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FEDERAL RESEARCH AND TECHNOLOGIES FOR OIL SPILL PREVENTION AND RESPONSE ACT OF 2010

—————
AUGUST 2, 2010.—Ordered to be printed
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Ms. BOXER, from the Committee on Environment and Public
Works, submitted the following

R E P O R T

[To accompany S. 3515]

[Including cost estimate of the Congressional Budget Office]

The Committee on Environment and Public Works, to which was referred a bill (S. 3515) to authorize and enhance the programs of the Department of the Interior relating to the detection of, response to, and mitigation and cleanup of oil spills on Federal land managed by the Department, and for other purposes, having considered the same, reports favorably thereon with an amendment and an amendment to the title and recommends that the bill, as amended, do pass.

GENERAL STATEMENT AND BACKGROUND

Section 7001(a) of the Oil Pollution Act of 1990 (OPA 90) established the Interagency Coordinating Committee on Oil Pollution Research. The purpose of the Interagency Committee is twofold: (1) To prepare a comprehensive, coordinated Federal oil pollution research and development (R&D) plan; and (2) to promote cooperation with industry, universities, research institutions, state governments, and other nations through information sharing, coordinated planning, and joint funding of projects.

The Interagency Committee was commissioned with 13 members and is chaired by the Coast Guard. Membership includes:

- Department of Commerce
 - National Oceanic and Atmospheric Administration
 - National Institute of Standards and Technology
- Department of Energy

- Department of Interior
 - Minerals Management Service
 - United States Fish and Wildlife Service
- Department of Transportation
 - Maritime Administration
 - Pipeline and Hazardous Materials Safety Administration
- Department of Defense
 - United States Army Corps of Engineers
 - United States Navy
- Environmental Protection Agency
- National Aeronautics and Space Administration
- Department of Homeland Security
 - United States Coast Guard
 - Federal Emergency Management Agency—United States Fire Administration

Section 7001(b) of OPA 90 required the Interagency Committee to prepare an Oil Pollution Research and Development Plan. The Interagency Committee prepared the original Oil Pollution Research and Development (R&D) Technology Plan to define the roles of each federal agency involved in oil spill research and development. The plan was submitted to Congress in April 1992 and later reviewed by the National Research Council's Committee on Oil Spill Research and Development under the auspices of the Marine Board. Using input from the Marine Board, the Committee revised the plan in May 1993 to address spill prevention, human factors, and the field testing/demonstration of developed response technologies. The current version of the plan, still based on the Marine Board recommendations, is dated April 1997 and has not been updated since.¹

Pursuant to Section 7001(c) of OPA 90, the Interagency Committee and its member agencies implement, coordinate and monitor oil pollution research and development initiatives, including efforts with industry, universities, research institutions, state governments and other institutions. For example, the Bureau of Ocean Energy Management (formerly known as the Minerals Management Service or MMS) oversees the operation and maintenance of Ohmsett—The National Oil Spill Response Test Facility, located at the U.S. Naval Weapons Station Earle in Leonardo, NJ. Ohmsett is used to provide full scale oil pollution response equipment testing and to provide responder training. In addition, the Interagency Committee's most recent Biennial Report to Congress (for fiscal years 2008 and 2009) highlights 66 ongoing and new research projects and 50 peer-reviewed publications which involved Committee members. These include research on spilled oil fate and behavior modeling, alternative response technologies, spill toxicity and biological effect, and dispersant use.²

Many of the research projects and efforts authorized by OPA 90 were completed or terminated in the early years of the Interagency Committee, and some research activities authorized in OPA 90 were never implemented. A lack of funding has challenged the Federal research program. The Interagency Committee does not receive appropriations to carry out its work. Instead, the partici-

¹ Interagency Coordinating Committee on Oil Pollution Research, Biennial Report for Fiscal Years 2008 and 2009, dated December 2009.

² *Id.*

pating agencies must draw on their individual agency budgets to fund oil spill research efforts. In addition, no dedicated funding source exists to ensure sustained investment in oil spill response research.

Despite the continued efforts of the Interagency Committee since the passage of OPA 90, the recent Deepwater Horizon oil spill in the Gulf of Mexico highlights the need to refocus and reinvigorate these research efforts. Oil spill response technology has not made significant advances in recent decades and has proved inadequate to respond to the Deepwater Horizon Oil Spill. The existing Federal research program could be improved to better meet oil response needs. S. 3515 will ensure that these existing research efforts are appropriately targeted and that they address the numerous challenges highlighted by the disaster in the Gulf of Mexico, including exploration and extraction in deepwater, ultra deepwater and other extreme environmental conditions.

