

SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY
RESEARCH AND DEVELOPMENT ACT

JULY 21, 2010.—Committed to the Committee of the Whole House on the State of
the Union and ordered to be printed

Mr. GORDON of Tennessee, from the Committee on Science and
Technology, submitted the following

R E P O R T

together with

ADDITIONAL VIEWS

[To accompany H.R. 5716]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science and Technology, to whom was referred the bill (H.R. 5716) to provide for enhancement of existing efforts in support of research, development, demonstration, and commercial application activities to advance technologies for the safe and environmentally responsible exploration, development, and production of oil and natural gas resources, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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I. BILL

The amendment is as follows:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Safer Oil and Natural Gas Drilling Technology Research and Development Act”.

SEC. 2. SUBTITLE AMENDMENT.

Subtitle J of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16371 et seq.) is amended in the subtitle heading by striking “**Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources**” and inserting “**Safer Oil and Natural Gas Drilling Technology Research and Development Program**”.

SEC. 3. SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM.

(a) PROGRAM AUTHORITY.—Section 999A of the Energy Policy Act of 2005 (42 U.S.C. 16371) is amended—

(1) in subsection (a)—

(A) by striking “ultra-deepwater” and inserting “deepwater”; and

(B) by inserting “well control and accident prevention,” after “safe operations,”;

(2) in subsection (b)—

(A) by inserting “, accident prevention and mitigation,” after “improving safety”;

(B) by striking paragraph (1) and inserting the following:

“(1) Deepwater architecture and technology, including those for drilling to formations in water depths greater than 1,000 feet.”; and

(C) by striking paragraph (4) and inserting the following:

“(4) Complementary research carried out by the Department.”;

(3) in subsection (d)—

(A) in the subsection heading, by striking “NATIONAL ENERGY TECHNOLOGY LABORATORY” and inserting “DEPARTMENT OF ENERGY”; and

(B) by striking “National Energy Technology Laboratory” and inserting “Office of Fossil Energy of the Department”;

(4) in subsection (e)—

(A) in the subsection heading, by striking “SECRETARY OF THE INTERIOR” and inserting “OTHER FEDERAL AGENCIES”; and

(B) by inserting “and other agencies as appropriate, including those serving on, and collaborating with, the Interagency Coordinating Committee on Oil Pollution Research as established under section 7001 of the Oil Pollution Act of 1990 (33 U.S.C. 2761(a))” after “Secretary of the Interior”; and

(5) by adding at the end the following:

“(f) PARTNERSHIPS.—In carrying out the program under this subtitle, the Secretary shall seek to establish partnerships with eligible research performers, as described by section 999E, to undertake research and development not likely otherwise to be undertaken in the absence of support from the program.”.

(b) PROGRAM ELEMENTS.—Section 999B of the Energy Policy Act of 2005 (42 U.S.C. 16372) is amended—

(1) in the section heading, by striking “**ULTRA-DEEPWATER AND UNCONVENTIONAL ONSHORE NATURAL GAS AND OTHER PETROLEUM**” and inserting “**SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY**”;

(2) by amending subsection (a) to read as follows:

“(a) IN GENERAL.—The Secretary shall carry out the activities under section 999A to maximize the benefits of natural gas and other petroleum resources of the United States by advancing the safe and environmentally responsible exploration, development, and production of those resources.”;

- (3) in subsection (c)(1)—
 (A) by redesignating subparagraphs (D) and (E) as subparagraphs (E) and (F), respectively; and
 (B) by inserting after subparagraph (C) the following:
 “(D) select projects on a competitive basis;”;
- (4) in subsection (c)(3)(A)(ii), by striking “under subsection (f)(4)”;
- (5) in subsection (d)—
 (A) in paragraph (6), by striking “ultra-deepwater” and inserting “deepwater”; and
 (B) by striking paragraph (7) and inserting the following:
- “(7) FOCUS AREAS FOR AWARDS.—
 “(A) DEEPWATER RESOURCES.—Awards from allocations under section 999H(d)(1) shall focus on research, development, demonstration, and commercial application activities in areas that include—
 “(i) technologies and systems aimed at improving operational safety and reducing potential environmental impacts of deepwater exploration and production activities, including—
 “(I) wellbore integrity, well control, and blowout prevention;
 “(II) capture and containment of oil at or near the wellhead; and
 “(III) expanding operational capabilities and efficiency of remotely operated devices and mechanics;
 “(ii) safe and environmentally responsible deepwater exploration and production technologies, integrated systems, and architectures for enhancing oil and natural gas drilling and recovery, including under extreme conditions;
 “(iii) methods and technologies for severe weather and ocean surface condition preparedness;
 “(iv) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment; and
 “(v) other areas as determined appropriate by the Secretary.
 “(B) UNCONVENTIONAL ONSHORE RESOURCES.—Awards from allocations under section 999H(d)(2) shall focus on research, development, demonstration, and commercial application activities in areas that include—
 “(i) advanced coalbed methane, deep drilling, natural gas production from tight sands, natural gas production from gas shales, stranded gas, innovative exploration and production techniques, and enhanced recovery techniques;
 “(ii) increased efficiency of energy use in exploration and production activities;
 “(iii) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment;
 “(iv) recovery, utilization, reduction, and improved management of produced water from exploration and production activities; and
 “(v) accident prevention and mitigation of unconventional natural gas and other petroleum resources exploration and production.
 “(C) SMALL PRODUCERS.—Awards from allocations under section 999H(d)(3) shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers, and shall focus on areas that include—
 “(i) safety and accident prevention, environmental mitigation, waste reduction, reduction of energy use, and well control and systems integrity;
 “(ii) complex geology involving rapid changes in the type and quality of the oil and gas reserves across the reservoir;
 “(iii) low reservoir pressure and unconventional natural gas reservoirs in coalbeds, deep reservoirs, tight sands, or shales; and
 “(iv) advancing energy efficient, safe, and environmentally responsible production of unconventional oil reservoirs in tar sands and oil shales.
 “(D) SAFETY, AND ACCIDENT PREVENTION AND MITIGATION, TECHNOLOGY RESEARCH AND DEVELOPMENT BY THE DEPARTMENT.—Awards from allocations under section 999H(d)(4) shall focus on safety, and accident prevention and mitigation, research, development, demonstration, and commercial application activities in areas that may include—
 “(i) improved technologies and best management practices for enhanced well integrity including—
 “(I) cementing;
 “(II) casing;

- “(III) wellbore sealant technologies;
 - “(IV) well-plugging and abandonment;
 - “(V) improvement and standardization of blowout prevention devices;
 - “(VI) actuation and pressure testing; and
 - “(VII) other well control activities;
 - “(ii) research to aid in the development of industry best practices and standards for workforce training, design of safe workplace environments, and safety related decisionmaking processes, including by drawing on existing research into human factors and safety related practices in fields such as the nuclear energy, aviation, and automotive industries;
 - “(iii) secondary control systems to activate blowout prevention devices and terminate well-flow, including—
 - “(I) deadman switches;
 - “(II) automatic shears; and
 - “(III) remote acoustic switches;
 - “(iv) technologies and methods for accident mitigation, including—
 - “(I) capture, containment, or dispersing of oil at or near the well-head;
 - “(II) estimating flow rate;
 - “(III) diagnostic sensors to determine equipment malfunction; and
 - “(IV) procedures to terminate flow;
 - “(v) continuing ongoing efforts, including in resource assessment and characterization, and in simulation of safe and effective drilling under extreme conditions, including high temperatures and pressures;
 - “(vi) development of methodologies for risk management decision-making, including comparative risk analysis and quantitative risk assessment of potential for failure in the technologies, management practices, and systems studies under this subsection; and
 - “(vii) other activities as described in this paragraph or as determined appropriate by the Secretary.”;
- (6) in subsection (e)—
- (A) in paragraph (2)—
 - (i) in the second sentence of subparagraph (A), by inserting “to the Secretary for review” after “submit”; and
 - (ii) in the first sentence of subparagraph (B), by striking “Ultra-Deepwater” and all that follows through “and such Advisory Committees” and inserting “Program Advisory Committee established under section 999D(a), and the Advisory Committee”;
 - (B) in paragraph (4)—
 - (i) by striking “and” at the end of subparagraph (A);
 - (ii) by striking the period at the end of subparagraph (B) and inserting “; and”; and
 - (iii) by adding at the end the following new subparagraph:
 - “(C) a summary of ongoing and planned activities aimed at improving operational safety and reducing potential environmental impacts of exploration and production.”; and
- (C) by adding at the end the following:
- “(6) RESEARCH FINDINGS AND RECOMMENDATIONS FOR IMPLEMENTATION.—The Secretary shall publish in the Federal Register an annual report on the research findings of the program carried out under this section and any recommendations for implementation that the Secretary determines to be necessary.”;
- (7) in subsection (f)(2), by inserting “In carrying out this subsection, the Secretary shall ensure that safety and accident prevention and mitigation be regularly included as specific focus areas for solicitations.” after “consortium.”;
- (8) in subsection (i)—
- (A) in the subsection heading, by striking “UNITED STATES GEOLOGICAL SURVEY” and inserting “DEPARTMENT OF THE INTERIOR”; and
 - (B) by striking “, through the United States Geological Survey,”; and
- (9) in subsection (j), by striking “National Energy Technology Laboratory” and inserting “Office of Fossil Energy of the Department”.

SEC. 4. PROGRAM ADVISORY COMMITTEE.

Section 999D of the Energy Policy Act of 2005 (42 U.S.C. 16374) is amended to read as follows:

“SEC. 999D. PROGRAM ADVISORY COMMITTEE.

“(a) ESTABLISHMENT.—Not later than 90 days after the date of enactment of the Safer Oil and Natural Gas Drilling Technology Research and Development Act, the Secretary shall establish an advisory committee to be known as the ‘Program Advisory Committee’ (referred to in this section as the ‘Advisory Committee’).

“(b) MEMBERSHIP.—

“(1) IN GENERAL.—The Advisory Committee shall be composed of members appointed by the Secretary, each of whom shall be qualified by education, training, and experience to evaluate scientific and technical information relevant to the research, development, and demonstration under this subtitle. Members shall include—

“(A) individuals with extensive research experience or operational knowledge of oil and natural gas exploration and production;

“(B) individuals broadly representative of the affected interests in oil and natural gas production, including interests in environmental protection and operational safety;

“(C) State regulatory agency representatives; and

“(D) other individuals, as determined by the Secretary.

“(2) LIMITATIONS.—

“(A) IN GENERAL.—The Advisory Committee shall not include individuals who are board members, officers, or employees of the program consortium.

“(B) CATEGORICAL REPRESENTATION.—In appointing members of the Advisory Committee, the Secretary shall ensure that no class of individuals described in any of subparagraphs (B), (C), or (D) of paragraph (1) comprises more than $\frac{1}{3}$ of the membership of the Advisory Committee.

“(c) SUBCOMMITTEES.—The Advisory Committee may establish subcommittees or ad hoc working groups for the research focus areas described in section 999B(d)(7).

“(d) DUTIES.—The Advisory Committee shall—

“(1) advise the Secretary on the development and implementation of programs under this subtitle; and

“(2) carry out section 999B(e)(2)(B).

“(e) COMPENSATION.—A member of the Advisory Committee shall serve without compensation but shall be entitled to receive travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

“(f) PROHIBITION.—The Advisory Committee shall not make recommendations on funding awards to particular consortia or other entities, or for specific projects.”.

SEC. 5. DEFINITIONS.

Section 999G of the Energy Policy Act of 2005 (42 U.S.C. 16377) is amended—

(1) in paragraph (1), by striking “200 but less than 1,500 meters” and inserting “1,000 feet”;

(2) by striking paragraphs (8), (9), and (10);

(3) by redesignating paragraphs (2) through (7) and (11) as paragraphs (4) through (9) and (10), respectively; and

(4) by inserting after paragraph (1) the following:

“(2) DEEPWATER ARCHITECTURE.—The term ‘deepwater architecture’ means the integration of technologies for the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.

“(3) DEEPWATER TECHNOLOGY.—The term ‘deepwater technology’ means a discrete technology that is specially suited to address 1 or more challenges associated with the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.”.

SEC. 6. FUNDING.

Section 999H of the Energy Policy Act of 2005 (42 U.S.C. 16378) is amended—

(1) in the first sentence of subsection (a) by striking “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund” and inserting “Safer Oil and Natural Gas Drilling Technology Research and Development Fund”;

(2) in subsection (d)—

(A) in paragraph (1), by striking “35 percent” and inserting “32.5 percent”;

(B) in paragraph (2), by striking “32.5 percent” and inserting “25 percent”;

and

(C) in paragraph (4)—

(i) by striking “25 percent” and inserting “35 percent”; and

(ii) by striking “contract management,” and all that follows through the period at the end and inserting “and contract management.”;

(3) in subsection (f), by striking “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund” and inserting “Safer Oil and Natural Gas Drilling Technology Research and Development Fund”; and

(4) at the end of the section, by inserting the following new subsection:

“(g) COORDINATION AND NONDUPLICATION.—The Secretary shall ensure, to the maximum extent practicable, that the research activities carried out by the consortium funded under paragraphs (1), (2), and (3) of subsection (d), and the research activities carried out by the Department of Energy as funded by subsection (d)(4), shall be coordinated and not duplicative of one another.”.

SEC. 7. CONFORMING AMENDMENTS.

The table of contents of the Energy Policy Act of 2005 is amended—

(1) by amending the item relating to subtitle J of title IX to read as follows:

“Subtitle J—Safer Oil and Natural Gas Drilling Technology Research and Development Program”;

(2) by amending the item relating to section 999B to read as follows:

“Sec. 999B. Safer Oil and Natural Gas Drilling Technology Research and Development Program.”;

and

(3) by amending the item relating to section 999D to read as follows:

“Sec. 999D. Program Advisory Committee.”.

II. PURPOSE

The purpose of this bill is to provide for the enhancement of existing efforts in support of research, development, demonstration, and commercial application activities to advance technologies for the safe and environmentally responsible exploration, development, and production of oil and natural gas resources.

III. BACKGROUND AND NEED FOR THE LEGISLATION

On April 20, 2010, an explosion and fire occurred on the BP Deepwater Horizon drilling rig as it completed the final stages of an exploratory well in approximately 5,000 feet of water. The rig capsized and sank two days later, leaving an uncontrolled flow of oil and gas from the wellhead, and resulting in the largest oil spill in U.S. history. While an investigation into the exact cause of the Deepwater Horizon accident is ongoing, it is understood to be a confluence of critical human errors and the failure of certain equipment designed to stop such an incident.

Initial investigations of the Deepwater Horizon incident indicate that, in addition to a series of operator errors that compromised wellbore integrity, the highest-consequence technology failure lay in the inability of the Blowout Preventer (BOP) in immediately terminating oil and gas flow from the well. The BOP is a very large mechanism positioned at the wellhead on the seafloor, and is comprised of a series of high pressure hydraulic valves designed to stop an uncontrolled flow of oil and gas from the well. As a failsafe option of last resort, a BOP includes at least one “blind shear ram” which uses two blades to cut through the metal drill pipe and seal the wellbore. A BOP can be activated by personnel from the drill rig, automatically via a “deadman switch”, via acoustic signal from a vessel other than the drill rig, or manually by remotely-operated vehicles (ROV). ROVs also perform a range of other deepwater functions. The crew aboard the Deepwater Horizon attempted unsuccessfully to activate the BOP before evacuating the rig, and subsequent attempts to activate the BOP using ROVs and other methods also failed. A number of stakeholders inside and outside of the industry, including the CEO of BP, have concluded that the design of blowout preventers must be rethought altogether. Witnesses at

the June 9th, 2010, and June 23rd, 2010, Science and Technology Committee hearings testified about the need for industry and government-sponsored research into BOPs and a range of other accident prevention and mitigation technologies and practices.

