TITLE XVIII—STUDIES

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SEC. 1801. STUDY ON INVENTORY OF PETROLEUM AND NATURAL GAS STORAGE.

(a) DEFINITION.—For purposes of this section ''petroleum'' means crude oil, motor gasoline, jet fuel, distillates, and propane.

(b) STUDY.—The Secretary of Energy shall conduct a study on petroleum and natural gas storage capacity and operational inventory levels, nationwide and by major geographical regions.

(c) CONTENTS.—The study shall address—

(1) historical normal ranges for petroleum and natural gas inventory levels;

(2) historical and projected storage capacity trends;

(3) estimated operation inventory levels below which outages, delivery slowdown, rationing, interruptions in service, or other indicators of shortage begin to appear;

(4) explanations for inventory levels dropping below normal ranges; and

(5) the ability of industry to meet United States demand for petroleum and natural gas without shortages or price spikes, when inventory levels are below normal ranges.

(d) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Secretary of

Energy shall submit a report to Congress on the results of the study, including findings and any recommendations for preventing future supply shortages.

SEC. 1802. STUDY OF ENERGY EFFICIENCY STANDARDS.

The Secretary of Energy shall contract with the National Academy of Sciences for a study, to be completed within 1 year after the date of enactment of this Act, to examine whether the goals of energy efficiency standards are best served by measurement of energy consumed, and efficiency improvements, at the actual site of energy consumption, or through the full fuel cycle, beginning at the source of energy production. The Secretary shall submit the report to Congress.

SEC. 1803. TELECOMMUTING STUDY.

(a) STUDY REQUIRED.—The Secretary, in consultation with the Commission, the Director of the Office of Personnel Management, the Administrator of General Services, and the Administrator of NTIA, shall conduct a study of the energy conservation implications of the widespread adoption of telecommuting by Federal employees in the United States.

(b) REQUIRED SUBJECTS OF STUDY.—The study required by subsection (a) shall analyze the following subjects in relation to the energy saving potential of telecommuting by Federal employees:

(1) Reductions of energy use and energy costs in commuting and regular office heating, cooling, and other operations.

(2) Other energy reductions accomplished by telecommuting.

(3) Existing regulatory barriers that hamper telecommuting, including barriers to broadband telecommunications services deployment.

(4) Collateral benefits to the environment, family life, and other values.

(c) REPORT REQUIRED.—The Secretary shall submit to the President and Congress a report on the study required by this section not later than 6 months after the date of enactment of this Act. Such report shall include a description of the results of the analysis of each of the subject described in subsection (b).

(d) DEFINITIONS.—As used in this section:

(1) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

(2) COMMISSION.—The term ''Commission'' means the Federal Communications Commission.

(3) NTIA.—The term ''NTIA'' means the National Telecommunications and Information Administration of the Department of Commerce.

(4) TELECOMMUTING.—The term ''telecommuting'' means the performance of work functions using communications technologies, thereby eliminating or substantially reducing the need to commute to and from traditional worksites.

(5) FEDERAL EMPLOYEE.—The term ''Federal employee'' has the meaning provided the term ''employee'' by section 2105 of title 5, United States Code.

SEC. 1804. LIHEAP REPORT.

Not later than 1 year after the date of enactment of this Act, the Secretary of Health and Human Services shall transmit to Congress a report on how the Low-Income Home Energy Assistance Program could be used more effectively to prevent loss of life from extreme temperatures. In preparing such report, the Secretary shall consult with appropriate officials in all 50 States and the District of Columbia.

SEC. 1805. OIL BYPASS FILTRATION TECHNOLOGY.

The Secretary of Energy and the Administrator of the Environmental Protection Agency shall—

(1) conduct a joint study of the benefits of oil bypass filtration technology in reducing demand for oil and protecting the environment;

(2) examine the feasibility of using oil bypass filtration technology in Federal motor vehicle fleets; and

(3) include in such study, prior to any determination of the feasibility of using oil bypass filtration technology, the evaluation of products and various manufacturers.

SEC. 1806. TOTAL INTEGRATED THERMAL SYSTEMS.