S. 3515, as amended, would modify the existing interagency oil spill research program authorized in OPA 90 to make critical improvements to the operation and focus of the program and address today's most critical research needs. In particular, the bill would:

- Direct the Department of the Interior (Interior), in coordination with ongoing interagency research efforts, to support research on oil spill response technology related to drilling, including activities to prevent and respond to well blowouts.
- Establish a mechanism to provide independent scientific and technical advice, through the National Academy of Sciences, to the interagency oil pollution research program.
- Require the development and publication of a research and technology plan for the program every 2 years to ensure the interagency research efforts are continually re-evaluated to focus on the most current needs.
- Establish, at appropriate higher education institutions, research centers of excellence focused on response technologies for deepwater, ultra deepwater, and other extreme environment oil spills.
- Establish an Oil Discharge Technology and Research Fund, capitalized through Federal royalties, rents, and bonuses derived from Federal onshore and offshore oil and gas leases, to ensure that this crucial research has a source of sustainable funding.

OBJECTIVES OF THE LEGISLATION

The objective of this legislation is to maintain and enhance the oil spill prevention and response related research and facilities of the Federal Government and ensure that there are adequate knowledge, practices, and technologies to detect, respond to, contain, and clean up oil spills, whether onshore or on the outer Continental Shelf.

SECTION-BY-SECTION ANALYSIS

Section 1. Short title

Section 1 notes that this Act may be cited as the “Federal Research and Technologies for Oil Spill Prevention and Response Act of 2010.”

Section 2. Findings and purposes

Section 2 states that the purposes of this Act are to maintain and enhance the world-class oil spill prevention and response related research and facilities of the Federal Government and ensure that there are adequate knowledge, practices, and technologies to detect, respond to, contain, and clean up oil spills, whether onshore or on the outer Continental Shelf.

Section 3. Science and technology advice and guidance

Summary

Section 3 amends Section 7001(b) of OPA 90 to direct the National Academy of Sciences, through the establishment of a “Science and Technology Advisory Board”, to provide scientific and technical advice to the interagency oil pollution research program, including:

- the identification of knowledge gaps that the program should address;
- the establishment of scientific and technical priorities; and
- an annual review of the results and effectiveness of the program, including successful technology development.

Discussion

The establishment of the Science and Technology Advisory Board provides an ongoing mechanism for regular input from independent experts on Federal research priorities. This provision ensures that the Federal program can adapt to changing research needs and continues to address the most critical research priorities.

Section 4. Oil Pollution Research and Development Program

Summary

Section 4 amends Section 7001(c) of OPA 90 to make improvements to the interagency oil pollution research and development program.

Subsections (a)(1) and (a)(4) establish new areas of research focus within the interagency program, including:

- research, development, and demonstration of new or improved technologies and systems to contain, respond to, and clean up a discharge of oil in extreme or harsh conditions on the outer Continental Shelf;
- research to evaluate the relative effectiveness and environmental impacts (including human and environmental toxicity) of dispersants;
- characterization of oil and natural gas in and on soil and water, including plume behavior and chemical and biological degradation; and
- modeling, simulation, and prediction of the trajectories of oil releases on the surface, subsurface, and in the water.

Subsection (a)(3) specifically authorizes an oil discharge research program within the Department of the Interior (Interior). The subsection directs Interior, in coordination with the Interagency Committee, to support research, development, technology demonstration, and risk assessment to address issues associated with the detection of, response to, and mitigation and cleanup of discharges of

oil. Specific areas of focus for the program include technologies, materials, methods, and practices:

- to detect the release of hydrocarbons from leaking exploration or production equipment;
- to characterize the rates of flow from leaking exploration and production equipment in locations that are remote or difficult to access;
- to protect the safety of workers addressing hydrocarbon releases from exploration and production equipment;
- to control or contain the release of hydrocarbons from a blowout or other loss of well control; and
- for environmental assessment, restoration, and long-term monitoring.

Subsection (a)(5) directs Interior, in conjunction with other agencies, to conduct demonstration projects in deepwater, ultra deepwater and other extreme environmental conditions for the purpose of demonstrating new integrated deepwater oil discharge mitigation and response systems. The mitigation and response systems developed and tested in these demonstration projects should include improved oil flow monitoring and calculation; improved oil discharge response capability; improved subsurface mitigation technologies; and improved capability to track and predict the flow and effects of oil discharges in both subsurface and surface areas for the purposes of making oil mitigation and response decisions.

Subsection (a)(6) requires Interior to establish, at appropriate higher education institutions, at least one research center of excellence focused on response technologies for deepwater, ultra deepwater, and other extreme environment oil spills. This subsection also requires the Department of Commerce (Commerce) to establish at least one research center of excellence focused on oil spill response and restoration and directs Interior and Commerce to provide grants to their respective centers of excellence to fund this research. This subsection also authorizes any other member of the Interagency Committee to establish research centers of excellence that are necessary to carry out the Federal interagency research program. Finally, subsection (a)(6) directs the Secretary of the Interior and the Administrator of the Environmental Protection Agency to jointly conduct a pilot program to conduct field tests of new oil discharge response, mitigation, and cleanup technologies.