Deepwater drilling presents a unique set of technological challenges, including for environmental and worker safety, and accident prevention and mitigation. Operations must be optimized for the extreme pressures, stresses, and temperature variations that can affect the subsea and surface equipment and architecture, drilling materials, and the hydrocarbon reservoir itself. Consequently, the industry has invested billions of dollars in researching and developing advanced drilling systems specific to the deepwater and ultra-deepwater, especially those technologies which represent an increase in production efficiency. However, many contend that the industry has not devoted comparable resources to the development of technologies and methods for accident prevention and mitigation in the deepwater. Furthermore, while the technological demands differ between onshore and offshore, the onshore industry sector, including small producers, faces similar challenges in ensuring the safe and environmentally responsible exploration and production of oil and natural gas.

Section 999 of the Energy Policy Act of 2005 authorizes the Secretary of Energy to establish an “Ultra-Deepwater and Unconventional Onshore Natural Gas and Other Petroleum Resources” research and development program. Management of the 999 program was awarded to a research consortium known as the Research Partnership to Secure Energy for America (RPSEA), which is overseen for DOE by the National Energy Technology Laboratory (NETL). The program is funded through \$50 million in annual mandatory spending from offshore oil and gas royalty revenues collected by the Department of Interior. Of this, DOE conducts approximately \$12.5 million (25 percent) of “in-house” research at NETL. The remaining \$37.5 million (75 percent) is managed by the research consortium, RPSEA, and is divided into three parts: ultra-deepwater architecture and technology; unconventional onshore natural gas and other resources; and technology challenges of small producers. RPSEA currently has approximately 170 members, with representation from industry, academia, NGOs, and government laboratories and programs.

In the wake of the Deepwater Horizon tragedy, questions have arisen as to how the program activities authorized by Section 999 could better serve the nation in the development of advanced environmental and worker safety technologies and practices for oil and gas exploration and production, while also bolstering the federal government’s technical expertise on deepwater, ultra-deepwater, and unconventional onshore drilling technologies.

IV. HEARING SUMMARY

On June 23, 2010, the House Committee on Science and Technology, Subcommittee on Energy and Environment, held a hearing entitled “Deepwater Drilling Technology, Research, and Development.” The purpose of the hearing was to explore the technologies, standards, and practices for prevention and mitigation of oil spills during deepwater oil and natural gas drilling operations; to understand the current and potential role of government-sponsored tech-

nology development programs in advancing these technologies; and, in the wake of the Deepwater Horizon tragedy, to discuss how firms will assess risk as it relates to incident prevention and mitigation. The following witnesses testified at the hearing:

- Mr. James Pappas—*Vice President, Technical Programs, Research Partnership to Secure Energy for America (RPSEA)*. Mr. Pappas discussed the unique technological challenges of oil and natural gas drilling in deepwater and ultra-deepwater, as well as the potential role of RPSEA in developing technologies to prevent and mitigate incidents.

- Dr. Benton Baugh—*President, Radoil, Inc. and member of the National Academy of Engineering*. Dr. Baugh addressed the adequacy of existing systems for incident prevention and mitigation, as well as the need for technological advances and the processes for deploying new technologies in the field.

- Mr. Erik Milito—*Group Director, Upstream and Industry Operations, American Petroleum Institute*. Mr. Milito addressed the process for developing technical standards and best practices for deepwater drilling incident prevention and mitigation.

- Mr. Gregory McCormack—*Director, Petroleum Extension Service, University of Texas at Austin*. Mr. McCormack addressed the need for research to advance worker training as well as health and environmental safety practices in the oil and natural gas drilling industry.

V. COMMITTEE ACTIONS

H.R. 5716 was introduced on July 13, 2010 by Representative Bart Gordon.

On July 14, 2010 the Committee on Science and Technology met to consider H.R. 5716. The following five amendments were offered:

1. A manager's amendment offered by Mr. Gordon making technical and clarifying changes; expanding the scope of the Department of Energy research program to include methodologies for risk management, research on human factors in safety, and comparisons to other high-risk industries; specifying that the Advisory Committee members must be highly technically qualified; and adding a new section to ensure that RPSEA and DOE activities are coordinated and not duplicative; *The amendment was adopted by voice vote.*

2. An amendment by Mr. Garamendi instructing the Secretary to consult with other federal agencies, including those involved in the Interagency Coordinated Council on Oil Pollution Research; *The amendment was adopted by voice vote.*

3. An amendment by Mr. McCaul adding a requirement for the RPSEA program to focus on materials and methods that reduce the environmental impacts of exploration and production in both deepwater and unconventional onshore research; *The amendment was adopted by voice vote.*

4. An amendment by Mr. Inglis requiring the annual report to include a summary of operational safety and environmental mitigation research; *The amendment was adopted by voice vote.*

5. An amendment by Mr. Inglis requiring the Secretary to issue solicitations for safety and accident prevention research; *The amendment was adopted by voice vote.*

An additional amendment by Ms. Edwards was listed on the roster but not offered.

The bill was favorably reported by voice vote to the House.

VI. SUMMARY OF MAJOR PROVISIONS OF THE BILL

H.R. 5716 makes a series of important changes to refocus and streamline the research activities authorized by Section 999 of the Energy Policy Act of 2005. The bill renames the program the “Safer Oil and Natural Gas Drilling Technology Research and Development Program”, and shifts much of the focus of RPSEA from technologies to increase production, to research and development on a range of technologies and practices for safety, accident prevention, energy and waste reduction, and overall environmental impact mitigation of oil and gas exploration activities.

The bill consolidates the two current advisory committees into one advisory committee to be known as the “Program Advisory Committee”; specifies membership of the Advisory Committee and their qualifications; authorizes the establishment of subcommittees and ad-hoc working groups; specifies the members’ duties and compensation; and prohibits the Advisory Committee from making recommendations for specific awards.

The bill also adds a new “Safety, and Accident Prevention and Mitigation, Technology Research and Development Program”, to be conducted by DOE, which will focus research on areas such as: enhanced well control and integrity; blowout prevention devices; secondary control systems for well shut-off; technologies for accident mitigation; risk assessment methodologies; equipment testing for extreme conditions; human factors research for developing safety best practices; well diagnostics; determining flow rate; and other areas as determined by the Secretary.

In addition to changing the focus areas of the program the bill also changes the allocation of the \$50 million annual funding by increasing the Department of Energy’s share from 25 percent to 35 percent, and decreasing the allocation for the RPSEA consortium research accordingly.

VII. SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Safer Oil and Natural Gas Drilling Technology Research and Development Act.

Section 2. Subtitle amendment

Amends Subtitle J of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16371 et seq.) that authorized the “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources” program, to authorize the “Safer Oil and Natural Gas Drilling Technology Research and Development Program”.

Section 3. Safer Oil and Natural Gas Drilling Technology Research and Development Program

(a) PROGRAM AUTHORITY—Amends Section 999A of EPLA 2005 by:

- (1) replacing “ultra-deepwater” with “deepwater”;

(2) inserting “accident prevention and mitigation” as a program activity; by specifying that the program elements shall include deepwater activities in depths greater than 1000 feet;

(3) specifying that complementary research will be carried out by the Department of Energy, Office of Fossil Energy, instead of specifying the National Energy Technology Laboratory;

(4) instructing the Secretary to consult with the Department of Interior and other federal agencies, including those serving on, or collaborating with, the Interagency Coordinating Committee on Oil Pollution Research;

(5) instructing the Secretary shall seek to establish partnerships with outside stakeholders for research not likely to be undertaken by the private sector alone.

(b) PROGRAM ELEMENTS—Amends Section 999B of EPCA 2005 by:

(1) changing program name to “Safer Oil and Gas Drilling Technology Research and Development Program”;

(2) amending the IN GENERAL subsection to focus on advancing the safe and environmentally responsible exploration, development, and production of natural gas and other petroleum resources;

(3) specifying that projects will be selected on a competitive basis;

(4) making a small clarifying change in the underlying act;

(5) making significant changes to the areas on which the program should focus to include the following:

(A) DEEPWATER RESOURCES R&D will focus on safer and more environmentally responsible technologies, integrated systems, architectures, methods, and materials for deepwater exploration and production, adapting operations to extreme weather and ocean conditions, and other activities;

(B) UNCONVENTIONAL ONSHORE R&D will, in addition to maintaining some of its existing focus, also focus on more energy efficient operations, methods and materials that reduce environmental impact, improved management of produced water, and accident prevention and mitigation;

(C) SMALL PRODUCERS R&D will, in addition to maintaining some of its existing focus on technology challenges of small producers, also focus on safety, accident prevention, and well control and systems integrity, environmental mitigation, waste reduction, and energy efficient operations, including for tar sands and oil shale;

(D) Adds a new SAFETY, ACCIDENT PREVENTION AND MITIGATION TECHNOLOGY RESEARCH AND DEVELOPMENT program to be conducted by the Department of Energy. In addition to continuing some ongoing activities, the Department’s in-house activities may include research into: technologies and practices to enhance well control and integrity, blowout prevention devices, research on best practices for workforce training and workplace design, secondary control systems for well shut-off, technologies for accident mitigation, methodologies for risk man-

- agement, and other activities as determined by the Secretary;
- (6) makes conforming changes to the Annual Plan to be submitted by the Secretary, including a summary of ongoing and planned activities focused on safety and environmental impact, and also includes a new requirement for the Secretary to publish an annual report on the research findings and recommendations for implementation;
 - (7) requires the Secretary to include safety and accident prevention as specific focus areas for solicitations;
 - (8) makes minor conforming changes;
 - (9) instructs the Office of Fossil Energy to oversee the program, instead of the National Energy Technology Laboratory specifically.

Section 4. Program Advisory Committee

Amends Section 999D of EPOA 2005 by making substantial changes to the current advisory committee structure. Most importantly, the two advisory committees known as the “Ultra-Deepwater Advisory Committee” and the “Unconventional Resources Technology Advisory Committee” will be consolidated into one advisory committee to be known as the “Program Advisory Committee.” The section also specifies the scientific and technical qualifications for members of the Advisory Committee, authorizes the establishment of subcommittees and ad-hoc working groups, specifies the duties and compensation, and prohibits the Advisory Committee from making recommendations for specific awards.

Section 5. Definitions

Amends Section 999G of EPOA 2005 by:

- (1) changing the definition of “Deepwater” to be greater than 1000 feet;
- (2) striking definitions for ultra-deepwater, ultra-deepwater technology, and ultra-deepwater architecture;
- (3) making conforming changes;
- (4) inserting a new definition for “DEEPWATER ARCHITECTURE” and “DEEPWATER TECHNOLOGY”.

Section 6. Funding

Amends Section 999H of EPOA 2005 by:

- (1) renaming the fund;
- (2) changing the allocations to the program focus areas by:
 - (A) decreasing funding for Deepwater R&D at RPSEA to 32.5 percent from 35 percent;
 - (B) decreasing funding for Unconventional Resources R&D at RPSEA to 25 percent from 32.5 percent;
 - (C) increasing funding for Safety and Accident Prevention and Mitigation R&D at the Department of Energy to 35 percent from 25 percent, and making changes to the duties of the Department in managing the outside research consortium;
- (3) making a small conforming change;
- (4) inserting a new section to ensure that the research programs at RPSEA and DOE are coordinated and non-duplicative of one another.

Section 7. Conforming changes

Makes changes to the table of contents of EPOA 2005.

VIII. COMMITTEE VIEWS

It is the Committee's view that the BP Deepwater Horizon tragedy highlighted a number of critical gaps in the capacity of the oil and natural gas industry and government agencies in preventing and responding to catastrophic deepwater blowouts and large oil spills. The incident not only requires an unprecedented response and cleanup effort, it should also serve to focus research and development activities on advancing the engineering and scientific understanding of a range of technologies and practices designed to avoid and mitigate such incidents at the wellhead.

It is the Committee's view that this area of research is best undertaken by a combination of public and private sector entities and academia, and that existing efforts are likely the most efficient and effective means for the rapid development and commercial application of new technologies and practices. If properly realigned to meet current challenges, the research programs at the National Energy Technology Laboratory and the Research Partnership to Secure Energy for America, as authorized by Section 999, represent the Department of Energy's best resources for improving safety and reducing the environmental impact of offshore and onshore oil and natural gas exploration and production activities.

IX. COST ESTIMATE

A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 402 of the *Congressional Budget Act of 1974* has been timely submitted to the Committee on Science and Technology prior to the filing of this report and is included in Section X of this report pursuant to House Rule XIII, clause 3(c)(3).

H.R. 5716 does not contain new budget authority, credit authority, or changes in revenues or tax expenditures.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

JULY 19, 2010.

Hon. BART GORDON,
Chairman, Committee on Science and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 5716, the Safer Oil and Natural Gas Drilling Technology Research and Development Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Jeff LaFave.

Sincerely,

DOUGLAS W. ELMENDORF.

Enclosure.

H.R. 5716—Safer Oil and Natural Gas Drilling Technology Research and Development Act

H.R. 5716 would amend an existing research and development program related to technologies for oil and natural gas drilling.

Under the bill, the program would be modified to include activities related to controlling hydrocarbon wells and accident prevention. Under current law, the program is authorized to receive an appropriation of \$100 million and has mandatory spending authority of \$50 million annually through 2014. CBO estimates that implementing the legislation would have no significant impact on the federal budget. Enacting H.R. 5716 would not affect direct spending or revenues; therefore, pay-as-you-go procedures would not apply.

H.R. 5716 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act and would impose no costs on state, local, or tribal governments.

The CBO staff contact for this estimate is Jeff LaFave. The estimate was approved by Theresa Gullo, Deputy Assistant Director for Budget Analysis.

XI. COMPLIANCE WITH PUBLIC LAW 104-4

H.R. 5716 contains no unfunded mandates.

XII. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

The oversight findings and recommendations of the Committee on Science and Technology are reflected in the body of this report.

XIII. STATEMENT ON GENERAL PERFORMANCE GOALS AND OBJECTIVES

Pursuant to clause 3(c) of House Rule XIII, the goals of H.R. 5716 are refocus the existing “Ultra-Deepwater and Unconventional Onshore Natural Gas and Other Petroleum Resources” research and development program to shift much of the focus of the program from technologies to increase production, to research and development on a range of technologies and practices for safety, accident prevention, energy and waste reduction, and overall environmental impact mitigation of oil and gas exploration activities, and rename the program the, “Safer Oil and Natural Gas Drilling Technology Research and Development Program.”

XIV. CONSTITUTIONAL AUTHORITY STATEMENT

Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 5716.

XV. FEDERAL ADVISORY COMMITTEE STATEMENT

H.R. 5716 does not establish nor authorize the establishment of any advisory committee, although the bill does amend certain aspects of existing advisory committees related to the program.

XVI. CONGRESSIONAL ACCOUNTABILITY ACT

The Committee finds that H.R. 5716 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the *Congressional Accountability Act* (Public Law 104-1).

XVII. EARMARK IDENTIFICATION

H.R. 5716 does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9 of rule XXI.

XVIII. STATEMENT ON PREEMPTION OF STATE, LOCAL, OR TRIBAL LAW

This bill is not intended to preempt any state, local, or tribal law.

XIX. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3(e) of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

ENERGY POLICY ACT OF 2005

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) * * *

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

* * * * *

TITLE IX—RESEARCH AND DEVELOPMENT

* * * * *

【Subtitle J—Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources】

Subtitle J—Safer Oil and Natural Gas Drilling Technology Research and Development Program

* * * * *

【Sec. 999B. Ultra-deepwater and unconventional onshore natural gas and other petroleum research and development program.】

Sec. 999B. Safer Oil and Natural Gas Drilling Technology Research and Development Program.

* * * * *

【Sec. 999D. Advisory committees.】

Sec. 999D. Program Advisory Committee.

