee on Energy and Environment)	112–52*
November 30, 2011	Stimulus Oversight: An Update on Accountability, Transparency, and Performance. (Hearing held by Subcommittee on Investigations and Oversight)	112–53*
November 30, 2011	Fostering Quality Science at EPA: Perspectives on Common Sense Reform. (Hearing held by Subcommittee on Investigations and Oversight)	112–54*
December 1, 2011	H.R. 3479, Natural Hazards Risk Reduction Act of 2011. (Markup held by Full Committee on Science, Space, and Technology)	H. REPT. 112–666, PART I***
December 6, 2011	The Next Great Observatory: Assessing the James Webb Space Telescope. (Hearing held by Full Committee)	112–55*
December 7, 2011	Energy Critical Elements: Identifying Research Needs and Strategic Priorities. (Hearing held by Subcommittee on Energy and Environment)	112–56
December 23, 2011	Second Semiannual Report of Activities – Committee on Science, Space, and Technology.	H. REPT. 112–347**

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
January 24, 2012	A Review of the Advanced Research Projects Agency-Energy. (Hearing held by the Subcommittee on Investigations and Oversight)	112–57
February 1, 2012	Fractured Science– Examining EPA's Approach to Ground Water Research: Pavillion Analysis (Hearing held by Subcommittee on Energy and Environment)	112–58
February 3, 2012	Fostering Quality Science at EPA: Perspectives on Common Sense Reform–Day II (Hearing held by Subcommittee on Energy and Environment)	112–59
February 7, 2012	H.R. 3834, Advancing America's Networking and Information Technology Research and Development Act of 2012. Passed by Voice Vote. (Markup held by Committee on Science Space and Technology)	H. REPT. 112–420**
February 7, 2012	To Provide a Comprehensive Assessment of the Scientific and Technical Research on the Implications of the Use of Mid-Level Ethanol Blends, and for other purposes. (Markup held by Committee on Science, Space, and Technology)	H.R. 3199
February 8, 2012	Assessing America's Nuclear Future– A Review of the Blue Ribbon Commission's Report to the Secretary of Energy. (Hearing held by the Committee on Science, Space and Technology)	112–60
February 17, 2012	An Overview of the Administration's Federal Research and Development Budget for Fiscal Year 2013. (Hearing held by the Committee on Science, Space, and Technology)	112–61

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
February 28, 2012	An Overview of the National Science Foundation Budget for Fiscal Year 2013. (Hearing held by the Subcommittee on Research Science Education)	112–62
February 29, 2012	Promoting Innovation, Competition, and Economic Growth: Principles for Effective Domestic and International Standards Development. (Hearing held by the Subcommittee on Technology and Innovation)	112–63
February 29, 2012	NASA Cybersecurity: An Examination of the Agency's Information Security. (Hearing held by the Subcommittee on Investigations and Oversight)	112–64
March 1, 2012	An Overview of the Department of Energy Research and Development Budget for Fiscal Year 2013. (Hearing held by the Committee on Science, Space, and Technology)	112–65
March 6, 2012	An Overview of the National Oceanic and Atmospheric Administration and the Environmental Protection Agency Budgets for Fiscal Year 2013. (Hearing held by the Subcommittee on Technology and Innovation)	112–66
March 6, 2012	An Overview of the National Oceanic and Atmospheric Administration and the Environmental Protection Agency Budgets for Fiscal Year 2013. (Hearing held by the Subcommittee on Energy and Environment)	112–67
March 7, 2012	An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2013. (Hearing held by the Committee on Science, Space, and Technology)	112–68

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
March 8, 2012	NSF Major Research Equipment and Facilities Management: Ensuring Fiscal Responsibility and Accountability. (Hearing held by the Subcommittee on Research and Science)	112–69
March 20, 2012	An Overview of the Office of Commercial Space Transportation Budget for Fiscal Year 2013. (Held by the Subcommittee on Space and Aeronautics)	112–70
March 27, 2012	Fostering the U.S. Competitive Edge: Examining the Effect of Federal Policies on Competition Innovation, and Job Growth. (Held by the Subcommittee on Technology and Innovation)	112–71
March 28, 2012	Securing the Promise of the International Space Station: Challenges and Opportunities. (Hearing held by the Committee on Science, Space, and Technology)	112–72
March 28, 2012	To Observe and Protect: How NOAA Procures Data for Weather Forecasting. (Hearing held by the Subcommittee on Energy and Environment)	112–73
March 29, 2012	Federally Funded Research: Examining Public Access and Scholarly Publication Interests. (Hearing held by the Subcommittee on Investigations and Oversight)	112–74
April 11, 2012	Tapping America's Unconventional Oil Resources for Job Creation and Affordable Domestic Energy: Technology and Policy Pathways. (Hearing held by the Subcommittee on Investigations and Oversight)	112–75

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
April 18, 2012	NSF Major Multi-User Research Facilities Management: Ensuring Fiscal Responsibility and Accountability. (Hearing held by the Subcommittee on Research and Science Education)	112–76
April 18, 2012	Avoiding the Spectrum Crunch: Growing the Wireless Economy through Innovation. (Hearing held by the Subcommittee on Technology and Innovation)	112–77
April 19, 2012	Joint Hearing – Impact of Tax Policies on the Commercial Application of Renewable Energy Technology. (Hearing held by the Subcommittee on Investigations & Oversight and Energy and Environment)	112–78
April 25, 2012	Joint Hearing – How the Report on Carcinogens Uses Science to Meet its Statutory Obligations, and its Impact on Small Business Jobs. (Hearing held by the Subcommittee on Investigations and Oversight and Subcommittee Healthcare and Technology)	112–79
April 26, 2012	An Overview of the NASA Aeronautics Research Mission Directorate Budget for Fiscal Year 2013. (Hearing held by the Subcommittee on Space and Aeronautics)	112–80
April 30, 2012	STEM Education in Action: Local Schools, Non Profits, and Business Doing Their Part to Secure America's Future. (Hearing held by the Subcommittee Research and Science Education)	112–81
May 8, 2012	The Science Behind Green Building Rating Systems. (Hearing held by the Subcommittee on Investigations and Oversight)	112–82