Subsection (a)(7) requires the Interagency Committee to develop and publish a research and technology plan for this research program every two years. The plan must identify research needs, propose areas of research focus, establish program priorities, and estimate the funding needed and timetables for completion of research tasks under the program. This subsection also requires peer review of all research funded by the Federal program. Finally, this subsection establishes an Oil Discharge Technology and Research Fund, capitalized through Federal royalties, rents, and bonuses derived from Federal onshore and offshore oil and gas leases.

Discussion

The Deepwater Horizon oil spill highlighted the lack of proven technology and response equipment to respond to oil spills in extreme conditions, such as ultra deep water, as well as the need for improvements in safety, well control, oil capture, and spill trajec-

tory modeling related to oil spills on the outer continental shelf. In addition, numerous questions have been raised about the effectiveness and impacts of chemical dispersants. The Environmental Protection Agency has noted the lack of available information about the impacts, particularly during subsurface application, of many of the dispersants already approved for use. Subsections (a)(1), (a)(3), and (a)(4) ensure that the Federal research program places a focus on these emerging priorities.

Subsections (a)(5) and (a)(6) establish demonstration project and pilot testing programs to make certain that technologies identified and developed through Federal research programs are tested in real-world scenarios. These testing programs are designed to promote the dissemination of new technologies and improve the technologies available for use in future oil spill response efforts.

The modifications in this section promote input from independent experts and will leverage the expertise and capacity of non-Federal entities. For example, requiring the use of research centers of excellence at institutions of higher education will bring additional capacity and expertise to the ongoing Federal research efforts. In addition, new peer review requirements ensure Federally-funded research benefits from independent review.

Research needs are continuously evolving and new events, such as the Deepwater Horizon oil spill, highlight additional areas of focus. However, the current interagency research efforts are guided by a static plan. Subsection (a)(7) requires the development and regular update of a research and technology plan that will guide Federal investments in oil spill research. The development of this plan will help ensure the Federal research program continues to adapt and maintain a focus on the highest priority research topics.

The Oil Discharge Technology and Research Fund established by this section ensures that critical oil spill mitigation and response research has a source of ongoing and sustainable funding.

LEGISLATIVE HISTORY

The Federal Research and Technologies for Oil Spill Prevention and Response Act of 2010 (S. 3515) was introduced by Senator Shaheen (D-NH) and co-sponsored by Senators Mark Udall (D-CO) and Bingaman (D-NM) on June 21, 2010. The bill was received, read twice, and referred to the Senate Committee on Environment and Public Works.

On June 30, 2010, the Full Committee met to consider a number of bills including S. 3515. During this meeting, the Committee adopted an amendment in the nature of a substitute proposed by Senator Boxer that would incorporate elements of the research program authorized in S. 3515 into the existing inter-agency research program authorized under OPA 90. S. 3515 was ordered to be reported favorably with an amendment in the nature of a substitute by voice vote.

ROLLCALL VOTES

The Committee on Environment and Public Works met to consider S. 3515 on June 30, 2010. The bill was ordered to be reported favorably with an amendment in the nature of a substitute by voice vote.

REGULATORY IMPACT STATEMENT

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the committee finds that S. 3515 does not create any additional regulatory burdens, nor will it cause any adverse impact on the personal privacy of individuals.

MANDATES ASSESSMENT

In compliance with the Unfunded Mandates Reform Act of 1995 (Public Law 104–4), the Committee notes that the Congressional Budget Office has found, “S. 3515 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.”

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

JULY 13, 2010.

Hon. BARBARA BOXER,
Chairman, Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

DEAR MADAM CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 3515, the Federal Research and Technologies for Oil Spill Prevention and Response Act of 2010.

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.

S. 3515—Federal Research and Technologies for Oil Spill Prevention and Response Act of 2010

Summary: S. 3515 would authorize several agencies to spend, without further appropriation, a total of \$25 million a year over the 2010–2020 period on a program to research and develop technologies to prevent, mitigate, and clean up oil spills. The bill also would establish a committee to advise agencies about research conducted under the program. CBO estimates that implementing the legislation would increase direct spending by \$264 million over the 2010–2020 period and \$11 million after 2020; therefore, Pay-As-You-Go procedures would apply.³ Enacting the legislation would not affect revenues.

S. 3515 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 3515 is shown in the following table. The costs of this legislation fall within budget function 300 (natural resources and environment).

³Different time periods apply for enforcing Pay-As-You-Go rules in the Senate. CBO estimates that enacting the bill would increase direct spending by \$96 million over the 2010–2014 period and by \$236 million over the 2010–2019 period.

	By fiscal year, in millions of dollars—													
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010– 2015	2010– 2020	
CHANGES IN DIRECT SPENDING														
Budget Authority	25	25	25	25	25	25	25	25	25	25	25	150	275	
Estimated Outlays	0	15	25	28	28	28	28	28	28	28	28	124	264	

Basis of estimate: For this estimate, CBO assumes that the legislation will be enacted near the end of fiscal year 2010. Estimated outlays are based on historical spending patterns for similar programs.