* * * * *

TITLE IX—RESEARCH AND DEVELOPMENT

* * * * *

Subtitle J—[Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources] *Safer Oil and Natural Gas Drilling Technology Research and Development Program*

SEC. 999A. PROGRAM AUTHORITY.

(a) IN GENERAL.—The Secretary shall carry out a program under this subtitle of research, development, demonstration, and commercial application of technologies for [ultra-deepwater] *deepwater* and unconventional natural gas and other petroleum resource exploration and production, including addressing the technology challenges for small producers, safe operations, *well control and accident prevention*, and environmental mitigation (including reduction of greenhouse gas emissions and sequestration of carbon).

(b) PROGRAM ELEMENTS.—The program under this subtitle shall address the following areas, including improving safety, *accident prevention and mitigation*, and minimizing environmental impacts of activities within each area:

[(1) Ultra-deepwater architecture and technology, including drilling to formations in the Outer Continental Shelf to depths greater than 15,000 feet.]

(1) *Deepwater architecture and technology, including those for drilling to formations in water depths greater than 1,000 feet.*

* * * * *

[(4) Complementary research performed by the National Energy Technology Laboratory for the Department.]

(4) *Complementary research carried out by the Department.*

* * * * *

(d) ACTIVITIES AT THE [NATIONAL ENERGY TECHNOLOGY LABORATORY] *DEPARTMENT OF ENERGY*.—The Secretary, through the [National Energy Technology Laboratory] *Office of Fossil Energy of the Department*, shall carry out a program of research and other activities complementary to and supportive of the research programs under subsection (b).

(e) CONSULTATION WITH [SECRETARY OF THE INTERIOR] *OTHER FEDERAL AGENCIES*.—In carrying out this subtitle, the Secretary shall consult regularly with the Secretary of the Interior *and other agencies as appropriate, including those serving on, and collaborating with, the Interagency Coordinating Committee on Oil Pollution Research as established under section 7001 of the Oil Pollution Act of 1990 (33 U.S.C. 2761(a))*.

(f) PARTNERSHIPS.—*In carrying out the program under this subtitle, the Secretary shall seek to establish partnerships with eligible research performers, as described by section 999E, to undertake research and development not likely otherwise to be undertaken in the absence of support from the program.*

SEC. 999B. [ULTRA-DEEPWATER AND UNCONVENTIONAL ONSHORE NATURAL GAS AND OTHER PETROLEUM] SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM.

[(a) IN GENERAL.—The Secretary shall carry out the activities under section 999A, to maximize the value of natural gas and other petroleum resources of the United States, by increasing the supply of such resources, through reducing the cost and increasing the efficiency of exploration for and production of such resources, while improving safety and minimizing environmental impacts.]

(a) IN GENERAL.—The Secretary shall carry out the activities under section 999A to maximize the benefits of natural gas and other petroleum resources of the United States by advancing the safe and environmentally responsible exploration, development, and production of those resources.

* * * * *

(c) ROLE OF THE PROGRAM CONSORTIUM.—

(1) IN GENERAL.—The Secretary shall contract with a corporation that is structured as a consortium to administer the programmatic activities outlined in this chapter. The program consortium shall—

(A) * * *

* * * * *

(D) select projects on a competitive basis;

[(D)] (E) disburse research funds to research performers awarded under subsection (f) as directed by the Secretary in accordance with the annual plan under subsection (e); and

[(E)] (F) carry out other activities assigned to the program consortium by this section.

* * * * *

(3) CONFLICT OF INTEREST.—

(A) PROCEDURES.—The Secretary shall establish procedures—

(i) * * *

(ii) to require any board member, officer, or employee with a financial relationship or interest disclosed under clause (i) to recuse himself or herself from any oversight **[(under subsection (f)(4)]** with respect to such applicant or recipient.

* * * * *

(d) SELECTION OF THE PROGRAM CONSORTIUM.—

(1) * * *

* * * * *

(6) ELIGIBILITY.—To be eligible to be selected as the program consortium, an applicant must be an entity whose members have collectively demonstrated capabilities and experience in planning and managing research, development, demonstration, and commercial application programs for **[(ultra-deepwater] deepwater** and unconventional natural gas or other petroleum exploration or production.

[(7) FOCUS AREAS FOR AWARDS.—

【(A) ULTRA-DEEPWATER RESOURCES.—Awards from allocations under section 999H(d)(1) shall focus on the development and demonstration of individual exploration and production technologies as well as integrated systems technologies including new architectures for production in ultra-deepwater.

【(B) UNCONVENTIONAL RESOURCES.—Awards from allocations under section 999H(d)(2) shall focus on areas including advanced coalbed methane, deep drilling, natural gas production from tight sands, natural gas production from gas shales, stranded gas, innovative exploration and production techniques, enhanced recovery techniques, and environmental mitigation of unconventional natural gas and other petroleum resources exploration and production.

【(C) SMALL PRODUCERS.—Awards from allocations under section 999H(d)(3) shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers, and shall focus on areas including complex geology involving rapid changes in the type and quality of the oil and gas reservoirs across the reservoir; low reservoir pressure; unconventional natural gas reservoirs in coalbeds, deep reservoirs, tight sands, or shales; and unconventional oil reservoirs in tar sands and oil shales.】

(7) FOCUS AREAS FOR AWARDS.—

(A) DEEPWATER RESOURCES.—*Awards from allocations under section 999H(d)(1) shall focus on research, development, demonstration, and commercial application activities in areas that include—*

(i) technologies and systems aimed at improving operational safety and reducing potential environmental impacts of deepwater exploration and production activities, including—

(I) wellbore integrity, well control, and blowout prevention;

(II) capture and containment of oil at or near the wellhead; and

(III) expanding operational capabilities and efficiency of remotely operated devices and mechanics;

(ii) safe and environmentally responsible deepwater exploration and production technologies, integrated systems, and architectures for enhancing oil and natural gas drilling and recovery, including under extreme conditions;

(iii) methods and technologies for severe weather and ocean surface condition preparedness;

(iv) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment; and

(v) other areas as determined appropriate by the Secretary.

(B) UNCONVENTIONAL ONSHORE RESOURCES.—*Awards from allocations under section 999H(d)(2) shall focus on research, development, demonstration, and commercial application activities in areas that include—*

(i) advanced coalbed methane, deep drilling, natural gas production from tight sands, natural gas production from gas shales, stranded gas, innovative exploration and production techniques, and enhanced recovery techniques;

(ii) increased efficiency of energy use in exploration and production activities;

(iii) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment;

(iv) recovery, utilization, reduction, and improved management of produced water from exploration and production activities; and

(v) accident prevention and mitigation of unconventional natural gas and other petroleum resources exploration and production.

(C) **SMALL PRODUCERS.**—Awards from allocations under section 999H(d)(3) shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers, and shall focus on areas that include—

(i) safety and accident prevention, environmental mitigation, waste reduction, reduction of energy use, and well control and systems integrity;

(ii) complex geology involving rapid changes in the type and quality of the oil and gas reserves across the reservoir;

(iii) low reservoir pressure and unconventional natural gas reservoirs in coalbeds, deep reservoirs, tight sands, or shales; and

(iv) advancing energy efficient, safe, and environmentally responsible production of unconventional oil reservoirs in tar sands and oil shales.

(D) **SAFETY, AND ACCIDENT PREVENTION AND MITIGATION, TECHNOLOGY RESEARCH AND DEVELOPMENT BY THE DEPARTMENT.**—Awards from allocations under section 999H(d)(4) shall focus on safety, and accident prevention and mitigation, research, development, demonstration, and commercial application activities in areas that may include—

(i) improved technologies and best management practices for enhanced well integrity including—

(I) cementing;

(II) casing;

(III) wellbore sealant technologies;

(IV) well-plugging and abandonment;

(V) improvement and standardization of blowout prevention devices;

(VI) actuation and pressure testing; and

(VII) other well control activities;

(ii) research to aid in the development of industry best practices and standards for workforce training, design of safe workplace environments, and safety related decisionmaking processes, including by drawing on existing research into human factors and safety related practices in fields such as the nuclear energy, aviation, and automotive industries;

(iii) secondary control systems to activate blowout prevention devices and terminate well-flow, including—

- (I) deadman switches;
- (II) automatic shears; and
- (III) remote acoustic switches;

(iv) technologies and methods for accident mitigation, including—

- (I) capture, containment, or dispersing of oil at or near the wellhead;
- (II) estimating flow rate;
- (III) diagnostic sensors to determine equipment malfunction; and
- (IV) procedures to terminate flow;

(v) continuing ongoing efforts, including in resource assessment and characterization, and in simulation of safe and effective drilling under extreme conditions, including high temperatures and pressures;

(vi) development of methodologies for risk management decisionmaking, including comparative risk analysis and quantitative risk assessment of potential for failure in the technologies, management practices, and systems studies under this subsection; and

(vii) other activities as described in this paragraph or as determined appropriate by the Secretary.

(e) ANNUAL PLAN.—

(1) * * *

(2) DEVELOPMENT.—

(A) SOLICITATION OF RECOMMENDATIONS.—Before drafting an annual plan under this subsection, the Secretary shall solicit specific written recommendations from the program consortium for each element to be addressed in the plan, including those described in paragraph (4). The program consortium shall submit to the Secretary for review its recommendations in the form of a draft annual plan.

(B) SUBMISSION OF RECOMMENDATIONS; OTHER COMMENT.—The Secretary shall submit the recommendations of the program consortium under subparagraph (A) to the [Ultra-Deepwater Advisory Committee established under section 999D(a) and to the Unconventional Resources Technology Advisory Committee established under section 999D(b), and such Advisory Committees] *Program Advisory Committee established under section 999D(a), and the Advisory Committee* shall provide to the Secretary written comments by a date determined by the Secretary. The Secretary may also solicit comments from any other experts.

* * * * *

(4) CONTENTS.—The annual plan shall describe the ongoing and prospective activities of the program under this section and shall include—

(A) a list of any solicitations for awards to carry out research, development, demonstration, or commercial application activities, including the topics for such work, who

would be eligible to apply, selection criteria, and the duration of awards; **[and]**

(B) a description of the activities expected of the program consortium to carry out subsection (f)(3)**[.]; and**

(C) a summary of ongoing and planned activities aimed at improving operational safety and reducing potential environmental impacts of exploration and production.

* * * * *

(6) **RESEARCH FINDINGS AND RECOMMENDATIONS FOR IMPLEMENTATION.**—*The Secretary shall publish in the Federal Register an annual report on the research findings of the program carried out under this section and any recommendations for implementation that the Secretary determines to be necessary.*

(f) **AWARDS.**—

(1) * * *

(2) **PROPOSALS.**—Upon approval of the Secretary the program consortium shall solicit proposals for awards under this subsection in such manner and at such time as the Secretary may prescribe, in consultation with the program consortium. *In carrying out this subsection, the Secretary shall ensure that safety and accident prevention and mitigation be regularly included as specific focus areas for solicitations.*

* * * * *

(i) **ACTIVITIES BY THE [UNITED STATES GEOLOGICAL SURVEY] DEPARTMENT OF THE INTERIOR.**—The Secretary of the Interior**[,** through the United States Geological Survey,**]** shall, where appropriate, carry out programs of long-term research to complement the programs under this section.

(j) **PROGRAM REVIEW AND OVERSIGHT.**—The **[National Energy Technology Laboratory] Office of Fossil Energy of the Department,** on behalf of the Secretary, shall (1) issue a competitive solicitation for the program consortium, (2) evaluate, select, and award a contract or other agreement to a qualified program consortium, and (3) have primary review and oversight responsibility for the program consortium, including review and approval of research awards proposed to be made by the program consortium, to ensure that its activities are consistent with the purposes and requirements described in this subtitle. Up to 5 percent of program funds allocated under paragraphs (1) through (3) of section 999H(d) may be used for this purpose, including program direction and the establishment of a site office if determined to be necessary to carry out the purposes of this subsection.

* * * * *

[SEC. 999D. ADVISORY COMMITTEES.

[(a) ULTRA-DEEPWATER ADVISORY COMMITTEE.—

[(1) ESTABLISHMENT.—Not later than 270 days after the date of enactment of this Act, the Secretary shall establish an advisory committee to be known as the Ultra-Deepwater Advisory Committee.

[(2) MEMBERSHIP.—The Advisory Committee under this subsection shall be composed of members appointed by the Secretary, including—

[(A) individuals with extensive research experience or operational knowledge of offshore natural gas and other petroleum exploration and production;

[(B) individuals broadly representative of the affected interests in ultra-deepwater natural gas and other petroleum production, including interests in environmental protection and safe operations;

[(C) no individuals who are Federal employees; and

[(D) no individuals who are board members, officers, or employees of the program consortium.

[(3) DUTIES.—The Advisory Committee under this subsection shall—

[(A) advise the Secretary on the development and implementation of programs under this subtitle related to ultra-deepwater natural gas and other petroleum resources; and

[(B) carry out section 999B(e)(2)(B).

[(4) COMPENSATION.—A member of the Advisory Committee under this subsection shall serve without compensation but shall receive travel expenses in accordance with applicable provisions under subchapter I of chapter 57 of title 5, United States Code.

[(b) UNCONVENTIONAL RESOURCES TECHNOLOGY ADVISORY COMMITTEE.—

[(1) ESTABLISHMENT.—Not later than 270 days after the date of enactment of this Act, the Secretary shall establish an advisory committee to be known as the Unconventional Resources Technology Advisory Committee.

[(2) MEMBERSHIP.—The Secretary shall endeavor to have a balanced representation of members on the Advisory Committee to reflect the breadth of geographic areas of potential gas supply. The Advisory Committee under this subsection shall be composed of members appointed by the Secretary, including—

[(A) a majority of members who are employees or representatives of independent producers of natural gas and other petroleum, including small producers;

[(B) individuals with extensive research experience or operational knowledge of unconventional natural gas and other petroleum resource exploration and production;

[(C) individuals broadly representative of the affected interests in unconventional natural gas and other petroleum resource exploration and production, including interests in environmental protection and safe operations;

[(D) individuals with expertise in the various geographic areas of potential supply of unconventional onshore natural gas and other petroleum in the United States;

[(E) no individuals who are Federal employees; and

[(F) no individuals who are board members, officers, or employees of the program consortium.

[(3) DUTIES.—The Advisory Committee under this subsection shall—

[(A) advise the Secretary on the development and implementation of activities under this subtitle related to unconventional natural gas and other petroleum resources; and

[(B) carry out section 999B(e)(2)(B).

[(4) COMPENSATION.—A member of the Advisory Committee under this subsection shall serve without compensation but shall receive travel expenses in accordance with applicable provisions under subchapter I of chapter 57 of title 5, United States Code.]

[(c) PROHIBITION.—No advisory committee established under this section shall make recommendations on funding awards to particular consortia or other entities, or for specific projects.]

SEC. 999D. PROGRAM ADVISORY COMMITTEE.

(a) *ESTABLISHMENT.*—Not later than 90 days after the date of enactment of the Safer Oil and Natural Gas Drilling Technology Research and Development Act, the Secretary shall establish an advisory committee to be known as the “Program Advisory Committee” (referred to in this section as the “Advisory Committee”).

(b) *MEMBERSHIP.*—

(1) *IN GENERAL.*—The Advisory Committee shall be composed of members appointed by the Secretary, each of whom shall be qualified by education, training, and experience to evaluate scientific and technical information relevant to the research, development, and demonstration under this subtitle. Members shall include—

(A) individuals with extensive research experience or operational knowledge of oil and natural gas exploration and production;

(B) individuals broadly representative of the affected interests in oil and natural gas production, including interests in environmental protection and operational safety;

(C) State regulatory agency representatives; and

(D) other individuals, as determined by the Secretary.

(2) *LIMITATIONS.*—

(A) *IN GENERAL.*—The Advisory Committee shall not include individuals who are board members, officers, or employees of the program consortium.

