**Union Calendar No. ???**
112th Congress, 1st Session – – – – – – – – – – – – – –House Report 112–XXX

# FIRST SEMIANNUAL REPORT OF ACTIVITIES

OF THE

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

FOR THE

## ONE HUNDRED TWELFTH CONGRESS

JUNE 30, 2011

JUNE ?, 2011.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON :

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**** Vice Chair appointments/Full Committee and Subcommittee.**
**¶ The Chairman and Ranking Minority Member 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 Subcommittees.**

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
112TH CONGRESS, FIRST SESSION

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# LETTER OF TRANSMITTAL

JUNE 30, 2011

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 first Semiannual Report of Activities for the Committee on Science, Space, and Technology for the *112th* Congress.

This first 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.

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
Chairman

Enclosure

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**Committee on Science, Space, and Technology**
**112th Congress, 2011**


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**Union Calendar No. ???**

*111th Congress*
*2d Session* " HOUSE OF REPRESENTATIVES ! REPORT
112–???

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

JUNE ??, 2011.—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 Session
## January 3rd — May 31st 2011

**Business Meeting Held –** *1*

**Bills/Resolutions Referred to/Discharged by the Committee –** *48*

**Hearings Held –** *20*

**Witnesses Appeared Before the Committee –** *74*

**Full Committee Markups Held –** *2*

**Subcommittee Markups Held –** *1*

**Reports Filed–***2*

**Legislation Passed the House –** *2*

# 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.

## 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). 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 the Committee on Science, Space, and Technology on May 26, 2011 (H. Rept. 112–90, Part 1).

## 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.

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

*Background and Summary of Legislation*

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 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).

*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. 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 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.

## 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.

## SUBCOMMITTEE ON ENERGY AND ENVIRONMENT

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

#### *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.

## SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT ACTIVITIES

### *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) was criticized by GAO 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 creation of green jobs. The hearing examined international efforts to create green jobs, as well as historical efforts domestically, includ-

ing 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 (Joint Subcommittee 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.

## SUBCOMMITTEE ON RESEARCH AND SCIENCE EDUCATION

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

#### *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 in 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 language of H.R. 554 was added to H.R. 5116, the America COMPETES Reauthorization Act, passed by the House. However, the language of H.R. 554 was 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. Jeffery 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.

## SUBCOMMITTEE ON SPACE AND AERONAUTICS

### OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTED LEGISLATIVE ACTIVITIES

#### *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 parts of which are 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 programs, 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.

## SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION

### OVERSIGHT, INVESTIGATION, AND OTHER ACTIVITIES, INCLUDING SELECTED LEGISLATIVE ACTIVITIES

#### *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 Albany, 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 reported 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 to the House on January 27, 2010. On February 4, 2010 H.R.4061 was passed by the House by a 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.

# Oversight Plan

RALPH M. HALL, TEXAS
CHAIRMAN

EDDIE BERNICE JOHNSON, TEXAS
RANKING MEMBER

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COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
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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 MAY 31, 2011)

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 space flight 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*

### 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*

### 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 ex-

amine the impact of large increases in funding for the Earth Science Directorate relative to funding requested for other science disciplines.

**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 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.

**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.

**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.

**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*

### 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.

### 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.

### 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*

### 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.

### 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*

**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.

**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*

**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*

### 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*

### 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.

### 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 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.

### 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.

### 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.

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

*Full Committee Hearing*
*An Overview of the Administration's Federal Research and Development Budget for Fiscal Year 2012*
*February 17, 2011*

### 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*

### 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.

### 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.

### 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.

### 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.

**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,

*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*

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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

**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*

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

## 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 PROCEDURE 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*
*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) was criticized by GAO 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; 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.

**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."

*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 dem-

onstrate 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*
*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.

*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.

*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.

*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

**Outgoing Oversight Correspondence as of May 31, 2011**

| Date Sent | To: Person | From: Agency | From: Person | About |
|---|---|---|---|---|
| 01/18/2011 | Kendall/DOI | Science Committee | Hall | Report of Investigation FedMoratorium Deepwater Drilling |
| 01/20/2011 | Lisa Jackson/EPA | Science Committee | Sensenbrenner | Waxman-Markey Climate legislation |
| 01/24/2011 | Lubchenco/NOAA | Science Committee | Sensenbrenner | BP Deepwater Horizon Oil Budget |
| 01/26/2011 | Marcia McNutt/USGS | Science Committee | Sensenbrenner | BP Deepwater Horizon Oil Budget |
| 01/26/2011 | Dodaro/GAO | Science Committee | Hall/Johnson | GOES-R Acquisition |
| 01/26/2011 | Dodaro/GAO | Science Committee | Hall/Johnson | NPOESS Management Transfer |
| 02/08/2011 | Obama/WH | Science Committee | Hall/Sensenbrenner/ Broun/Harris | Browner Document Retention |
| 02/10/2011 | Jaczko/NRC | Science Committee | Hall/Broun | Third Volume of Yucca Safety Report |
| 02/14/2011 | Chu/DOE | Science Committee | Hall/Broun/Harris/ Edwards | Yucca Document Request |
| 02/14/2011 | Browner/WH | 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 | Dodaro/GAO | Science Committee | Hall/Johnson | NASA Contractor surveillance and management |