S. 3515 would authorize the expenditure of some of the proceeds from federal oil and gas leases to fund research and development efforts related to oil-spill prevention, mitigation, and cleanup. The bill would authorize certain agencies to spend, without further appropriation, a total of \$25 million a year on those activities. Based on information regarding similar programs, CBO estimates that implementing the legislation would increase direct spending by \$264 million over the 2010–2020 period.

Pay-As-You-Go considerations: The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. Enacting S. 3515 would increase direct spending; therefore, Pay-As-You-Go procedures would apply. The net changes in outlays that are subject to those Pay-As-You-Go procedures are shown in the following table.

CBO ESTIMATE OF PAY-AS-YOU-GO EFFECTS FOR S. 3515 AS ORDERED REPORTED BY THE
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS ON JUNE 30, 2010

	By fiscal year, in millions of dollars—													
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010– 2015	2010– 2020	
NET INCREASE OR DECREASE (–) IN THE DEFICIT														
Statutory Pay-As-You-Go Impact	0	15	25	28	28	28	28	28	28	28	28	124	264	

Intergovernmental and private-sector impact: S. 3515 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal costs: Jeff LaFave; Impact on state, local, and tribal governments: Melissa Merrell; Impact on the private sector: Amy Petz.

Estimate approved by: Peter H. Fontaine, Assistant Director for Budget Analysis.

CHANGES IN EXISTING LAW

In compliance with section 12 of rule XXVI of the Standing Rules of the Senate, 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:

* * * * *

OIL POLLUTION ACT OF 1990

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SEC. 1001. DEFINITIONS.

For the purposes of this Act, the term—

(1) * * *

* * * * *

SEC. 7001. OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM.

(a) INTERAGENCY COORDINATING COMMITTEE ON OIL POLLUTION RESEARCH.—

(1) ESTABLISHMENT.—* * *

* * * * *

(3) MEMBERSHIP.—The Interagency Committee shall include representatives from the Department of Commerce (including the National Oceanic and Atmospheric Administration and the National Institute of Standards and Technology), the Department of Energy, the Department of the Interior (including the Minerals Management Service and the United States Fish and Wildlife Service), the Department of Transportation (including the United States Coast Guard, the Maritime Administration, and the Pipeline and Hazardous Materials Safety Administration), the Department of Defense (including the Army Corps of Engineers and the Navy), the Environmental Protection Agency, the National Aeronautics and Space Administration, and the United States Fire Administration in the Federal Emergency Management Agency, as well as such other Federal agencies as the President may designate.

A representative of the Department of Transportation shall serve as Chairman.

(4) CHAIRMAN.—A representative of the Coast Guard shall serve as Chairman of the Interagency Committee (referred to in this section as the “Chairman”).

(b) OIL POLLUTION RESEARCH AND TECHNOLOGY PLAN.—

(1) IMPLEMENTATION PLAN.—Within 180 days after the date of enactment of this Act, the Interagency Committee shall submit to Congress a plan for the implementation of the oil pollution research, development, and demonstration program established pursuant to subsection (c). The research plan shall—

(A) identify agency roles and responsibilities;

(B) assess the current status of knowledge on oil pollution prevention, response, and mitigation technologies and effects of oil pollution on the environment;

(C) identify significant oil pollution research gaps including an assessment of major technological deficiencies in responses to past oil discharges;

(D) establish research priorities and goals for oil pollution technology development related to prevention, response, mitigation, and environmental effects;

(E) estimate the resources needed to conduct the oil pollution research and development program established pursuant to subsection (c), and timetables for completing research tasks; and

(F) identify, in consultation with the States, regional oil pollution research needs and priorities for a coordinated, multidisciplinary program of research at the regional level.

(2) ADVICE AND GUIDANCE.—The Chairman, through the Department of Transportation, shall contract with the National Academy of Sciences to—

(A) provide advice and guidance in the preparation and development of the research plan; and

(B) assess the adequacy of the plan as submitted, and submit a report to Congress on the conclusions of such assessment.

【The National Institute of Standards and Technology shall provide the Interagency Committee with advice and guidance on issues relating to quality assurance and standards measurements relating to its activities under this section.】

(3) SCIENCE AND TECHNOLOGY ADVISORY BOARD.—

(A) IN GENERAL.—The Chairman shall enter into appropriate arrangements with the National Academy of Sciences to establish an independent committee, to be known as the ‘Science and Technology Advisory Board’, to provide scientific and technical advice to the Interagency Committee relating to research carried out pursuant to the program established under subsection (c), including—

(i) the identification of knowledge gaps that the program should address;

(ii) the establishment of scientific and technical priorities; and

(iii) an annual review of the results and effectiveness of the program, including successful technology development.

(B) REPORTS.—*Reports and recommendations of the Board shall promptly be made available to Congress and the public.*

(C) NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.—*The National Institute of Standards and Technology shall provide the Interagency Committee with advice and guidance on issues relating to quality assurance and standards measurements relating to activities of the Interagency Committee under this section.*

(c) OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM.—

(1) ESTABLISHMENT.—The Interagency Committee shall coordinate the establishment, by the agencies represented on the Interagency Committee, of a program for conducting oil pollution research and development, as provided in this subsection.