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
May 9, 2012	Ensuring the Best Stewardship of American Taxpayer Dollars at the National Science Foundation. (Hearing held by the Subcommittee on Research and Science Education)	112–83
May 10, 2012	Supporting American Jobs and the Economy through Expanded Energy Production: Challenges and Opportunities of Unconventional Resources Technology. (Hearing held by the Subcommittee on Energy and Environment)	112–84
May 17, 2012	Working for Fire Safe America: Examining United States Fire Administration Priorities. (Hearing held by the Subcommittee on Technology and Innovation)	112–85
May 31, 2012	Assembling the Facts: Examining the Proposed National Network for Manufacturing Innovation. (Hearing held by Subcommittee on Technology and Innovation)	112–86
June 6, 2012	An Examination of FAA's Launch Indemnification Program. (Hearing Held by Subcommittee on Space and Aeronautics)	112–87
June 6, 2012	EPA's Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations. (Hearing held by Subcommittee on Energy and Environment)	112–88
June 19, 2012	Best Practices in Transforming Research into Innovation: Creative Approaches to the Bayh-Dole Act. (Hearing held by the Subcommittee on Technology and Innovations)	112–89

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
June 19, 2012	The Science of How Hunting Assists Species Conservation and Management. (Hearing held by the Subcommittee on Energy and Environment)	112–90
June 20, 2012	The Office of Science and Technology Policy: Examining Priorities and Effectiveness of the Nation's Science Policies. (Hearing held by the Committee on Science, Space, and Technology)	112–91
June 21, 2012	Department of Energy User Facilities: Utilizing the tools of Science to Drive Innovation through Fundamental Research. (Hearing held by the Subcommittee on Energy and Environment)	112–92
June 27, 2012	The Role of Research Universities in Securing America's Future Prosperity: challenges and Expectations. (Hearing held by the Subcommittee on Research & Science Education)	112–93
June 27, 2012	Continuing Oversight of the Nation's Weather Satellite Programs: An Update on JPSS and GOES-R. (Joint Hearing held by the Subcommittee on Investigations & Oversight and Subcommittee on Energy & Environment)	112–94
June 28, 2012	Third Semiannual Report of Activities of the Committee on Science, Space, and Technology.	Business Meeting–3 H. REPT. 112–555**
July 12, 2012	Spurring Economic Growth and Competitiveness Through NASA Derived Technologies. (Hearing held by the Subcommittee on Space and Aeronautics)	112–95
July 16, 2012	Innovation Corps: A Review of a New National Science Foundation Program to Leverage Research Investments. (Hearing held by the Subcommittee Research and Science Education)	112–96

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
July 19, 2012	Keeping America Secure: The Science Supporting the Development of Threat Detection Technologies. (Hearing held by the Committee on Science, Space, and Technology)	112–97
July 25, 2012	Drought Forecasting, Monitoring and Decision-making: A Review of the National Integrated Drought Information System. (Hearing held by Committee on Science, Space, and Technology)	112–98
July 26, 2012	Review of DOE Vehicle Technologies Program Management and Activities: Assuring Appropriate and Effective Use of Taxpayer Funding. (Hearing held by Subcommittee on Energy and Environment)	112–99
August 1, 2012	The Relationship Between Business and Research Universities: Collaborations Fueling American Innovation and Job Creation. (Hearing held by Subcommittee Research and Science Education)	112–100
August 1, 2012	The Emerging Commercial Suborbital Reusable Launch Vehicle Market. (Hearing held by Subcommittee on Space and Aeronautics)	112–101
September 12, 2012	Examining NASA's Development of the Space Launch System and Orion Crew Capsule. (Hearing held by Subcommittee on Space and Aeronautics)	112–102
September 12, 2012	Mismanagement of Funds at the National Weather Service and the Impact on the Future of Weather Forecasting. (Hearing held by the Investigations and Oversight)	112–103
September 14, 2012	Recent Development in NASA's Commercial Crew Acquisition Strategy. (Hearing held by the Committee on Science, Space and Technology)	112–104

Date	Committee on Science and Technology List of Hearings with Publication Numbers plus List of Legislative Reports filed in the 112th Congress	Publication Number
November 14, 2012	Is ''Meaningful Use'' Delivering Meaningful Results?: An Examination of Health Information Technology Standards and Interoperability. (Hearing held by the Subcommittee on Technology and Innovation)	112–105
November 15, 2012	The U. S. Antarctic Program: Achieving Fiscal and Logistical Efficiency While Supporting Sound Science. (Hearing held by the Committee on Science, Space, and Technology)	112–106
November 28, 2012	National Priorities for Solar and Space Physics Research and Applications for Space Weather Prediction. (Hearing held by Subcommittee on Space and Aeronautics)	112–107
November 30, 2012	Tapping America's Energy Potential Through Research and Development. (Hearing held by Subcommittee on Energy and Environment)	112–108
December 5, 2012	The Impact of International Technology Transfer on American Research and Development. (Hearing held by the Investigations and Oversight)	112–109
December 12, 2012	The Future of NASA: Perspectives on Strategic Vision for America's Space Program. (Committee on Science, Space, and Technology)	112–110

*** Hearings that have been printed.**
**** Reports that have been printed.**

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