(B) *CATEGORICAL REPRESENTATION.*—In appointing members of the Advisory Committee, the Secretary shall ensure that no class of individuals described in any of subparagraphs (B), (C), or (D) of paragraph (1) comprises more than $\frac{1}{3}$ of the membership of the Advisory Committee.

(c) *SUBCOMMITTEES.*—The Advisory Committee may establish subcommittees or ad hoc working groups for the research focus areas described in section 999B(d)(7).

(d) *DUTIES.*—The Advisory Committee shall—

(1) advise the Secretary on the development and implementation of programs under this subtitle; and

(2) carry out section 999B(e)(2)(B).

(e) *COMPENSATION.*—A member of the Advisory Committee shall serve without compensation but shall be entitled to receive travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

(f) *PROHIBITION.*—The Advisory Committee shall not make recommendations on funding awards to particular consortia or other entities, or for specific projects.

* * * * *

SEC. 999G. DEFINITIONS.

In this subtitle:

(1) **DEEPWATER.**—The term “deepwater” means a water depth that is greater than **200 but less than 1,500 meters** *1,000 feet*.

(2) **DEEPWATER ARCHITECTURE.**—*The term “deepwater architecture” means the integration of technologies for the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.*

(3) **DEEPWATER TECHNOLOGY.**—*The term “deepwater technology” means a discrete technology that is specially suited to address 1 or more challenges associated with the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.*

[(2)] (4) INDEPENDENT PRODUCER OF OIL OR GAS.—
(A) * * *

* * * * *

[(3)] (5) PROGRAM ADMINISTRATION FUNDS.—The term “program administration funds” means funds used by the program consortium to administer the program under this subtitle, but not to exceed 10 percent of the total funds allocated under paragraphs (1) through (3) of section 999H(d).

[(4)] (6) PROGRAM CONSORTIUM.—The term “program consortium” means the consortium selected under section 999B(d).

[(5)] (7) PROGRAM RESEARCH FUNDS.—The term “program research funds” means funds awarded to research performers by the program consortium consistent with the annual plan.

[(6)] (8) REMOTE OR INCONSEQUENTIAL.—The term “remote or inconsequential” has the meaning given that term in regulations issued by the Office of Government Ethics under section 208(b)(2) of title 18, United States Code.

[(7)] (9) SMALL PRODUCER.—The term “small producer” means an entity organized under the laws of the United States with production levels of less than 1,000 barrels per day of oil equivalent.

[(8)] ULTRA-DEEPWATER.—The term “ultra-deepwater” means a water depth that is equal to or greater than 1,500 meters.

[(9)] ULTRA-DEEPWATER ARCHITECTURE.—The term “ultra-deepwater architecture” means the integration of technologies for the exploration for, or production of, natural gas or other petroleum resources located at ultra-deepwater depths.

[(10)] ULTRA-DEEPWATER TECHNOLOGY.—The term “ultra-deepwater technology” means a discrete technology that is specially suited to address one or more challenges associated with the exploration for, or production of, natural gas or other petroleum resources located at ultra-deepwater depths. **]**

[(11)] (10) UNCONVENTIONAL NATURAL GAS AND OTHER PETROLEUM RESOURCE.—The term “unconventional natural gas and other petroleum resource” means natural gas and other petroleum resource located onshore in an economically inaccessible geological formation, including resources of small producers.

SEC. 999H. FUNDING.

(a) OIL AND GAS LEASE INCOME.—For each of fiscal years 2007 through 2017, from any Federal royalties, rents, and bonuses derived from Federal onshore and offshore oil and gas leases issued under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) and the Mineral Leasing Act (30 U.S.C. 181 et seq.) which are deposited in the Treasury, and after distribution of any such funds as described in subsection (c), \$50,000,000 shall be deposited into the **Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund** *Safer Oil and Natural Gas Drilling Technology Research and Development Fund* (in this section referred to as the “Fund”). For purposes of this section, the term “royalties” excludes proceeds from the sale of royalty production taken in kind and royalty production that is transferred under section 27(a)(3) of the Outer Continental Shelf Lands Act (43 U.S.C. 1353(a)(3)).

* * * * *

(d) ALLOCATION.—Amounts obligated from the Fund under subsection (a)(1) in each fiscal year shall be allocated as follows:

(1) **35 percent** *32.5 percent* shall be for activities under section 999A(b)(1).

(2) **32.5 percent** *25 percent* shall be for activities under section 999A(b)(2).

* * * * *

(4) **25 percent** *35 percent* shall be for complementary research under section 999A(b)(4) and other activities under section 999A(b) to include program direction funds, overall program oversight, **contract management**, and the establishment and operation of a technical committee to ensure that in-house research activities funded under section 999A(b)(4) are technically complementary to, and not duplicative of, research conducted under paragraphs (1), (2), and (3) of section 999A(b). **and contract management.**

* * * * *

(f) FUND.—There is hereby established in the Treasury of the United States a separate fund to be known as the “**Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund** *Safer Oil and Natural Gas Drilling Technology Research and Development Fund*”.

(g) COORDINATION AND NONDUPLICATION.—*The Secretary shall ensure, to the maximum extent practicable, that the research activities carried out by the consortium funded under paragraphs (1), (2), and (3) of subsection (d), and the research activities carried out by the Department of Energy as funded by subsection (d)(4), shall be coordinated and not duplicative of one another.*

* * * * *

XX. COMMITTEE RECOMMENDATIONS

On July 14, 2010, the Committee on Science and Technology by voice vote favorably reported the bill, H.R. 5716, as amended, to the House with the recommendation that the bill, as amended, do pass.

XXI. ADDITIONAL VIEWS

America's domestic oil and natural gas resources are important national priorities that contribute significantly to job growth and the economy while reducing dependence on foreign sources of energy.

The program amended by this legislation was established in Section 999 of the Energy Policy Act of 2005. The program supports, through a collaborative effort between the Department of Energy (DOE) and a consortium including universities, small producers, large and small businesses and research organizations, cutting-edge technologies to enhance safe and environmentally responsible offshore and onshore oil and gas development.

We believe this program has contributed significantly to transformational advances in deep offshore and onshore drilling technologies that are helping to efficiently and responsibly recover energy supplies long known to exist, but which were previously inaccessible. The recovery of these resources has resulted in significant benefits to taxpayers in the form of domestic jobs and affordable energy, as well as increasing royalties to the fund that pays for the program in the first place.

Unfortunately, and despite the record of success of the program and support for it in Congress, the Obama Administration continues to call for its termination, as well as the termination of all other oil and gas research and development within the fossil energy program at DOE. We believe this is a clear mis-prioritization, particularly since it is the only research and development program in the Federal government capable of ramping up activities quickly and effectively to address the renewed focus on research and development of safe and responsible drilling technology in the wake of the *Deepwater Horizon* disaster.

This legislation makes reasonable and appropriate changes in the Section 999 program by preserving the program's original purpose to conduct research and development of technologies to advance safe and environmentally responsible oil and gas exploration and production, while shifting the balance of these activities toward more research into safety and accident prevention and mitigation. We believe these changes, including those made by several amendments offered by Republicans and adopted with bipartisan support, will serve to preserve and strengthen the program and maximize its contributions toward continued safe development of our Nation's energy resources.

RALPH M. HALL.
PAUL C. BROUN.
VERNON J. EHLERS.
W. TODD AKIN.
MICHAEL T. McCAUL.
ADRIAN SMITH.
PETE OLSON.
RANDY NEUGEBAUER.
JUDY BIGGERT.
DANA ROHRBACHER.
LAMAR SMITH.

XXII: PROCEEDINGS OF THE FULL COMMITTEE MARKUP ON H.R. 5716, THE SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY RESEARCH AND DEVELOPMENT ACT

WEDNESDAY, JULY 14, 2010

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE AND TECHNOLOGY,
Washington, DC.

The Committee met, pursuant to call, at 10:05 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Bart Gordon [Chairman of the Committee] presiding.

Chairman GORDON. Good morning. The Committee will come to order.

Pursuant to notice, the Committee on Science and Technology meets to consider the following measures: H.R. 2693, the *Oil Pollution Research and Development Program Reauthorization Act of 2010*, and H.R. 5716, the *Safer Oil and Natural Gas Drilling Technology Research and Development Act*. We will now proceed with the markup.

Today the Committee will consider two bills that address oil spill cleanup technologies and response coordination, as well as research and development of safe drilling technologies.

First, we will consider H.R. 2693, authored by Ms. Woolsey of California. This bill was introduced and marked up in the Subcommittee on Energy and Environment last summer. Ms. Woolsey's foresight in introducing this legislation last year put us one step closer to advancing a robust Federal research and development program on oil spill response, and I thank Ms. Woolsey for her foresight.

At the time, Ms. Woolsey was responding to a spill in her district. But the Deepwater Horizon accident and the subsequent response effort have made the intent of this bill all the more relevant today. In light of that, the amendment in the nature of a substitute to be marked up today sets up a more efficient Federal management structure, reprioritizes the research and development activities, and provides for more robust oversight and accountability of the interagency R&D program.

Second, we will consider H.R. 5716, the *Safer Oil and Natural Gas Drilling Technology Research and Development Act*. This bill amends Section 999 of the Energy Policy Act of 2005, which authorized the Secretary of Energy to establish an Ultra-Deepwater and Unconventional Onshore Natural Gas and Other Petroleum Resources Research and Development program. As a long-time champion of this program, Mr. Hall recognized its potential for developing technologies to prevent and mitigate oil spills, and worked closely with us in drafting this bill.

The bill makes a series of changes to the 999 program, including a shift in the focus and funding of the program to research and de-

velopment of technologies for safety and accident prevention and mitigation. This bill will also streamline the operations of the program.

It is our hope that with passage of this bill, activities conducted under Section 999 will better serve the Nation's needs for the development of advanced and improved environmental and worker safety technologies and practices, while also providing a Federal resource for technical expertise in this field.

This bill is the product of significant bipartisan collaboration, and I want to thank Mr. Hall and his staff for their continued good work as we move this legislation out of Committee and to the Floor.

The two bills before us today help to ensure that all stakeholders, including the Federal Government, industry, and academia, are better equipped to prevent and respond to such accidents in the future.

Let me also bring up another point. As I think everyone on this Committee knows, it has been a long tradition of the Committee to request that amendments be presented by 10:00 the day before the bill is brought up. There is a good reason for this, and that is, particularly when we are at a Full Committee markup, that we want to send a bill to the Floor that doesn't have unintended consequences by a late amendment, and that is the reason that they need to be vetted. That doesn't mean that we are not going to hear an amendment that might be brought late. It just makes it a higher burden on the person who brings it. Our Committee staff—I mean our Members have been very good in that. We had a couple of amendments both Democrat and Republican this time that were a little late, although we did have notice on some of those. So again, let me—and I know part of the problem is just getting legislative counsel to get things through. So let me just say once again, everybody, to try to get those up on time.

Let me also give a quick overview of what our intentions are for the rest of this month. We have a nuclear energy research bill that we think is important and good that will move forward research in the fourth-generation design that could make nuclear energy safer and less expensive, also, less likely to proliferate and hopefully less waste to have to store. So that is in the works in a bipartisan way.

We also have a NASA reauthorization that we are struggling with and we hope that the first of next week that we can have a good discussion about where we think we are going on that. As I had mentioned to someone earlier, when you try to put two tons of canaries in a one-ton box, it makes it tough, but we are still trying to stuff them in there.

And finally, we hope to have a rare earth minerals bill. As you might remember from our testimony, 90 to 95 percent of the rare earth mineral production in the world is in the hands of the Chinese. There were some hints from them earlier that they might try to restrict those to the rest of the world. The reason that is important is that those rare earth minerals in small amounts can significantly increase the efficiency of alternative energy and telecommunication, as well as a lot of other products. I just returned from a very quick, jet-lagged trip to Brussels to testify before our equivalent in the EU Parliament, and requested that they also take

up rare earth minerals. I think we are going to see them do that so that hopefully there can be some joint research, as we are both in the same boat and can help each other in terms of that basic research where there really isn't a first-to-market advantage.

So I thank you all for your attendance and participation this morning. I look forward to a productive markup.

[The prepared statement of Chairman Gordon follows:]

PREPARED STATEMENT OF CHAIRMAN BART GORDON

Good morning, and welcome. Today the Committee will consider two bills that address oil spill cleanup technologies and response coordination, as well as research and development of safe drilling technologies.

First, we will consider H.R. 2693 authored by Ms. Woolsey of California. This bill was introduced and marked up in the Subcommittee on Energy and Environment last summer.

Ms. Woolsey's foresight in introducing this legislation last year put us one step closer to advancing a more robust Federal research and development program on oil spill response.

At the time, Ms. Woolsey was responding to the spill in her district. But the Deepwater Horizon accident and the subsequent response effort have made the intent of this bill all the more relevant today. In light of that, the Amendment in the Nature of a Substitute to be marked up today sets up a more efficient Federal management structure, reprioritizes the research and development activities, and provides for more robust oversight and accountability of the interagency R&D program.

Next, we will consider H.R. 5716, the *Safer Oil and Natural Gas Drilling Technology Research and Development Act*. This bill amends Section 999 of the Energy Policy Act of 2005 which authorized the Secretary of Energy to establish an Ultra-Deepwater and Unconventional Onshore Natural Gas and Other Petroleum Resources research and development program. As the long-time champion for this program, Mr. Hall recognized its potential for developing technologies to prevent and mitigate oil spills, and worked closely with us in drafting this bill.

The bill makes a series of changes to the 999 program, including a shift in the focus and funding of the program to research and development of technologies for safety and accident prevention and mitigation. This bill will also streamline the operations of the program.

It is our hope that with passage of this bill, activities conducted under Section 999 will better serve the nation's needs for development of advanced and improved environmental and worker safety technologies and practices, while also providing a Federal resource for technical expertise in this field.

H.R. 5716 is the product of significant bipartisan collaboration, and I want to thank Mr. Hall and his staff for their continued good work as we move this legislation out of Committee and to the floor.

The two bills before us today help to ensure that all stakeholders—including the Federal Government, industry, and academia—are better equipped to prevent and respond to such accidents in the future.

I thank you all for your attendance and participation this morning, and I look forward to a productive markup.

Chairman GORDON. I now recognize Mr. Hall to present his opening remarks.

Mr. HALL. I thank you, Mr. Chairman.

As the disaster in the Gulf nears now, what, about three months and we await the results of the latest attempt to cap the well and stop the leak, our understanding of the precise causes of the accident and the missteps in the days that followed remain unclear even now. These unanswered questions really should serve to advise against temptations to overreact, especially given the importance of the offshore oil and gas industry to the Gulf Coast economy and America's energy independence goals. Regardless of the ultimate causes of and best responses to the disaster, it makes sense to continue pursuing improvements to safe and environ-

mentally responsible drilling operations as well as effective spill response systems.

The first bill we consider, H.R. 2693, amends the *Oil Pollution Act of 1990*. This bill was introduced last year and had gone through a subcommittee markup. The current bill illustrates the need to update certain aspects of the research and development title of the Oil Pollution Act since its passage 20 years ago. Further, it will be important for us to continue to exercise our Congressional duties and perform the necessary oversight to ensure that the laws we pass are being implemented and certainly carried out.

Today we mark up an amendment in the nature of a substitute that changes the bill in ways that seek to address members' concerns as well as concerns expressed by expert witnesses. I applaud the author's willingness to move her bill in a direction that alleviates these concerns, and while there are still some unresolved issues, the approach of the ANS in correcting the problem of insecure law is more in the line with what we heard from scientists, industry and we heard from stakeholders that it should be.