(2) INNOVATIVE OIL POLLUTION TECHNOLOGY.—The program established under this subsection shall provide for research, development, and demonstration of new or improved technologies which are effective in preventing or mitigating oil discharges and which protect the environment, including—

(A) development of improved designs for vessels and facilities, and improved operational practices;

(B) research, development, and demonstration of improved technologies to measure the ullage of a vessel tank, prevent discharges from tank vents, prevent discharges during lightering and bunkering operations, contain dis-

charges on the deck of a vessel, prevent discharges through the use of vacuums in tanks, and otherwise contain discharges of oil from vessels and facilities;

(C) research, development, and demonstration of new or improved systems of mechanical, chemical, biological, and other methods (including the use of dispersants, solvents, **[and bioremediation]** *bioremediation, containment vessels, booms, and skimmers, particularly under worst-case release scenarios*) for the recovery, removal, and disposal of oil, including evaluation of the environmental effects of the use of such systems;

* * * * *

(I) research to evaluate the relative effectiveness and environmental impacts of bioremediation technologies; **[and]**

(J) *research, development, and demonstration of new or improved technologies and systems to contain, respond to, and clean up a discharge of oil in extreme or harsh conditions on the outer Continental Shelf;*

(K) *research to evaluate the relative effectiveness and environmental impacts (including human and environmental toxicity) of dispersants;*

[(J)] (L) *the demonstration of a satellite-based, dependent surveillance vessel traffic system in Narragansett Bay to evaluate the utility of such system in reducing the risk of oil discharges from vessel collisions and groundings in confined waters.*

(3) AUTHORIZATION OF AGENCY OIL DISCHARGE RESEARCH AND DEVELOPMENT PROGRAMS.—

(A) IN GENERAL.—*The Secretary of the Interior, in coordination with the program established under this subsection, the Interagency Committee, and such other agencies as the President may designate, shall carry out a program of research, development, technology demonstration, and risk assessment to address issues associated with the detection of, response to, and mitigation and cleanup of discharges of oil occurring on Federal land managed by the Department of the Interior, whether onshore or on the outer Continental Shelf.*

(B) SPECIFIC AREAS OF FOCUS.—*The program established under this paragraph shall provide for research, development, demonstration, validation, personnel training, and other activities relating to new and improved technologies that are effective at preventing or mitigating oil discharges and that protect the environment, including technologies, materials, methods, and practices—*

(i) *to detect the release of hydrocarbons from leaking exploration or production equipment;*

(ii) *to characterize the rates of flow from leaking exploration and production equipment in locations that are remote or difficult to access;*

(iii) *to protect the safety of workers addressing hydrocarbon releases from exploration and production equipment;*

(iv) *to control or contain the release of hydrocarbons from a blowout or other loss of well control; and*

(v) *in coordination with the Administrator and the Secretary of Commerce, for environmental assessment, restoration, and long-term monitoring.*

【(3)】 (4) OIL POLLUTION TECHNOLOGY EVALUATION.—The program established under this subsection shall provide for oil pollution prevention and mitigation technology evaluation including—

(A) the evaluation and testing of technologies developed independently of the research and development program established under this subsection;

(B) the establishment, where appropriate, of standards and testing protocols traceable to national standards to measure the performance of oil pollution prevention or mitigation technologies; and

(C) the use, where appropriate, of controlled field testing to evaluate real-world application of oil discharge prevention or mitigation technologies.

【(4)】 (5) OIL POLLUTION EFFECTS RESEARCH.—(A) The Committee shall establish a research program to monitor and evaluate the environmental effects of oil discharges. Such program shall include the following elements:

(i) The development of improved models and capabilities for predicting the environmental fate, transport, and effects of oil discharges【.】, *including—*

(I) *fundamental scientific characterization of the behavior of oil and natural gas in and on soil and water, including miscibility, plume behavior, emulsification, physical separation, and chemical and biological degradation;*

(II) *behavior and effects of emulsified, dispersed, and submerged oil in water; and*

(III) *modeling, simulation, and prediction of oil flows from releases and the trajectories of releases on the surface, the subsurface, and in water.*

(ii) The development of methods, including economic methods, to assess damages to natural resources resulting from oil discharges.

(iii) The identification of types of ecologically sensitive areas at particular risk to oil discharges and the preparation of scientific monitoring and evaluation plans, one for each of several types of ecological conditions, to be implemented in the event of major oil discharges in such areas.

(iv) The collection of environmental baseline data in ecologically sensitive areas at particular risk to oil discharges where such data are insufficient.