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|---|---|---|---|---|
| 03/016/2011 | Richard G. Newell | Science Committee | Hall | CES Analysis request |
| 05/04/2011 | Steven Chu | Science Committee | Harris | DOE Stimulus spending |
| 05/05/2011 | Gene Dodaro | Science Committee | Hall/Harris | DOE solar energy program review |
| 05/05/2011 | Gene Dodaro | Science Committee | Hall/Harris | DOE battery and energy storage review |
| 05/20/2011 | Frank Wolf | Science Committee | Hall | Climate Service |
| | | | | |
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# 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 |

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|---|---|
| | 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. |

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| 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. |
| | |

# 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 FY 12 for all non-defense and non–health specific research and development, a 10.8 percent increase over the FY I 0 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 FY 12 budget request of $18.7 billion, the same amount appropriated by Congress for FY IO and continued thus far in FY II.

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 FY 12 budget request assumes a flat spending profile through FY 16, while last year's budget (and associated out-years) assumed annual increases such that by FY 16, NASA would be receiving over $20 billion annually. The potential savings indicated in the FY 12 budget request would, in the aggregate, save $3.8 billion for FY 12 FY 14, compared to last year's budget request.

NASA's FY 12 request qualified their out-year assumptions as "notional." However, NASA's "notional" assumptions are significantly higher than the corresponding numbers used in OMB's FY 12 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 FY II and FY 12 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 FY 11 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 of20 10 (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 FY 12 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 FY I2 budget includes a new program first proposed last year: Space Technology. The FY 12 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 FY 12 budget request for NSF is $7.7 billion, an increase of 13 percent, or $894.5 million over the FY I 0 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 FY 12 budget request includes $6.3 billion for Research and Related Activities (RRA), an increase. of $690 million or 12.4 percent over FY I 0 enacted. New programs established as part of the increased research funding request for FY 12 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 FY 12 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 FY I2 budget request also includes a plan to invest broadband spectrum receipts in a variety of areas, including $150 million to NSF in FY I2 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 FY 12 budget request for Education and Human Resources (EHR) is $911 million, a $38.4 million or 4.4 percent increase over FY l0. The Admil1istration 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 FY 12 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 FY 12 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 FY I O. 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 FY l2 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 $1 0 million or 18.2 percent and the Math and Science Partnership is $48.2 million, also a decrease of $1 0 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 FY I0, 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 FI2 budget request for DOE is $29.5 billion, which represents a $3.1 billion or 11.8 percent increase of FY 10 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 FY 12 budget request for SC is $5.4 billion, a 9.1 percent increase over FY IO 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 ARP A–E in FY 12. 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 FY 10, 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 FY 10 enacted level and ten percent decrease from the FY II 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 FY I0 enacted level and a 36 percent increase ($845 million) over the President's FY 11 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 FY I0 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 FY 10 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 FY 12 budget request. This would reflect an increase of $71.4 million (58.8 percent) from enacted FY I0 levels and a $48.5 million increase (33.6 percent) from the President's FY 11 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 FY 12 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 FY I0 enacted levels. This correlates to a 23 percent decrease ($134 million) from the President's FY 11 budget request.

The FY 12 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 of2005 (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 FY 12 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 of2005. The LPO did not receive an appropriation for credit subsidies in FY 10. 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 FY 12 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 FY 12 budget request is 5.5 billion, an increase of $749 million or 15.8 percent above the FY 10 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 FY 12 budget request for the NESS is $2 billion, a $698.2 million increase over FY 201 0 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 FY 12 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 201 0 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) FY I2, budget request of$988.0 million which is a 1.2 percent decrease from the FY 10 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 FY I2, the Administration has requested a funding level of$1 billion or a 16.9 percent increase from FY I 0 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 FY I 0 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 FY 12.

*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 201 0 *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 FY I2. 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 FY 12 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 FY 12 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 FY 12 budget request for DHS S&T is $1.2 billion, an increase of 16.9 percent, or $170 million over the FY I 0 enacted level. Most of this increase reflects the transfer of R&D' , programs from the DNDO to DHS S&T; Within DNDO, the FY 12 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 FY I 0 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 FY 12 request for AFG reflects a 36 percent decrease below FY l0 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 FY 12 budget request for S&T is $825.6 million, a 2.6 percent reduction from FY l0 enacted levels. The budget request for ORD is $584.1 million, a 2.1 percent decrease from FY I0 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 COmn1ittee 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 FY 12 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 FY I1 request. Agency R&D is spread among four accounts:

1. Office of Commercial Space Transportation (OCST) -Safety. The FY I2 budget request is $566,000 for OCST Safety, a $401,000 or 243 percent increase over FY 11. Among other activities, the additional funds would be used for research and development of the , technical expertise needed to certify human space flight launch systems and capsules now , under development that would be used to carry non-government passengers (astronauts) to orbit.
2. The Research, Engineering and Development account (Aviation Trust Fund), with a FY I2 request of$I90 million, is $500,000 less than the amount requested in FY 11. 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 FY 12 request of $177.5 million, a $22.3 million or 14 percent increase over the FY 11 request.
4. A portion of the Airport Improvement Program account (Aviation Trust Fund) with an FY 12 request of $44.3 million, an increase of $2.1 million over five percent over FY 11.

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 FY 12 budget request for OCST (operations) is $26.6 million, an increase of $10.9 million or 70 percent over the FY l1 request. OCST is responsible for licensing and regulating commercial space launches and reentries to ensure compliance with standards designed to protect public safety. For FY I2, 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 manage-

ment. Our committee intends to hold hearings prior to reauthorizing OCST later this year.

*Research and Innovative Technology Administration (RITA)*

The FY 12 Administration research request for RITA is $17.6 million, or $4.6 million above the FYI0 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.

Ralph M. Hall

Chas. "Chuck" Fleischmann

Bill Flores TX-17

Judy Biggert IL 13

Robert Rigell VA-02

Ron Paul TX-14

Rand Paul

Phil Gingrey GA10

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Lamar Smith

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Gary G. Miller CA-31

Howard P. McKeon CA-25

Dan Benishek MI01

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Rick Nolan MN-8

**List of Signatures**

1. Representative Ralph M. Hall
2. Representative Charles lFleischmann
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
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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.

Dan Rohrabacher

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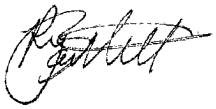

UNITED STATES
HOUSE OF REPRESENTATIVES

COMMITTEES:
ARMED SERVICES
SUBCOMMITTEES:
CHAIRMAN
TACTICAL AIR AND LAND FORCES
SEAPOWER AND EXPEDITIONARY FORCES

SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEES:
ENERGY AND ENVIRONMENT
RESEARCH AND SCIENCE EDUCATION

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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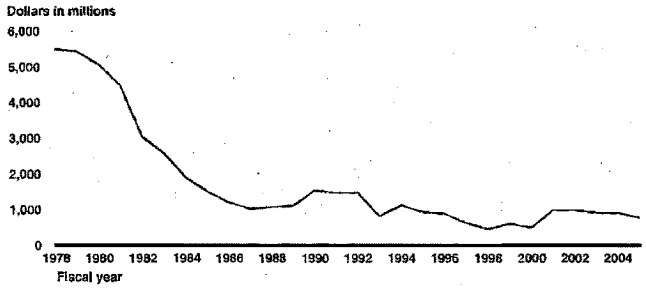
The vulnerability of the U.S. is increasing because we have been producing, that is depleting, our small and declining 2-3 percent share of world oil reserves at a rate four times faster than OPEC. U.S. oil geologist and executive, Ray Leonard, President and CEO, Hyperdynamics Corporation, at the Muehlberger 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 FY2012 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 technologica1 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 (jut 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 20 1 0 as the Administration has placed a relative higher priority on commercial crew and underfunded development of the Space Launch Vehicle (SLS) 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 research 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 R. Lujan

Jerry F. Costello

Lynn Woolsey

Hansen Clarke

Brad Miller

Marcia L. Fudge

Daniel Lipinski

Frederica S. Wilson

Paul D. Tonko

J. P. Sh

Terri Sewell

Zoe Lofgren

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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

# 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.

# 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 1 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, Space, and Technology List of Hearings with Publication Numbers plus List of Legislative Reports Filed as of May 31st 2011 112th Congress — First Session | 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 Budget Request. (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 |

| Date | Committee on Science, Space, and Technology List of Hearings with Publication Numbers plus List of Legislative Reports Filed as of May 31st 2011 112th Congress — First Session | Publication Number |
|---|---|---|
| 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 |
| 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 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 Investigations and Oversight). | 112–10 |

| Date | Committee on Science, Space, and Technology List of Hearings with Publication Numbers plus List of Legislative Reports Filed as of May 31st 2011 112th Congress — First Session | Publication Number |
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| 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 |
| Apr. 7, 2011 | Are we Prepared? Assessing Earthquake Risk Reduction in the United States. (Hearing held by the Subcommittee on Technology and Innovation) | H. Rept. 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. 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** |

| Date | Committee on Science, Space, and Technology List of Hearings with Publication Numbers plus List of Legislative Reports Filed as of May 31st 2011 112th Congress — First Session | Publication Number |
|---|---|---|
| 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 |
| 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 |

***Hearings that have been printed.**
****Reports that have been printed.**