The second bill we consider amends the drilling technologies R&D program established by section 999 of the Energy Policy Act of 2005. I led and helped work with the creation of this program in 2005 and I believe it has contributed significantly to recent technological advances that are enabling recovery of energy supplies that we know existed but we were unable to access. The program relies on established program structure and network of worldwide private and public sector experts. The funding for the program is drawn from the taxes paid by the industry on oil leases, and that money is paid back with eventual royalties on oil and natural gas that is discovered and used as a result of the program. I have always said that this program is a win-win for taxpayers. Not only do Americans move in the direction of energy independence but the program pays for itself. Further, this 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.

As the present spill in the Gulf illustrates, we should encourage further research into this vital area so that we are best able to amend needed resources safety and effectively. Unfortunately, despite its clear growing importance, this program along with most other fossil fuel R&D activities, remains targeted by the Administration and others in Congress for termination. I think this represents a clear misprioritization and I am glad that Chairman Gordon agrees and has worked very closely with us on the vehicle before us today. I may quibble with some of the details but I believe this vehicle represents a reasonable compromise that will preserve and strengthen this successful program.

Before I close, I do want to say a word about the process, as the chairman has. Many amendments including one of my own were filed well after the 10:00 deadline. However, the majority of the Republican colleagues worked hard and met or came very close to meeting the submission deadline. I may have more to say about this as we move forward today but I do want to mention amendments introducing significant policy shift or additions should be, we wish they would be, filed earlier rather than later so members and

staff might thoroughly review and prepare for their consideration. I know the chairman agrees with this as he stated in the past and stated today.

Again, I thank the chairman and the majority for working with Republicans on both bills and I look forward to continuing this result and find a good result, continue our effort as these vehicles move through the legislative process.

I thank you, Mr. Chairman, and I yield back.

[The prepared statement of Mr. Hall follows:]

PREPARED STATEMENT OF REPRESENTATIVE RALPH M. HALL

As the disaster in the Gulf nears three full months and we await the results of the latest attempt to cap the well and stop the leak, our understanding of the precise causes of the accident—and the missteps in the days that followed—remain unclear. These unanswered questions should serve to advise against temptations to overreact to the disaster, especially given the importance of the offshore oil and gas industry to the Gulf Coast economy and America's energy independence goals.

Regardless of the ultimate causes of and best rest responses to the disaster it makes sense to continue pursuing improvements to safe and environmentally responsible drilling operations, as well as effective spill response systems. This Committee will play a key role in this effort, and the legislation before us today will have a significant impact on future drilling and environmental response mitigation efforts.

The first bill we will consider, H.R. 2693, amends the *Federal Oil Spill Research Program Act*. This legislation was introduced last year and had gone through a subcommittee markup, demonstrating once again this Committee's foresight of the research and development needs of the nation. Today, we markup an Amendment in the Nature of a Substitute that changes the bill in ways that reflect the concerns of members on both sides of the aisle and testimony we received both last year and last month. . . .

The second bill we will consider amends the drilling technologies R&D program established by Section 999 of the *Energy Policy Act of 2005*. I led creation of this program in 2005, and I believe it has contributed significantly to recent technological advances that are enabling recovery of energy supplies that we knew existed but were unable to access. Further, with its established program structure and network of worldwide private and public sector experts, it is the *only* R&D program in the Federal Government capable of addressing priority drilling safety and accident prevention-related technology needs in a timely and effective manner.

Unfortunately, despite its clear and growing importance, the program remains targeted by the Administration and others in Congress for termination. I think this represents a clear mis-prioritization, and I am glad that Chairman Gordon agrees and worked closely with me on the bill before us today. I may quibble with some of the details, but I believe the committee print represents a reasonable compromise that will preserve and strengthen this successful program.

Again, I thank the Chairman and the majority for working with Republicans on both of these bills, and I look forward to continuing this effort as these vehicles move through the legislative process.

I yield back.

Chairman GORDON. Thank you, Mr. Hall. Members may place statements in the record at this point.

Chairman GORDON. I thank the Members for their patience, but hopefully your patience is still—there is some left, because we now move to H.R. 5716. We will now consider the *Safer Oil and Natural Gas Drilling Technology Research and Development Act*.

I recognize myself for five minutes, and since I have already described the bill earlier, we will stick with that description, and now I yield to Mr. Hall for any remarks on the bill.

Mr. HALL. Mr. Chairman, as I mentioned in my opening statement on the beginning of this markup, this Committee print is the product of extensive negotiations with the majority to develop com-

promised legislations strengthening Section 999 program on oil and natural gas drilling technologies.

It would make three primary changes to the existing statute. It shifts the focus of each of the programs' four elements toward advancing safety and accident prevention and mitigation technologies associated with oil and natural gas exploration and production. It adjusts the allocations among these four programs, reducing deep-water and unconventional onshore natural gas programs by a small amount, while increasing the allocation for Department of Energy in-house research from 25 percent to 35 percent.

And it redefines and expands the scope of offshore R&D activities to those involving water depths of 1,000 feet or greater. That is a reduction from the 5,000 feet in current law, and in doing so modifies the current focus on, "Ultra Deepwater," activities to pertain simply to deepwater activities.

Additionally, the bill makes numerous additional minor changes to the management and structure of the 999 program while preserving its original goal and objective to advance safe and economically-responsible drilling.

While the precise focus and detailed language in this Committee print is less than ideal in my opinion, and I suspect the Chairman might agree with me for different reasons, it represents a fair and reasonable compromise that preserves and strengthens the Section 999 program.

As I indicated in my opening statement, this is the only R&D program in the Federal Government capable of ramping up activities quickly and effectively to address a renewed interest in drilling technology research in the wake of the Deepwater Horizon disaster. Given this Administration's efforts to terminate any and all research and development relating to oil and natural gas, this program is all the more vital.

I want to again extend my thanks to Chairman Gordon for working with me on this bill, and I look forward to continuing the bipartisan cooperation on the bill as the legislative process moves forward, and sir, I do yield back.

Chairman GORDON. Thank you, Mr. Hall, for those remarks, but more importantly, thank you for the cooperation. I now want to thank the minority and majority staff for their work on bringing this bill before us.

Does anyone else wish to be recognized?

If not, then I ask unanimous consent the bill is considered as read and open to amendment at any point and that the members proceed with the amendments in the order of the roster.

Without objection, so ordered.

Chairman GORDON. The first amendment on the roster is a manager's amendment offered by the Chair. The clerk will report the amendment.

The CLERK. Amendment number 006, amendment to H.R. 5716 offered by Mr. Gordon of Tennessee.

Chairman GORDON. I ask unanimous consent to dispense with the reading.

Without objection, so ordered.

I recognize myself for five minutes to explain the amendment. In addition to making clarifying and conforming changes, my man-

ager's amendment incorporates a number of our Members' concerns and has been worked out in advance with Mr. Hall through this amendment.

Mr. Luján seeks to ensure that the Secretary would partner with all eligible entities such as universities, private firms, and national labs. Dr. Baird makes an addition to recognize the role of the human factors in safety-related decisions, making and seeking to draw out analogous research from other risk-intensive industries.

Dr. Lipinski specifies that the DOE program will include as a focus area development of methodologies for risk management. Mr. Hall ensures that the Advisory Committee includes only individuals who are highly technically or scientifically qualified to advise the Secretary on the research activities, and we reinstate language to ensure that the activities of the Research Consortium and DOE are coordinated and not duplicative.

I appreciate the time these Members and Mr. Hall's staff has put in making this a better amendment through the manager's amendment, and I urge its adoption.

Is there further discussion on the amendment?

Mr. HALL. Mr. Chairman.

Chairman GORDON. Mr. Hall is recognized.

Mr. HALL. The manager's amendment makes several minor changes to the underlying Committee print, including specifying additional R&D activities for the Section 999 Program and eligibility requirements for program applicants and Advisory Committee members.

This was drafted in bipartisan fashion, and these changes improve the underlying legislation, so I urge passage of the manager's amendment.

Chairman GORDON. Governor Garamendi is recognized.

Mr. GARAMENDI. Thank you very much, Mr. Chairman, and thank you for your amendments. Just a question, clarification if I could. Yesterday I met with Sandia National Laboratories, who have been involved in the oil spill, and in their opinion the methodology used by the national labs to assure the safety and reliability of the Nuclear Weapons Programs, that that methodology is applicable to the issues of deepwater drilling.

I believe your amendment, your manager's amendment does allow the national laboratories to engage specifically in the risk assessment and providing their expertise in setting out a methodology to assure the maximum safety and reliability.

Chairman GORDON. I think that Dr. Lipinski's amendment will—would satisfy that concern.

Mr. GARAMENDI. Thank you.

Chairman GORDON. Is there further discussion on the amendment?

If no, the vote occurs upon the amendment. All in favor, say aye. Opposed, no. The ayes have it. The amendment is agreed to.

The second amendment on the roster is an amendment offered by the gentleman from California, Mr. Garamendi. Are you ready to proceed with your amendment? The clerk will report the amendment.

The CLERK. Amendment number 005, amendment to H.R. 5716 offered by Mr. Garamendi of California.

Chairman GORDON. I ask unanimous consent to dispense with the reading.

Without objection, so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. GARAMENDI. I won't take five minutes. Mr. Chairman, this amendment simply removes a language that specifies the Department of Interior, the Secretary of the Department, and makes it a more broader section to include all those relevant Federal agencies, and I ask for support of the amendment.

Chairman GORDON. If there is no—

Mr. HALL. Mr. Chairman.

Chairman GORDON. Mr. Hall is recognized.

Mr. HALL. This amendment simply directs the Secretary of Energy to consult with Interagency Coordinating Committee on all pollution research, which was addressed in the first bill we considered today.

I support the passage. I yield back.

Chairman GORDON. Thank you, Mr. Hall. It certainly makes—

Mr. ROHRABACHER. Mr. Chairman.

Chairman GORDON. Mr. Rohrabacher is recognized.

Mr. ROHRABACHER. So this is an amendment to foster cooperative effort in the Interagency action. Let us see now. We have had one for international cooperation and now another verification of that, so I am still trying to figure out the opposition to the amendment that I offered, but that is OK. Thank you.

Mr. GARAMENDI. Mr. Chair, if I might to my colleague from California, just give it up and move on.

Chairman GORDON. Well, with that then if there is no further discussion, those—all in favor of the amendment say aye. Opposed, no. The ayes have it. The amendment is agreed to.

The third amendment on the roster is an amendment offered by the gentleman from Texas, Mr. McCaul. Are you ready to proceed with your amendment?

Mr. MCCAUL. I am. Thank you, Mr. Chairman. I have an amendment at the desk.

Chairman GORDON. The clerk will report the amendment.

The CLERK. Amendment number 002, amendment to H.R. 5716 offered by Mr. McCaul.

Chairman GORDON. I ask unanimous consent to dispense with the reading.

Without objection, so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. MCCAUL. Thank you, Mr. Chairman. This is a simple amendment that is aimed at reinforcing the emphasis in the underlying bill on advancing environmentally-responsible oil and gas exploration and production activities.

Specifically, the amendment adds to the list of research and technology focus areas provided for in the bill's deepwater and unconventional onshore oil and natural gas drilling subprograms to include a utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment.

In the wake of the Deepwater Horizon disaster, this is an area in obvious need of further study. While the language of this amendment is intended to be broad and encompassing, it may help to advance, for example, understanding of the potential impacts of and alternatives to chemicals added to drilling muds such as those used in the recent top kill procedure.

Similar research needs exist with respect to onshore deep natural gas drilling activities. I understand that the consortium funded by this program is already moving in this direction with respect to their research activities, but this will affirm and codify this move with explicit statutory language and further improve our ability to access these valuable oil and gas resources safely and effectively.

And with that I yield back.

[The prepared statement of Mr. McCaul follows:]

PREPARED STATEMENT OF REPRESENTATIVE MICHAEL T. MCCAUL

This is a simple amendment that is aimed at reinforcing the emphasis in the underlying bill on advancing environmentally responsible oil and gas exploration and production activities.

Specifically, the amendment adds to the list of research and technology focus areas provided for in the bill's deepwater and unconventional onshore oil and natural gas drilling sub-programs to include "utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment."

In the wake of the Deepwater Horizon disaster, this is an area in obvious need of further study. While the language of this amendment is intended to be broad and encompassing, it may help to advance, for example, understanding of the potential impacts of and alternatives to chemicals added to drilling muds, such as that used in the recent "top kill" procedure. Similar research needs exist with respect to onshore deep natural gas drilling activities.

I understand that the consortium funded by this program is already moving in this direction with respect to their research activities, but this will affirm and codify this move with explicit statutory language and further improve our ability to access these valuable oil and gas resources safely and effectively.

Chairman GORDON. Thank you, Mr. McCaul. Interestingly I had asked about just such an amendment that this is an area that needs to be looked into, and I was told you had an amendment, and I welcome it. It is a good amendment, and Mr. Hall, did you—like to make a statement?

Mr. HALL. Well, yeah, Mr. Chairman. At the risk of you telling me and Rohrabacher to get over it, I just want to say it is a good amendment, and I support its passage, and I yield back.

Chairman GORDON. Thank you, Mr. Hall. Is there further discussion on the amendment?

Mr. ROHRABACHER. Mr. Chairman.

VOICE. Oh, I don't think he has gotten over it yet.

Chairman GORDON. OK. Mr. Rohrabacher is recognized for some additional therapy.

Mr. ROHRABACHER. There is it. Let me just note again about something else, that almost all of the money that has been spent on research for the Department of Energy has been funneled into research when we are talking about fossil fuels research for the Department of Energy, has been channeled into basically developing carbon sequestration. And, again, we now are living with the consequences of this folly, what I consider to be a misallocation of funds based on a scientific nonsense in terms of global warming.

Carbon sequestration, what is the harm that is done to our society and to the world based on this, what I consider to be a non-scientific approach and talking about global warming, what it is, is we haven't spent the money at the Department of Energy to develop the technology that we need to have safe oil and natural gas extraction that we could put to use for our people.

So instead of spending the money on that we are spending the money on carbon sequestration, and so what I am trying to point out here is this amendment will come to grips with this and start directing research back to where it should be, and that is if we depend so much right now on oil and gas for our country's prosperity, we should, if we are spending money of the Department of Energy for research, it shouldn't go into areas that are not dramatically impacting on our prosperity and our security for today.

So, again, I support this amendment because I think that it is undoing some really past mistakes in the direction of our research dollars at the Department of Energy. I appreciate that.

One other thing is that we have to take a look at the money that has been spent in the developing of new technologies. Again, it wasn't being done by our own government. A private sector person testified here he put his own money into developing technologies for cleanup, and again, what happened to that?

First of all, the Federal Government should have been the ones spending the money for a general cleanup technology, but Kevin Costner ended up putting his own money into developing centrifuge technology for separating oil from water, but yet it sat there on the shelf, unused for 15 years because we have policies of our government and policies of our regulatory agencies that were demanding what, perfection rather than something that could be useful and be—and have a positive impact.

So I would suggest that as we move forward now, and I visited an offshore oil rig off my district during the break, it is really important that we take these things seriously and that we take a look at the allocation of these funds and realize that perhaps this tragedy in the Gulf will have sort of opened our eyes to the fact that we, yes, we can impose or we can support the theory of global warming, but we should darn well be making sure that those things that we do depend on are being done safely and that the allocation of our research dollars will go to promote that and have a positive impact on our safety today rather than relying on Kevin Costner and channeling our own monies into things that perhaps don't meet the most serious challenge that we face.

So thank you, Mr. Chairman. I support this amendment.

Chairman GORDON. Thank you, Mr. Rohrabacher, and I ask unanimous consent that in the future that you can just say number one and that we will put that statement back into the record.

Is there further discussion on the amendment?

If not, all in favor of the amendment, say aye. Opposed, no. The ayes have it, and the amendment is agreed to.

The fourth amendment is an amendment that was going to be offered by Ms. Edwards. I think she has made her point and so we will move on then to amendment number five. The fifth amendment on the roster is an amendment offered by the gentleman from

South Carolina, Mr. Inglis. Are you ready to proceed with your amendment?