(B) The Department of Commerce in consultation with the Environmental Protection Agency shall monitor and scientifically evaluate the long-term environmental effects of oil discharges if—

(i) the amount of oil discharged exceeds 250,000 gallons;

(ii) the oil discharge has occurred on or after January 1, 1989; and

(iii) the Interagency Committee determines that a study of the long-term environmental effects of the discharge

would be of significant scientific value, especially for preventing or responding to future oil discharges.

Areas for study may include the following sites where oil discharges have occurred: the New York/New Jersey Harbor area, where oil was discharged by an Exxon underwater pipeline, the T/B CIBRO SAVANNAH, and the M/V BT NAUTILUS; Narragansett Bay where oil was discharged by the WORLD PRODIGY; the Houston Ship Channel where oil was discharged by the RACHEL B; the Delaware River, where oil was discharged by the PRESIDENTE RIVERA, and Huntington Beach, California, where oil was discharged by the AMERICAN TRADER.

(C) Research conducted under this paragraph by, or through, the United States Fish and Wildlife Service shall be directed and coordinated by the National Wetland Research Center.

[(5)] (6) MARINE SIMULATION RESEARCH.—The program established under this subsection shall include research on the greater use and application of geographic and vessel response simulation models, including the development of additional data bases and updating of existing data bases using, among others, the resources of the National Maritime Research Center. It shall include research and vessel simulations for—

(A) contingency plan evaluation and amendment;

(B) removal and strike team training;

(C) tank vessel personnel training; and

(D) those geographic areas where there is a significant likelihood of a major oil discharge.

[(6)] (7) DEMONSTRATION PROJECTS.—[The United States Coast Guard]

(A) IN GENERAL.—*The United States Coast Guard*, in conjunction with other such agencies in the Department of Transportation as the Secretary of Transportation may designate, shall conduct 4¹ port oil pollution minimization demonstration projects, one each with [(A)] (i) the Port Authority of New York and New Jersey, [(B)] (ii) the Ports of Los Angeles and Long Beach,¹ [(C)] (iii) the Port of New Orleans, Louisiana, and [(D)] (iv) a port on the Great Lakes¹ for the purpose of developing and demonstrating integrated port oil pollution prevention and cleanup systems which utilize the information and implement the improved practices and technologies developed from the research, development, and demonstration program established in this section. Such systems shall utilize improved technologies and management practices for reducing the risk of oil discharges, including, as appropriate, improved data access, computerized tracking of oil shipments, improved vessel tracking and navigation systems, advanced technology to monitor pipeline and tank conditions, improved oil spill response capability, improved capability to predict the flow and effects of oil discharges in both the inner and outer harbor areas for the purposes of making infrastructure decisions, and such other activities necessary to achieve the purposes of this section.

¹Section 2002(1) of P.L. 101-537 and section 4002(1) of P.L. 101-646 made almost identical amendments to section 7001(c)(6). The amendments made by P.L. 101-537 have been executed.

(B) EXTREME ENVIRONMENTAL CONDITION DEMONSTRATION PROJECTS.—

(i) IN GENERAL.—*The Secretary of the Interior, in conjunction with the heads of such other agencies as the President may designate, shall conduct deepwater, ultra deepwater, and other extreme environment oil discharge response demonstration projects for the purpose of developing and demonstrating new integrated deepwater oil discharge mitigation and response systems that use the information and implement the improved practices and technologies developed through the program under this subsection.*

(ii) REQUIREMENTS.—*The mitigation and response systems developed under clause (i) shall use technologies and management practices for improving the response capabilities to deepwater oil discharges, including—*

(I) *improved oil flow monitoring and calculation;*
 (II) *improved oil discharge response capability;*
 (III) *improved subsurface mitigation technologies;*

(IV) *improved capability to track and predict the flow and effects of oil discharges in both subsurface and surface areas for the purposes of making oil mitigation and response decisions; and*

(V) *any other activities necessary to achieve the purposes of the program.*

[(7)] (8) SIMULATED ENVIRONMENTAL TESTING.—Agencies represented on the Interagency Committee shall ensure the long-term use and operation of the Oil and Hazardous Materials Simulated Environmental Test Tank (OHMSETT) Research Center in New Jersey for oil pollution technology testing and evaluations.

(9) RESEARCH CENTERS OF EXCELLENCE.—

(A) RESPONSE TECHNOLOGIES FOR DEEPWATER, ULTRA DEEPWATER, AND OTHER EXTREME ENVIRONMENT OIL DISCHARGES.—

(i) ESTABLISHMENT.—*The Secretary of the Interior shall establish at 1 or more institutions of higher education a research center of excellence for the research, development, and demonstration of technologies necessary to respond to, contain, mitigate, and clean up deepwater, ultra deepwater, and other extreme-environment discharges of oil.*

(ii) GRANTS.—*The Secretary shall provide grants to the research center of excellence established under clause (i) to conduct and oversee basic and applied research in the technologies described in that clause.*

(B) OIL DISCHARGE RESPONSE AND RESTORATION.—

(i) ESTABLISHMENT.—*The Undersecretary of Commerce for Oceans and Atmosphere, in coordination with the Administrator and the Secretary of the Interior, shall establish at 1 or more institutions of higher education a research center of excellence for research and innovation in the fate of, behavior and effects of,*

and damage assessment and restoration relating to discharges of oil.