Mr. INGLIS. Yes, Mr. Chairman. I have an amendment at the desk.

Chairman GORDON. The clerk will report the amendment.

The CLERK. Amendment number 003, amendment to H.R. 5716 offered by Mr. Inglis of South Carolina.

Chairman GORDON. I ask unanimous consent to dispense with the reading.

Without objection, so ordered.

I recognize the gentleman for five minutes to explain his amendment.

Mr. INGLIS. Thank you, Mr. Chairman. This amendment ensures that RPSEA, which is the Research Partnership to Secure Energy for America, will incorporate all activities related to improving safety and reducing potential environmental risks into their annual report.

The changes we are making today in support of drilling research will ensure that RPSEA has a renewed focus, not only getting this hard-to-reach oil and gas but doing so at minimal risk to the personnel involved and to the surrounding environment.

When the Deepwater Horizon rig caught fire and sank, we learned a lot about the risks of developing—of deepwater drilling, to BP and to the people of the Gulf Coast. We learned a lot, too, about the limits of our regulatory system. Eighty-six days into the biggest environmental disaster in U.S. history and there is still a hole a mile below the sea gushing oil and gas into our waters.

If there is anything—if anything is certain, it is that our capabilities to mitigate a disaster of this magnitude lag behind our ability to create one. We can't get this half right. If we are going to research for oil at the sea floor, we have to know how to prevent or tackle an incident of this magnitude.

Blame for this incident is not reserved for BP or the drilling industry alone. That blame should be shared with a woefully-unprepared regulatory system that allowed this industry to self-regulate. While drilling policy is beyond the jurisdiction of this committee, we have an opportunity today to help the industry find the tools they need to drill safely and to give the Department of Interior the expertise they need to hold drilling companies accountable for proper, accurate contingency plans.

Let us do our jobs and assure the American people the Congress is working to safeguard their health and health of our natural resources. We can prevent another disaster like this from happening again.

RPSEA is a broad and active consortium already exploring ways to reorient their focus to meet major challenges made obvious by the Deepwater Horizon disaster. Let us give them an opportunity to answer those tough research questions.

This discussion would be incomplete, though, Mr. Chairman, without expressing the hope of an America that would be no longer dependent on oil. Here is an obvious example of the extreme risk we take to fuel our economy on fossil fuels. Let us keep our focus on finding new solutions to our energy challenges so we can fuel our economy on American ingenuity instead.

I encourage the adoption of this amendment, and I yield back the balance of my time.

[The prepared statement of Mr. Inglis follows:]

PREPARED STATEMENT OF REPRESENTATIVE BOB INGLIS

Thank you, Mr. Chairman. This amendment ensures that the Research Partnership to Secure Energy for America (RPSEA ["rip seal"]) will incorporate all activities related to improving safety and reducing potential environmental risk into their annual report.

The changes we're making today in support of drilling research will ensure that RPSEA has a renewed focus on not only getting us hard-to-reach oil and gas, but doing so at minimal risk to the personnel involved and to the surrounding environment.

When the *Deepwater Horizon* rig caught fire and sank, we learned a lot about the risks of deepwater drilling to BP and the people of the Gulf Coast. We learned a lot about the limits of our regulatory system. Eighty-six days into the biggest environmental disaster in U.S. history, and there's still a hole a mile below the sea gushing oil and gas into our waters. If anything is certain, it's that our capabilities to mitigate a disaster of this magnitude lag far behind our ability to create one. We can't get this half right; if we're going to reach for oil at the sea floor, we have to know how to prevent or tackle an incident of this magnitude.

Blame for this incident is not reserved for BP or for the drilling industry. That blame should be shared with a woefully unprepared regulatory system that allowed this industry to self-regulate. While drilling policy is beyond the jurisdiction of this Committee, we have an opportunity today to help industry find the tools they need to drill safely, and to give the Department of the Interior the expertise they need to hold drilling companies accountable for proper, accurate contingency plans. Let's do our jobs and assure the American people that Congress is working to safeguard their health and the health of our natural resources. We can prevent another disaster like this from happening again.

RPSEA is a broad and active consortium, already exploring ways to reorient their focus to meet major challenges made obvious by the *Deepwater Horizon* disaster. Let's give them an opportunity to answer those tough research questions.

This discussion would be incomplete without expressing the hope of an America no longer dependent on oil. Here is an obvious example of the extreme risks we take to fuel our economy on fossil fuels. Let's keep our focus on finding new solutions to our energy challenges so we can fuel our economy on American ingenuity instead.

I encourage adoption of this amendment, and I yield back the balance of my time.

Chairman GORDON. Thank you, Mr. Inglis, and more importantly thank you for your continued commitment to this committee.

And if there is no further discussion on the amendment, all in favor, say aye. Opposed, no. The ayes have it. The amendment is agreed to.

The sixth amendment on the roster is an amendment offered by the gentleman also from, once again, from South Carolina, Mr. Inglis. Are you ready to proceed with your amendment?

Mr. INGLIS. Yes, Mr. Chairman. I have an amendment at the desk.

Chairman GORDON. The clerk will report the amendment.

The CLERK. Amendment number 004, amendment to H.R. 5716 offered by Mr. Inglis of South Carolina.

Chairman GORDON. I ask unanimous consent to dispense with the reading.

Without objection, so ordered.

I recognize the gentleman for five minutes to explain the amendment.

Mr. INGLIS. Thank you, Mr. Chairman. This amendment will ensure that RPSEA regularly issues awards specifically for safety and accident prevention and mitigation. While these areas are incorporated as a new focus area for RPSEA awards, we cannot empha-

size enough that any progress in drilling technology should be matched by progress and minimizing the impact of drilling on personnel and on the environment.

Let us make sure that we can explore and develop our resources in a safe, environmentally-sound way.

I encourage the adoption of this amendment and yield back the balance of my time.

[The prepared statement of Mr. Inglis follows:]

PREPARED STATEMENT OF REPRESENTATIVE BOB INGLIS

Thank you Mr. Chairman. This amendment will ensure that RPSEA regularly issues awards specifically for safety and accident prevention and mitigation. While these areas are incorporated as a new focus area for RPSEA awards, we can not emphasize enough that any progress in drilling technology should be matched by progress in minimizing the impact of drilling on personnel and on the environment. Let's make sure that we can explore and develop our resources in a safe, environmentally sound way.

I encourage adoption of this amendment and yield back the balance of my time.

Chairman GORDON. Thank you, Mr. Inglis. Is there further discussion on the amendment?

If not, all in favor of the amendment, say aye. Opposed, no. The ayes have it, and the amendment is agreed to.

If there are no other amendments, I think that we have now set a new Science and Technology Committee indoor world record for the most amendments in one day, and I thank everyone for their patience.

So if there are no other amendments, then H.R. 5716 as amended, all in favor, say aye. All opposed, no. The ayes have it. In the opinion of the Chair the ayes have it.

I now recognize Mr. Hall.

Mr. HALL. Mr. Chairman, I move that the Committee favorably report H.R. 5716 as amended to the House with the recommendation that the bill do pass.

Furthermore, I move that the staff be instructed to prepare the legislative report and make necessary technical and conforming changes and that the Chairman take all necessary steps to bring the bill before the House for consideration.

Chairman GORDON. The question is on the motion to report the bill favorably. Those in favor of the motion will signify by saying aye. Opposed, no. The ayes have it. The bill is favorably reported.

Without objection, the motion is reconsidered as laid upon the table. Members will have two subsequent calendar days in which to submit supplemental, minority, or additional views on the measure.

And I want to, again, thank the hardcore for hanging through here for the last several hours, and also announce that as many of you know I am an only child, but I do have cousins, and I want to welcome my cousins, the Barton family, here today.

Mr. BAIRD. Mr. Chairman.

Chairman GORDON. Yes.

Mr. BAIRD. I just want to inform the Chairman's cousins, this gentleman is an outstanding member of the Congress and a great Chairman, and I think that is shared on a bipartisan basis. We are all privileged to serve with him, and we are honored by your presence as well. Thank you.

Chairman GORDON. It is hard to top that, so this committee is concluded. Thank you.
[Whereupon, at 12:33 p.m., the Committee was adjourned.]

Appendix:

H.R. 5716, SECTION-BY-SECTION ANALYSIS, AMENDMENT ROSTER

.....
(Original Signature of Member)

111TH CONGRESS
2D SESSION

H. R. 5716

To provide for enhancement of existing efforts in support of research, development, demonstration, and commercial application activities to advance technologies for the safe and environmentally responsible exploration, development, and production of oil and natural gas resources.

IN THE HOUSE OF REPRESENTATIVES

M. _____ introduced the following bill; which was referred to the
Committee on _____

A BILL

To provide for enhancement of existing efforts in support of research, development, demonstration, and commercial application activities to advance technologies for the safe and environmentally responsible exploration, development, and production of oil and natural gas resources.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Safer Oil and Natural
5 Gas Drilling Technology Research and Development Act”.

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1 **SEC. 2. SUBTITLE AMENDMENT.**

2 Subtitle J of title IX of the Energy Policy Act of
 3 2005 (42 U.S.C. 16371 et seq.) is amended in the subtitle
 4 heading by striking “**Ultra-Deepwater and Uncon-**
 5 **ventional Natural Gas and Other Petroleum**
 6 **Resources**” and inserting “**Safer Oil and Natural**
 7 **Gas Drilling Technology Research and Devel-**
 8 **opment Program**”.

9 **SEC. 3. SAFER OIL AND NATURAL GAS DRILLING TECH-**
 10 **NOLOGY RESEARCH AND DEVELOPMENT**
 11 **PROGRAM.**

12 (a) PROGRAM AUTHORITY.—Section 999A of the En-
 13 ergy Policy Act of 2005 (42 U.S.C. 16371) is amended—

14 (1) in subsection (a)—

15 (A) by striking “ultra-deepwater” and in-
 16 serting “deepwater”; and

17 (B) by inserting “well control and accident
 18 prevention,” after “safe operations,”;

19 (2) in subsection (b)—

20 (A) by inserting “, accident prevention and
 21 mitigation,” after “improving safety”;

22 (B) by striking paragraph (1) and insert-
 23 ing the following:

24 “(1) Deepwater architecture and technology, in-
 25 cluding those for drilling to formations in water
 26 depths greater than 1,000 feet.”; and

1 (C) by striking paragraph (4) and insert-
2 ing the following:

3 “(4) Complementary research carried out by
4 the Department.”;

5 (3) in subsection (d)—

6 (A) in the subsection heading, by striking
7 “NATIONAL ENERGY TECHNOLOGY LABORA-
8 TORY” and inserting “DEPARTMENT OF EN-
9 ERGY”; and

10 (B) by striking “National Energy Tech-
11 nology Laboratory” and inserting “Office of
12 Fossil Energy of the Department”; and

13 (4) by adding at the end the following:

14 “(f) PARTNERSHIPS.—In carrying out the program
15 under this subtitle, the Secretary shall seek to establish
16 partnerships with research performers in institutions of
17 higher education and the private sector to undertake re-
18 search and development not likely otherwise to be under-
19 taken in the absence of support from the program.”.

20 (b) PROGRAM ELEMENTS.—Section 999B of the En-
21 ergy Policy Act of 2005 (42 U.S.C. 16372) is amended—

22 (1) in the section heading, by striking “**ULTRA-**
23 **DEEPWATER AND UNCONVENTIONAL ONSHORE**
24 **NATURAL GAS AND OTHER PETROLEUM**” and

1 inserting “**SAFER OIL AND NATURAL GAS DRILL-**
2 **ING TECHNOLOGY**”;

3 (2) by amending subsection (a) to read as fol-
4 lows:

5 “(a) IN GENERAL.—The Secretary shall carry out
6 the activities under section 999A to maximize the benefits
7 of natural gas and other petroleum resources of the
8 United States by advancing the safe and environmentally
9 responsible exploration, development, and production of
10 those resources.”;

11 (3) in subsection (c)(1)—

12 (A) by redesignating subparagraphs (D)
13 and (E) as subparagraphs (E) and (F), respec-
14 tively; and

15 (B) by inserting after subparagraph (C)
16 the following:

17 “(D) select projects on a competitive
18 basis;”;

19 (4) in subsection (d)—

20 (A) in paragraph (6), by striking “ultra-
21 deepwater” and inserting “deepwater”; and

22 (B) by striking paragraph (7) and insert-
23 ing the following:

24 “(7) FOCUS AREAS FOR AWARDS.—

1 “(A) DEEPWATER RESOURCES.—Awards
2 from allocations under section 999H(d)(1) shall
3 focus on research, development, demonstration,
4 and commercial application activities in areas
5 that include—

6 “(i) technologies and systems aimed
7 at improving operational safety and reduc-
8 ing potential environmental impacts of
9 deepwater exploration and production ac-
10 tivities, including—

11 “(I) wellbore integrity, well con-
12 trol, and blowout prevention;

13 “(II) capture and containment of
14 oil at or near the wellhead; and

15 “(III) expanding operational ca-
16 pabilities and efficiency of remotely
17 operated devices and mechanics;

18 “(ii) safe and environmentally respon-
19 sible deepwater exploration and production
20 technologies, integrated systems, and ar-
21 chitectures for enhancing oil and natural
22 gas drilling and recovery, including under
23 extreme conditions;

1 “(iii) methods and technologies for se-
2 vere weather and ocean surface condition
3 preparedness; and

4 “(iv) other areas as determined appro-
5 priate by the Secretary.

6 “(B) UNCONVENTIONAL ONSHORE RE-
7 SOURCES.—Awards from allocations under sec-
8 tion 999H(d)(2) shall focus on research, devel-
9 opment, demonstration, and commercial appli-
10 cation activities in areas that include—

11 “(i) advanced coalbed methane, deep
12 drilling, natural gas production from tight
13 sands, natural gas production from gas
14 shales, stranded gas, innovative exploration
15 and production techniques, and enhanced
16 recovery techniques;

17 “(ii) increased efficiency of energy use
18 in exploration and production activities;

19 “(iii) recovery, utilization, reduction,
20 and improved management of produced
21 water from exploration and production ac-
22 tivities; and

23 “(iv) accident prevention and environ-
24 mental mitigation of unconventional nat-

1 ural gas and other petroleum resources ex-
2 ploration and production.

3 “(C) SMALL PRODUCERS.—Awards from
4 allocations under section 999H(d)(3) shall be
5 made to consortia consisting of small producers
6 or organized primarily for the benefit of small
7 producers, and shall focus on areas that in-
8 clude—

9 “(i) safety and accident prevention,
10 environmental mitigation, waste reduction,
11 reduction of energy use, and well control
12 and systems integrity;

13 “(ii) complex geology involving rapid
14 changes in the type and quality of the oil
15 and gas reserves across the reservoir;

16 “(iii) low reservoir pressure and un-
17 conventional natural gas reservoirs in coal-
18 beds, deep reservoirs, tight sands, or
19 shales; and

20 “(iv) advancing energy efficient, safe,
21 and environmentally responsible production
22 of unconventional oil reservoirs in tar
23 sands and oil shales.

24 “(D) SAFETY, ACCIDENT PREVENTION,
25 AND MITIGATION TECHNOLOGY RESEARCH AND

1 DEVELOPMENT BY THE DEPARTMENT.—Awards
2 from allocations under section 999H(d)(4) shall
3 focus on safety, accident prevention, and miti-
4 gation research, development, demonstration,
5 and commercial application activities in areas
6 that may include—

7 “(i) improved technologies and best
8 management practices for enhanced well
9 integrity including—

10 “(I) cementing;

11 “(II) casing;

12 “(III) wellbore sealant tech-
13 nologies;

14 “(IV) well-plugging and abandon-
15 ment;

16 “(V) improvement and standard-
17 ization of blowout prevention devices;

18 “(VI) actuation and pressure
19 testing; and

20 “(VII) other well control activi-
21 ties;

22 “(ii) research to aid in the develop-
23 ment of industry best practices and stand-
24 ards for workforce training;

- 1 “(iii) secondary control systems to ac-
2 tivate blowout prevention devices and ter-
3 minate well-flow, including—
4 “(I) deadman switches;
5 “(II) automatic shears; and
6 “(III) remote acoustic switches;
7 “(iv) technologies and methods for ac-
8 cident mitigation, including—
9 “(I) capture, containment, or dis-
10 persing of oil at or near the wellhead;
11 “(II) estimating flow rate;
12 “(III) diagnostic sensors to de-
13 termine equipment malfunction; and
14 “(IV) procedures to terminate
15 flow;
16 “(v) continuing ongoing efforts, in-
17 cluding in resource assessment and charac-
18 terization, and in simulation of safe and
19 effective drilling under extreme conditions,
20 including high temperatures and pressures;
21 and
22 “(vi) other activities as described in
23 this paragraph or as determined appro-
24 priate by the Secretary.”;
25 (5) in subsection (e)—

1 (A) in paragraph (2)—

2 (i) in the second sentence of subpara-
3 graph (A), by inserting “to the Secretary
4 for review” after “submit”; and

5 (ii) in the first sentence of subpara-
6 graph (B), by striking “Ultra-Deepwater”
7 and all that follows through “and such Ad-
8 visory Committees” and inserting “Pro-
9 gram Advisory Committee established
10 under section 999D(a), and the Advisory
11 Committee”; and

12 (B) by adding at the end the following:

13 “(6) RESEARCH FINDINGS AND RECOMMENDA-
14 TIONS FOR IMPLEMENTATION.—The Secretary shall
15 publish in the Federal Register an annual report on
16 the research findings of the program carried out
17 under this section and any recommendations for im-
18 plementation that the Secretary determines to be
19 necessary.”;

20 (6) in subsection (i)—

21 (A) in the subsection heading, by striking
22 “UNITED STATES GEOLOGICAL SURVEY” and
23 inserting “DEPARTMENT OF THE INTERIOR”;
24 and

1 (B) by striking “, through the United
2 States Geological Survey,”; and

3 (7) in subsection (j), by striking “National En-
4 ergy Technology Laboratory” and inserting “Office
5 of Fossil Energy of the Department”.

6 **SEC. 4. PROGRAM ADVISORY COMMITTEE.**

7 Section 999D of the Energy Policy Act of 2005 (42
8 U.S.C. 16374) is amended to read as follows:

9 **“SEC. 999D. PROGRAM ADVISORY COMMITTEE.**

10 “(a) ESTABLISHMENT.—Not later than 90 days after
11 the date of enactment of the Safer Oil and Natural Gas
12 Drilling Technology Research and Development Act, the
13 Secretary shall establish an advisory committee to be
14 known as the ‘Program Advisory Committee’ (referred to
15 in this section as the ‘Advisory Committee’).

16 “(b) MEMBERSHIP.—

17 “(1) IN GENERAL.—The Advisory Committee
18 shall be composed of members appointed by the Sec-
19 retary, including—

20 “(A) individuals with extensive research
21 experience or operational knowledge of oil and
22 natural gas exploration and production;

23 “(B) individuals broadly representative of
24 the affected interests in oil and natural gas pro-

1 duction, including interests in environmental
2 protection and operational safety;

3 “(C) State regulatory agency representa-
4 tives; and

5 “(D) other individuals, as determined by
6 the Secretary.

7 “(2) LIMITATIONS.—

8 “(A) IN GENERAL.—The Advisory Com-
9 mittee shall not include individuals who are
10 board members, officers, or employees of the
11 program consortium.

12 “(B) CATEGORICAL REPRESENTATION.—In
13 appointing members of the Advisory Committee,
14 the Secretary shall ensure that no class of indi-
15 viduals described in any of subparagraphs (B),
16 (C), or (D) of paragraph (1) comprises more
17 than 1/3 of the membership of the Advisory
18 Committee.

19 “(c) SUBCOMMITTEES.—The Advisory Committee
20 may establish subcommittees or ad hoc working groups for
21 the research focus areas described in section 999B(d)(7).

22 “(d) DUTIES.—The Advisory Committee shall—

23 “(1) advise the Secretary on the development
24 and implementation of programs under this subtitle;
25 and

1 “(2) carry out section 999B(e)(2)(B).

2 “(e) COMPENSATION.—A member of the Advisory
3 Committee shall serve without compensation but shall be
4 entitled to receive travel expenses in accordance with sub-
5 chapter I of chapter 57 of title 5, United States Code.

6 “(f) PROHIBITION.—The Advisory Committee shall
7 not make recommendations on funding awards to par-
8 ticular consortia or other entities, or for specific
9 projects.”.

10 **SEC. 5. DEFINITIONS.**

11 Section 999G of the Energy Policy Act of 2005 (42
12 U.S.C. 16377) is amended—

13 (1) in paragraph (1), by striking “200 but less
14 than 1,500 meters” and inserting “1,000 feet”;

15 (2) by striking paragraphs (8), (9), and (10);

16 (3) by redesignating paragraphs (2) through
17 (7) and (11) as paragraphs (4) through (9) and
18 (10), respectively; and

19 (4) by inserting after paragraph (1) the fol-
20 lowing:

21 “(2) DEEPWATER ARCHITECTURE.—The term
22 ‘deepwater architecture’ means the integration of
23 technologies for the safe and environmentally re-
24 sponsible exploration for, or production of, natural

1 gas or other petroleum resources located at deep-
2 water depths.

3 “(3) DEEPWATER TECHNOLOGY.—The term
4 ‘deepwater technology’ means a discrete technology
5 that is specially suited to address 1 or more chal-
6 lenges associated with the safe and environmentally
7 responsible exploration for, or production of, natural
8 gas or other petroleum resources located at deep-
9 water depths.”.

10 **SEC. 6. FUNDING.**

11 Section 999H of the Energy Policy Act of 2005 (42
12 U.S.C. 16378) is amended—

13 (1) in the first sentence of subsection (a) by
14 striking “Ultra-Deepwater and Unconventional Nat-
15 ural Gas and Other Petroleum Research Fund” and
16 inserting “Safer Oil and Natural Gas Drilling Tech-
17 nology Research and Development Fund”;

18 (2) in subsection (d)—

19 (A) in paragraph (1), by striking “35 per-
20 cent” and inserting “32.5 percent”;

21 (B) in paragraph (2), by striking “32.5
22 percent” and inserting “25 percent”; and

23 (C) in paragraph (4)—

24 (i) by striking “25 percent” and in-
25 serting “35 percent”; and

1 (ii) by striking “contract manage-
 2 ment,” and all that follows through the pe-
 3 riod at the end and inserting “and contract
 4 management.”; and

5 (3) in subsection (f), by striking “Ultra-Deep-
 6 water and Unconventional Natural Gas and Other
 7 Petroleum Research Fund” and inserting “Safer Oil
 8 and Natural Gas Drilling Technology Research and
 9 Development Fund”.

10 **SEC. 7. CONFORMING AMENDMENTS.**

11 The table of contents of the Energy Policy Act of
 12 2005 is amended—

13 (1) by amending the item relating to subtitle J
 14 of title IX to read as follows:

“Subtitle J—Safer Oil and Natural Gas Drilling Technology Research and De-
 velopment Program”;

15 (2) by amending the item relating to section
 16 999B to read as follows:

“Sec. 999B. Safer Oil and Natural Gas Drilling Technology Research and De-
 velopment Program.”; and

17 (3) by amending the item relating to section
 18 999D to read as follows:

“Sec. 999D. Program Advisory Committee.”.

SECTION-BY-SECTION ANALYSIS OF
H.R. 5716
SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY RESEARCH AND DEVELOPMENT
ACT

Section 1. Short Title

Safer Oil and Natural Gas Drilling Technology Research and Development Act.

Section 2. Subtitle Amendment

Amends Subtitle J of title IX of the *Energy Policy Act of 2005* (42 U.S.C. 16371 et seq.), “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources”, to establish the “Safer Oil and Natural Gas Drilling Technology Research and Development Program”.

Section 3. Safer Oil and Natural Gas Drilling Technology Research and Development Program

(a) PROGRAM AUTHORITY—Amends Section 999A of EPAAct 2005 by:

- (1) Replacing “ultra-deepwater” with “deepwater”;
- (2) Inserting “accident prevention and mitigation” as program activity; by specifying that the program elements shall include deepwater activities in depths greater than 1000 feet; and by specifying that complementary research will be carried out by the Department of Energy and the Office of Fossil Energy, instead of the National Energy Technology Laboratory specifically; and,
- (3) Specifying that the Secretary shall seek to establish partnerships with outside stakeholders for research not likely to be undertaken by the private section alone.

(b) PROGRAM ELEMENTS—Amends Section 999B of EPAAct 2005 by:

- (1) Changing program name to “Safer Oil and Gas Drilling Technology Research and Development Program”;
- (2) Amending the IN GENERAL subsection to include a focus on advancing the safe and environmentally responsible exploration, development, and production of natural gas and other petroleum resources;
- (3) Specifying that projects will be selected on a competitive basis;
- (4) Making significant changes to the areas on which the program should focus to include the following:
 - (A) DEEPWATER RESOURCES R&D will focus on safe and environmentally responsible technologies, integrated systems, and architectures for deepwater exploration and production, adapting operations to extreme weather and ocean conditions, and other activities.
 - (B) UNCONVENTIONAL ONSHORE R&D will, in addition to its existing focus, now also focus on more energy efficient operations, improved management of produced water, and accident prevention and mitigation.
 - (C) SMALL PRODUCERS R&D will, in addition to its existing focus, now also focus on safety, accident prevention, environmental mitigation, waste reduction, energy efficient operations, and well control and systems integrity.
 - (D) Adds a new SAFETY, ACCIDENT PREVENTION AND MITIGATION TECHNOLOGY RESEARCH AND DEVELOPMENT program to be conducted by the Department of Energy. The program may focus, in addition to ongoing activities by the Department, on new in-house activities including: technologies and practices to enhance well control and integrity; blowout prevention devices; research on best practices for workforce training; secondary control systems for well shut-off; technologies for accident mitigation; and other activities as determined by the Secretary.
- (5) Makes conforming changes to the Annual Plan to be submitted by the Secretary, and includes a new requirement for the Secretary to publish an annual report on the research findings and recommendations for implementation; and,
- (6) Makes minor conforming changes.

Section 4. Program Advisory Committee

Amends Section 999D of EAct 2005 by making substantial changes to the current advisory committees structure. Most importantly, the two advisory committees known as the “Ultra-Deepwater Advisory Committee” and the “Unconventional Resources Technology Advisory Committee” will be consolidated into one advisory committee to be known as the “Program Advisory Committee.” The section also specifies membership of the Advisory Committee, authorizes the establishment of subcommittees and ad-hoc working groups, specifies the duties and compensation, and prohibits the Advisory Committee from making recommendations for specific awards.

Section 5. Definitions

Amends Section 999G of EAct 2005 by:

- (1) changing “Deepwater” to be greater than 1000 feet;
- (2) striking definitions for ultra-deepwater, ultra-deepwater technology, and ultra-deepwater architecture;
- (3) making conforming changes; and,
- (4) inserting a new definition for “DEEPWATER ARCHITECTURE” and “DEEPWATER TECHNOLOGY”.

Section 6. Funding

Amends Section 999G of EAct 2005 by:

- (1) renaming the fund; and,
- (2) changing the allocations to the program focus areas by:
 - (A) decreasing funding for Deepwater R&D to 32.5 percent from 35 percent;
 - (B) decreasing funding for Unconventional Resources R&D to 25 percent from 32.5 percent; and,
 - (C) increasing funding for Safety and Accident Prevention and Mitigation R&D at the Department of Energy to 35 percent from 25 percent, and making changes to the duties of the Department in managing the outside research consortium.

Section 7. Conforming Changes

Makes changes to the table of contents of EAct 2005.

H. R. 5716, the *Safer Oil and Natural Gas Drilling Technology Research and Development Act*

No.	Amendment	Summary	Results
1	Mr. Gordon (006)	Manager's amendment makes several technical and clarifying changes; expands the definitions of what the Department of Energy shall conduct research and development on under "Safety, Accident Prevention, and Mitigation Technology Research and Development by the Department"; and, adds a new subsection directing the Secretary to ensure that research activities carried out by the consortium and the Department shall be coordinated and not duplicative.	Agreed to by voice vote.
2	Mr. Garamendi (005)	Amends Section 3 of the bill by expanding the list of agencies the Secretary of Energy shall consult with in implementing the program.	Agreed to by voice vote.
3	Mr. McCaul (002)	Amends Section 3 of the bill by adding new areas of activity for the "Deepwater Resources" and "Unconventional Onshore Resources" focus areas for awards. Also strikes the word "environmental" from one activity area under "Unconventional Onshore Resources."	Agreed to by voice vote.
4	Ms. Edwards (062)	Amends Section 3 of the bill by striking the area of research focus involving "advancing energy efficient, safe, and environmentally responsible production of unconventional oil reservoirs in tar sands and oil shales."	Not offered.
5	Mr. Inglis (003)	Amends Section 3 of the bill by adding a new paragraph to the contents of the annual plan required under Section 999B(e).	Agreed to by voice vote.
6	Mr. Inglis (004)	Amends Section 3 of the bill by adding "In carrying out this subsection, the Secretary shall ensure that safety and accident prevention and mitigation be regularly included as specific focus areas for solicitation, " to the subsection entitled "Proposals."	Agreed to by voice vote.

1

AMENDMENT ^{TO} H.R. 5716
OFFERED BY MR. GORDON

Page 3, lines 16 and 17, strike “research performers in institutions of higher education and the private sector” and insert “eligible research performers, as described by section 999E,”.

Page 4, after line 18, insert the following new paragraph, and redesignate the subsequent paragraphs accordingly:

1 (4) in subsection (c)(3)(ii), by striking “under
2 subsection (f)(4)”;

Page 7, line 24, strike “ACCIDENT PREVENTION, AND MITIGATION” and insert “AND ACCIDENT PREVENTION AND MITIGATION,”.

Page 8, line 3, strike “accident prevention, and mitigation” and insert “and accident prevention and mitigation,”.

Page 8, lines 22 through 24, amend clause (ii) to read as follows:

3 “(ii) research to aid in the develop-
4 ment of industry best practices and stand-

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1 ards for workforce training, design of safe
2 workplace environments, and safety related
3 decisionmaking processes, including by
4 drawing on existing research into human
5 factors and safety related practices in
6 fields such as the nuclear energy, aviation,
7 and automotive industries;

Page 9, line 21, strike “; and” and insert a semi-colon.

Page 9, after line 21, insert the following new clause, and redesignate the subsequent clause accordingly:

8 “(vi) development of methodologies
9 for risk management decisionmaking, in-
10 cluding comparative risk analysis and
11 quantitative risk assessment of potential
12 for failure in the technologies, management
13 practices, and systems studies under this
14 subsection; and

Page 11, line 19, strike “including” and insert “each of whom shall be qualified by education, training, and experience to evaluate scientific and technical information relevant to the research, development, and demonstration under this subtitle. Members shall include”.

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Page 15, line 4, strike “and”.

Page 15, line 9, strike the period at the end of the paragraph (3) and insert “; and”.

Page 15, after line 9 insert the following new paragraph:

1 (4) at the end of the section, by inserting the
2 following new subsection:

3 “(g) COORDINATION AND NONDUPLICATION.—The
4 Secretary shall ensure, to the maximum extent practicable,
5 that the research activities carried out by the consortium
6 funded under paragraphs (1), (2), and (3) of subsection
7 (d), and the research activities carried out by the Depart-
8 ment of Energy as funded by subsection (d)(4), shall be
9 coordinated and not duplicative of one another.”.