(ii) GRANTS.—*The Undersecretary of Commerce for Oceans and Atmosphere shall provide grants to the research center of excellence established under clause (i) to conduct and oversee basic and applied research in the areas described in that clause.*

(C) OTHER RESEARCH CENTERS OF EXCELLENCE.—*Any agency that is a member of the Interagency Committee may establish such other research centers of excellence as the agency determines to be necessary for the research, development, and demonstration of technologies necessary to carry out the program established under this subsection.*

(10) PILOT PROGRAM.—

(A) IN GENERAL.—*The Secretary of the Interior and the Administrator shall jointly conduct a pilot program to conduct field tests, in the waters of the United States, of new oil discharge response, mitigation, and cleanup technologies developed under the program established under this subsection.*

(B) RESULTS.—*The results of the field tests conducted under subparagraph (A) shall be used—*

(i) to refine oil discharge technology research and development; and

(ii) to assist the Secretary of the Interior and the Administrator in the development of safety and environmental regulations under this Act and other applicable laws.

[(8)] (11) REGIONAL RESEARCH PROGRAM.—(A) Consistent with the research plan in subsection (b), the Interagency Committee shall coordinate a program of competitive grants to universities or other research institutions, or groups of universities or research institutions, for the purposes of conducting a coordinated research program related to the regional aspects of oil pollution, such as prevention, removal, mitigation, and the effects of discharged oil on regional environments. For the purposes of this paragraph, a region means a Coast Guard district as set out in part 3 of title 33, Code of Federal Regulations (1989).

(B) The Interagency Committee shall coordinate the publication by the agencies represented on the Interagency Committee of a solicitation for grants under this subsection. The application shall be in such form and contain such information as may be required in the published solicitation. The applications shall be reviewed by the Interagency Committee, which shall make recommendations to the appropriate granting agency represented on the Interagency Committee for awarding the grant. The granting agency shall award the grants recommended by the Interagency Committee unless the agency decides not to award the grant due to budgetary or other compelling considerations and publishes its reasons for such a determination in the Federal Register. No grants may be made by any agency from any funds authorized for this paragraph unless such grant award has first been recommended by the Interagency Committee.

(C) Any university or other research institution, or group of universities or research institutions, may apply for a grant for the regional research program established by this paragraph. The applicant must be located in the region, or in a State a part of which is in the region, for which the project is proposed as part of the regional research program. With respect to a group application, the entity or entities which will carry out the substantial portion of the proposed research must be located in the region, or in a State a part of which is in the region, for which the project is proposed as part of the regional research program.

(D) The Interagency Committee shall make recommendations on grants in such a manner as to ensure an appropriate balance within a region among the various aspects of oil pollution research, including prevention, removal, mitigation, and the effects of discharged oil on regional environments. In addition, the Interagency Committee shall make recommendations for grants based on the following criteria:

(i) There is available to the applicant for carrying out this paragraph demonstrated research resources.

(ii) The applicant demonstrates the capability of making a significant contribution to regional research needs.

(iii) The projects which the applicant proposes to carry out under the grant are consistent with the research plan under subsection (b)(1)(F) and would further the objectives of the research and development program established in this section.

(E) Grants provided under this paragraph shall be for a period up to 3 years, subject to annual review by the granting agency, and provide not more than 80 percent of the costs of the research activities carried out in connection with the grant.

(F) No funds made available to carry out this subsection may be used for the acquisition of real property (including buildings) or construction of any building.

(G) Nothing in this paragraph is intended to alter or abridge the authority under existing law of any Federal agency to make grants, or enter into contracts or cooperative agreements, using funds other than those authorized in this Act for the purposes of carrying out this paragraph.

[(9)] (12) FUNDING.—For each of the fiscal years 1991, 1992, 1993, 1994, and 1995, \$6,000,000 of amounts in the Fund shall be available to carry out the regional research program in **[paragraph (8)] paragraph (11)**, such amounts to be available in equal amounts for the regional research program in each region; except that if the agencies represented on the Interagency Committee determine that regional research needs exist which cannot be addressed within such funding limits, such agencies may use their authority under **[paragraph (10)] paragraph (13)** to make additional grants to meet such needs. For the purposes of this paragraph, the research program carried out by the Prince William Sound Oil Spill Recovery Institute established under section 5001, shall not be eligible to receive grants under this paragraph until the authorization for funding under section 5006(b) expires.

[(10)] (13) GRANTS.—In carrying out the research and development program established under this subsection, the agencies represented on the Interagency Committee may enter into contracts and cooperative agreements and make grants to universities, research institutions, and other persons. Such contracts, cooperative agreements, and grants shall address research and technology priorities set forth in the oil pollution research plan under subsection (b).

[(11)] (14) In carrying out research under this section, the Department of Transportation shall continue to utilize the resources of the Pipeline and Hazardous Materials Safety Administration of the Department of Transportation, to the maximum extent practicable.

(15) RESEARCH AND TECHNOLOGY PLAN.—

(A) IN GENERAL.—*Not later than 1 year after the date of enactment of this paragraph, and every 2 years thereafter, the Chairman, in consultation with the Board, shall develop and publish a research and technology plan for the program established under this subsection.*

(B) CONTENTS.—*The plan under this paragraph shall—*

(i) identify research needs and opportunities;

(ii) propose areas of focus for the program;

(iii) establish program priorities, including priorities for demonstration projects under paragraph (7), the research centers of excellence under paragraph (9), and research funding provided under paragraphs (11) and (12); and

(iv) estimate—

(I) the extent of resources needed to conduct the program; and

(II) timetables for completing research tasks under the program.

(C) PUBLICATION.—*The Chairman shall timely publish—*

(i) the plan under this paragraph; and

(ii) a review of the plan by the Board.

(16) PEER REVIEW OF PROPOSALS AND RESEARCH.—

(A) IN GENERAL.—*Any provision of funds under the program established under this subsection shall be made only after the agency providing the funding has carried out an impartial peer review of the scientific and technical merit of the proposals for the funding.*

(B) REQUIREMENTS.—*The agency providing funding shall ensure that any research conducted under the program shall be peer-reviewed, transparent, and made available to the public.*

(17) OIL DISCHARGE TECHNOLOGY AND RESEARCH FUND.—

(A) ESTABLISHMENT.—*There is established in the Treasury of the United States a revolving fund, to be known as the ‘Oil Spill Technology and Research Fund’ (referred to in this paragraph as the ‘Fund’), consisting of such amounts as are transferred to the Fund under subparagraph (B), to be administered by the Chairman, to be available without fiscal year limitation and not subject to appropriation, to carry out the program established under this subsection.*

(B) TRANSFERS TO FUND.—*From any Federal royalties, rents, and bonuses derived from Federal onshore and offshore oil and gas leases issued the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.) or the Mineral Leasing Act (30 U.S.C. 181 et seq.) that are deposited in the Treasury, and after distribution of any funds described in subparagraph (C), there shall be transferred to the Fund \$25,000,000 for each of fiscal years 2010 through 2020, to remain available until expended.*

(C) PRIOR DISTRIBUTIONS.—*The distributions referred to in subparagraph (B) are those required by law—*

(i) to States and to the Reclamation Fund under section 35(a) of the Mineral Leasing Act (30 U.S.C. 191(a)); and

(ii) to other funds receiving amounts from Federal oil and gas leasing programs, including—

(I) any recipients pursuant to section 8(g) of the Outer Continental Shelf Lands Act (43 U.S.C. 1337(g));

(II) the land and water conservation fund, pursuant to section 2(c) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 460l–5(c));

(III) the Historic Preservation Fund, pursuant to section 108 of the National Historic Preservation Act (16 U.S.C. 470h); and

(IV) the coastal impact assistance program established under section 31 of the Outer Continental Shelf Lands Act (43 U.S.C. 1356a).

(D) PROHIBITION.—*Amounts in the Fund may not be made available for any purpose other than a purpose described in subparagraph (A).*

(E) ANNUAL REPORTS.—

(i) IN GENERAL.—Not later than 60 days after the end of each fiscal year beginning with fiscal year 2010, the Chairman shall submit to the Committees on Appropriations, Energy and Natural Resources, and Environment and Public Works of the Senate and the Committees on Appropriations, Natural Resources, and Transportation and Infrastructure of the House of Representatives a report on the operation of the Fund during the fiscal year.

(ii) CONTENTS.—Each report shall include, for the fiscal year covered by the report, the following:

(I) A statement of the amounts deposited in the Fund.

(II) A description of the expenditures made from the Fund for the fiscal year, including the purpose of the expenditures.

(III) Recommendations for additional authorities to fulfill the purpose of the Fund.

(IV) A statement of the balance remaining in the Fund at the end of the fiscal year.

* * * * *

(f) FUNDING.—Not to exceed \$22,000,000¹ of amounts in the Fund shall be available annually to carry out this section except for subsection **[(c)(8)] (c)(11)**. Of such sums—

(1) funds authorized to be appropriated to carry out the activities under subsection **[(c)(4)] (c)(5)** shall not exceed \$5,000,000 for fiscal year 1991 or \$3,500,000 for any subsequent fiscal year; and

(2) not less than \$3,000,000¹ shall be available for carrying out the activities in subsection **[(c)(6)] (c)(7)** for fiscal years 1992, 1993, 1994, and 1995.

All activities authorized in this section, including subsection **[(c)(8)] (c)(11)**, are subject to appropriations.

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¹Section 2002(2) of P.L. 101-537 and section 4002(2) of P.L. 101-646 made almost identical amendments to section 7001(f). The amendments made by P.L. 101-537 have been executed.