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AMENDMENT

OFFERED BY Mr. Garamendi

Page 3, after line 12, insert the following new paragraph:

- 1 (4) in subsection (e)—
- 2 (A) in the subsection heading, by striking
- 3 “SECRETARY OF THE INTERIOR’” and insert-
- 4 ing “OTHER FEDERAL AGENCIES”; and
- 5 (B) by inserting “and other agencies as
- 6 appropriate, including those serving on, and col-
- 7 laborating with, the Interagency Coordinating
- 8 Committee on Oil Pollution Research as estab-
- 9 lished under section 7001 of the Oil Pollution
- 10 Act of 1990 (33 U.S.C. 2761(a))” after “Sec-
- 11 retary of the Interior”; and



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AMENDMENT

OFFERED BY Mr. McCaul

Page 6, line 3, strike "and".

Page 6, after line 3, insert the following new clause,
and redesignate the subsequent clause accordingly:

1 “(iv) utilization of exploration and
2 production methods and materials that re-
3 duce the potential impact of such activities
4 on the environment; and

Page 6, after line 18, insert the following new
clause, and redesignate the subsequent clauses accord-
ingly:

5 “(iii) utilization of exploration and
6 production methods and materials that re-
7 duce the potential impact of such activities
8 on the environment;

Page 6, lines 23 and 24, strike “environmental”.

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AMENDMENT**OFFERED BY** Mr. Inglis

Page 10, line 11, strike "and".

Page 10, after line 11, insert the following new subparagraph, and redesignate the subsequent subparagraph accordingly:

- 1 (B) in paragraph (4)—
- 2 (i) by striking "and" at the end of
- 3 subparagraph (A);
- 4 (ii) by striking the period at the end
- 5 of subparagraph (B) and inserting ";
- 6 and"; and
- 7 (iii) by adding at the end the fol-
- 8 lowing new subparagraph:
- 9 "(C) a summary of ongoing and planned
- 10 activities aimed at improving operational safety
- 11 and reducing potential environmental impacts
- 12 of exploration and production."



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AMENDMENT

OFFERED BY Mr. Inglis

Page 10, after line 19, insert the following new paragraph, and redesignate the subsequent paragraphs accordingly:

1 (6) in subsection (f)(2), by inserting "In car-
2 rying out this subsection, the Secretary shall ensure
3 that safety and accident prevention and mitigation
4 be regularly included as specific focus areas for so-
5 licitations." after "consortium.";

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the “Safer Oil and Natural Gas Drilling Technology Research and Development Act”.

SEC. 2. SUBTITLE AMENDMENT.

Subtitle J of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16371 et seq.) is amended in the subtitle heading by striking “**Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Resources**” and inserting “**Safer Oil and Natural Gas Drilling Technology Research and Development Program**”.

SEC. 3. SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM.

(a) PROGRAM AUTHORITY.—Section 999A of the Energy Policy Act of 2005 (42 U.S.C. 16371) is amended—

(1) in subsection (a)—

(A) by striking “ultra-deepwater” and inserting “deepwater”; and

(B) by inserting “well control and accident prevention,” after “safe operations.”;

(2) in subsection (b)—

(A) by inserting “, accident prevention and mitigation,” after “improving safety”;

(B) by striking paragraph (1) and inserting the following: “(1) Deepwater architecture and technology, including those for drilling to formations in water depths greater than 1,000 feet.”; and

(C) by striking paragraph (4) and inserting the following: “(4) Complementary research carried out by the Department.”;

(3) in subsection (d)—

(A) in the subsection heading, by striking “NATIONAL ENERGY TECHNOLOGY LABORATORY” and inserting “DEPARTMENT OF ENERGY”; and

(B) by striking “National Energy Technology Laboratory” and inserting “Office of Fossil Energy of the Department”;

(4) in subsection (e)—

(A) in the subsection heading, by striking “SECRETARY OF THE INTERIOR’” and inserting “OTHER FEDERAL AGENCIES”; and

(B) by inserting “and other agencies as appropriate, including those serving on, and collaborating with, the Interagency Coordinating Committee on Oil Pollution Research as established under section 7001 of the Oil Pollution Act of 1990 (33 U.S.C. 2761(a))” after “Secretary of the Interior”; and

(5) by adding at the end the following:

“(f) PARTNERSHIPS.—In carrying out the program under this subtitle, the Secretary shall seek to establish partnerships with eligible research performers, as described by section 999E, to undertake research and development not likely otherwise to be undertaken in the absence of support from the program.”.

(b) PROGRAM ELEMENTS.—Section 999B of the Energy Policy Act of 2005 (42 U.S.C. 16372) is amended—

(1) in the section heading, by striking “**ULTRA-DEEP-WATER AND UNCONVENTIONAL ONSHORE NATURAL GAS AND OTHER PETROLEUM**” and inserting “**SAFER OIL AND NATURAL GAS DRILLING TECHNOLOGY**”;

(2) by amending subsection (a) to read as follows:

“(a) IN GENERAL.—The Secretary shall carry out the activities under section 999A to maximize the benefits of natural gas and other petroleum resources of the United States by advancing the safe and environmentally responsible exploration, development, and production of those resources.”;

(3) in subsection (c)(1)—

(A) by redesignating subparagraphs (D) and (E) as subparagraphs (E) and (F), respectively; and

(B) by inserting after subparagraph (C) the following:

“(D) select projects on a competitive basis;”;

(4) in subsection (c)(3)(ii), by striking “under subsection (f)(4)”;

(5) in subsection (d)—

(A) in paragraph (6), by striking “ultra-deepwater” and inserting “deepwater”; and

(B) by striking paragraph (7) and inserting the following:

“(7) FOCUS AREAS FOR AWARDS.—

“(A) DEEPWATER RESOURCES.—Awards from allocations under section 999H(d)(1) shall focus on research, development, demonstration, and commercial application activities in areas that include—

“(i) technologies and systems aimed at improving operational safety and reducing potential environmental impacts of deepwater exploration and production activities, including—

“(I) wellbore integrity, well control, and blowout prevention;

“(II) capture and containment of oil at or near the wellhead; and

“(III) expanding operational capabilities and efficiency of remotely operated devices and mechanics;

“(ii) safe and environmentally responsible deepwater exploration and production technologies, integrated systems, and architectures for enhancing oil and natural gas drilling and recovery, including under extreme conditions;

“(iii) methods and technologies for severe weather and ocean surface condition preparedness;

“(iv) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment; and

“(v) other areas as determined appropriate by the Secretary.

“(B) UNCONVENTIONAL ONSHORE RESOURCES.—Awards from allocations under section 999H(d)(2) shall focus on re-

search, development, demonstration, and commercial application activities in areas that include—

“(i) advanced coalbed methane, deep drilling, natural gas production from tight sands, natural gas production from gas shales, stranded gas, innovative exploration and production techniques, and enhanced recovery techniques;

“(ii) increased efficiency of energy use in exploration and production activities;

“(iii) utilization of exploration and production methods and materials that reduce the potential impact of such activities on the environment;

“(iv) recovery, utilization, reduction, and improved management of produced water from exploration and production activities; and

“(v) accident prevention and mitigation of unconventional natural gas and other petroleum resources exploration and production.

“(C) SMALL PRODUCERS.—Awards from allocations under section 999H(d)(3) shall be made to consortia consisting of small producers or organized primarily for the benefit of small producers, and shall focus on areas that include—

“(i) safety and accident prevention, environmental mitigation, waste reduction, reduction of energy use, and well control and systems integrity;

“(ii) complex geology involving rapid changes in the type and quality of the oil and gas reserves across the reservoir;

“(iii) low reservoir pressure and unconventional natural gas reservoirs in coalbeds, deep reservoirs, tight sands, or shales; and

“(iv) advancing energy efficient, safe, and environmentally responsible production of unconventional oil reservoirs in tar sands and oil shales.

“(D) SAFETY, AND ACCIDENT PREVENTION AND MITIGATION, TECHNOLOGY RESEARCH AND DEVELOPMENT BY THE DEPARTMENT.—Awards from allocations under section 999H(d)(4) shall focus on safety, and accident prevention and mitigation, research, development, demonstration, and commercial application activities in areas that may include—

“(i) improved technologies and best management practices for enhanced well integrity including—

“(I) cementing;

“(II) casing;

“(III) wellbore sealant technologies;

“(IV) well-plugging and abandonment;

“(V) improvement and standardization of blowout prevention devices;

“(VI) actuation and pressure testing; and

“(VII) other well control activities;

“(ii) research to aid in the development of industry best practices and standards for workforce training, design of safe workplace environments, and safety re-

lated decisionmaking processes, including by drawing on existing research into human factors and safety related practices in fields such as the nuclear energy, aviation, and automotive industries;

“(iii) secondary control systems to activate blowout prevention devices and terminate well-flow, including—

“(I) deadman switches;

“(II) automatic shears; and

“(III) remote acoustic switches;

“(iv) technologies and methods for accident mitigation, including—

“(I) capture, containment, or dispersing of oil at or near the wellhead;

“(II) estimating flow rate;

“(III) diagnostic sensors to determine equipment malfunction; and

“(IV) procedures to terminate flow;

“(v) continuing ongoing efforts, including in resource assessment and characterization, and in simulation of safe and effective drilling under extreme conditions, including high temperatures and pressures;

“(vi) development of methodologies for risk management decisionmaking, including comparative risk analysis and quantitative risk assessment of potential for failure in the technologies, management practices, and systems studies under this subsection; and

“(vii) other activities as described in this paragraph or as determined appropriate by the Secretary.”;

(6) in subsection (e)—

(A) in paragraph (2)—

(i) in the second sentence of subparagraph (A), by inserting “to the Secretary for review” after “submit”; and

(ii) in the first sentence of subparagraph (B), by striking “Ultra-Deepwater” and all that follows through “and such Advisory Committees” and inserting “Program Advisory Committee established under section 999D(a), and the Advisory Committee”;

(B) in paragraph (4)—

(i) by striking “and” at the end of subparagraph (A);

(ii) by striking the period at the end of subparagraph (B) and inserting “; and”; and

(iii) by adding at the end the following new subparagraph:

“(C) a summary of ongoing and planned activities aimed at improving operational safety and reducing potential environmental impacts of exploration and production.”; and

(C) by adding at the end the following:

“(6) RESEARCH FINDINGS AND RECOMMENDATIONS FOR IMPLEMENTATION.—The Secretary shall publish in the Federal Register an annual report on the research findings of the program carried out under this section and any recommendations for

implementation that the Secretary determines to be necessary.”;

(7) in subsection (f)(2), by inserting “In carrying out this subsection, the Secretary shall ensure that safety and accident prevention and mitigation be regularly included as specific focus areas for solicitations.” after “consortium.”;

(8) in subsection (i)—

(A) in the subsection heading, by striking “UNITED STATES GEOLOGICAL SURVEY” and inserting “DEPARTMENT OF THE INTERIOR”; and

(B) by striking “, through the United States Geological Survey,”; and

(9) in subsection (j), by striking “National Energy Technology Laboratory” and inserting “Office of Fossil Energy of the Department”.

SEC. 4. PROGRAM ADVISORY COMMITTEE.

Section 999D of the Energy Policy Act of 2005 (42 U.S.C. 16374) is amended to read as follows:

“SEC. 999D. PROGRAM ADVISORY COMMITTEE.

“(a) ESTABLISHMENT.—Not later than 90 days after the date of enactment of the Safer Oil and Natural Gas Drilling Technology Research and Development Act, the Secretary shall establish an advisory committee to be known as the ‘Program Advisory Committee’ (referred to in this section as the ‘Advisory Committee’).

“(b) MEMBERSHIP.—

“(1) IN GENERAL.—The Advisory Committee shall be composed of members appointed by the Secretary, each of whom shall be qualified by education, training, and experience to evaluate scientific and technical information relevant to the research, development, and demonstration under this subtitle. Members shall include—

“(A) individuals with extensive research experience or operational knowledge of oil and natural gas exploration and production;

“(B) individuals broadly representative of the affected interests in oil and natural gas production, including interests in environmental protection and operational safety;

“(C) State regulatory agency representatives; and

“(D) other individuals, as determined by the Secretary.

“(2) LIMITATIONS.—

“(A) IN GENERAL.—The Advisory Committee shall not include individuals who are board members, officers, or employees of the program consortium.

“(B) CATEGORICAL REPRESENTATION.—In appointing members of the Advisory Committee, the Secretary shall ensure that no class of individuals described in any of subparagraphs (B), (C), or (D) of paragraph (1) comprises more than $\frac{1}{3}$ of the membership of the Advisory Committee.

“(c) SUBCOMMITTEES.—The Advisory Committee may establish subcommittees or ad hoc working groups for the research focus areas described in section 999B(d)(7).

“(d) DUTIES.—The Advisory Committee shall—

“(1) advise the Secretary on the development and implementation of programs under this subtitle; and

“(2) carry out section 999B(e)(2)(B).

“(e) COMPENSATION.—A member of the Advisory Committee shall serve without compensation but shall be entitled to receive travel expenses in accordance with subchapter I of chapter 57 of title 5, United States Code.

“(f) PROHIBITION.—The Advisory Committee shall not make recommendations on funding awards to particular consortia or other entities, or for specific projects.”.

SEC. 5. DEFINITIONS.

Section 999G of the Energy Policy Act of 2005 (42 U.S.C. 16377) is amended—

(1) in paragraph (1), by striking “200 but less than 1,500 meters” and inserting “1,000 feet”;

(2) by striking paragraphs (8), (9), and (10);

(3) by redesignating paragraphs (2) through (7) and (11) as paragraphs (4) through (9) and (10), respectively; and

(4) by inserting after paragraph (1) the following:

“(2) DEEPWATER ARCHITECTURE.—The term ‘deepwater architecture’ means the integration of technologies for the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.

“(3) DEEPWATER TECHNOLOGY.—The term ‘deepwater technology’ means a discrete technology that is specially suited to address 1 or more challenges associated with the safe and environmentally responsible exploration for, or production of, natural gas or other petroleum resources located at deepwater depths.”.

SEC. 6. FUNDING.

Section 999H of the Energy Policy Act of 2005 (42 U.S.C. 16378) is amended—

(1) in the first sentence of subsection (a) by striking “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund” and inserting “Safer Oil and Natural Gas Drilling Technology Research and Development Fund”;

(2) in subsection (d)—

(A) in paragraph (1), by striking “35 percent” and inserting “32.5 percent”;

(B) in paragraph (2), by striking “32.5 percent” and inserting “25 percent”; and

(C) in paragraph (4)—

(i) by striking “25 percent” and inserting “35 percent”; and

(ii) by striking “contract management,” and all that follows through the period at the end and inserting “and contract management.”;

(3) in subsection (f), by striking “Ultra-Deepwater and Unconventional Natural Gas and Other Petroleum Research Fund” and inserting “Safer Oil and Natural Gas Drilling Technology Research and Development Fund”; and

(4) at the end of the section, by inserting the following new subsection:

“(g) **COORDINATION AND NONDUPLICATION.**—The Secretary shall ensure, to the maximum extent practicable, that the research activities carried out by the consortium funded under paragraphs (1), (2), and (3) of subsection (d), and the research activities carried out by the Department of Energy as funded by subsection (d)(4), shall be coordinated and not duplicative of one another.”.

SEC. 7. CONFORMING AMENDMENTS.

The table of contents of the Energy Policy Act of 2005 is amended—

(1) by amending the item relating to subtitle J of title IX to read as follows:

“Subtitle J—Safer Oil and Natural Gas Drilling Technology Research and Development Program”;

(2) by amending the item relating to section 999B to read as follows:

“Sec. 999B. Safer Oil and Natural Gas Drilling Technology Research and Development Program.”;

and

(3) by amending the item relating to section 999D to read as follows:

“Sec. 999D. Program Advisory Committee.”.