The Secretary of Energy shall—

(1) conduct a study of the benefits of total integrated thermal systems in reducing demand for oil and protecting the environment; and

(2) examine the feasibility of using total integrated thermal systems in Department of Defense and other Federal motor vehicle fleets.

SEC. 1807. RELIABILITY AND CONSUMER PROTECTION ASSESSMENT.

Not later than 5 years after the date of enactment of this Act, and each 5 years thereafter, the Federal Energy Regulatory Commission shall assess the effects of the exemption of electric cooperatives and government-owned utilities from Commission regulation under section 201(f) of the Federal Power Act. The assessment shall include any effects on—

(1) reliability of interstate electric transmission networks;

(2) benefit to consumers, and efficiency, of competitive wholesale electricity markets;

(3) just and reasonable rates for electricity consumers; and

(4) the ability of the Commission to protect electricity consumers.

If the Commission finds that the 201(f) exemption results in adverse effects on consumers or electric reliability, the Commission shall make appropriate recommendations to Congress pursuant to section 311 of the Federal Power Act.

SEC. 1808. REPORT ON ENERGY INTEGRATION WITH LATIN AMERICA.

The Secretary of Energy shall submit an annual report to the Committee on Energy and Commerce of the United States House of Representatives and to the Committee on Energy and Natural Resources of the United States Senate concerning the status of energy export development in Latin America and efforts by the Secretary and other departments and agencies of the United States to promote energy integration with Latin America. The report shall contain a detailed analysis of the status of energy export development in Mexico and a description of

all significant efforts by the Secretary and other departments and agencies to promote a constructive relationship with Mexico regarding the development of that nation's energy capacity. In particular this report shall outline efforts the Secretary and other departments and agencies have made to ensure that regulatory approval and oversight of United States/Mexico border projects that result in the expansion of Mexican energy capacity are effectively coordinated across departments and with the Mexican government.

SEC. 1809. LOW-VOLUME GAS RESERVOIR STUDY.

(a) STUDY.—The Secretary of Energy shall make a grant to an organization of oil and gas producing States, specifically those containing significant numbers of marginal oil and natural gas wells, for conducting an annual study of low-volume natural gas reservoirs. Such organization shall work with the State geologist of each State being studied.

(b) CONTENTS.—The studies under this section shall—

(1) determine the status and location of marginal wells and gas reservoirs;

(2) gather the production information of these marginal wells and reservoirs;

(3) estimate the remaining producible reserves based on variable pipeline pressures;

(4) locate low-pressure gathering facilities and pipelines;

(5) recommend incentives which will enable the continued production of these resources;

(6) produce maps and literature to disseminate to States to promote conservation of natural gas reserves; and

(7) evaluate the amount of natural gas that is being wasted through the practice of venting or flaring of natural gas produced in association with crude oil well production.

(c) DATA ANALYSIS.—Data development and analysis under this section shall be performed by an institution of higher education with GIS capabilities. If the organization receiving the grant under subsection (a) does not have GIS capabilities, such organization shall contract with one or more entities with—

(1) technological capabilities and resources to perform advanced image processing, GIS programming, and data analysis; and

(2) the ability to—

(A) process remotely sensed imagery with high spatial resolution;

(B) deploy global positioning systems;

(C) process and synthesize existing, variable-format gas well, pipeline, gathering facility, and reservoir data;

(D) create and query GIS databases with infrastructure location and attribute information;

(E) write computer programs to customize relevant GIS software;

(F) generate maps, charts, and graphs which summarize findings from data research for presentation to different audiences; and

(G) deliver data in a variety of formats, including Internet Map Server for query and display, desktop computer display, and access through handheld personal digital assistants.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of Energy for carrying out this section—

(1) $1,500,000 for fiscal year 2006; and

(2) $450,000 for each of the fiscal years 2007 through 2010.

(e) DEFINITIONS.—For purposes of this section, the term ''GIS'' means geographic information systems tech-

nology that facilitates the organization and management of data with a geographic component.

SEC. 1810. INVESTIGATION OF GASOLINE PRICES.

(a) INVESTIGATION.—Not later than 90 days after the date of enactment of this Act, the Federal Trade Commission shall conduct an investigation to determine if the price of gasoline is being artificially manipulated by reducing refinery capacity or by any other form of market manipulation or price gouging practices.

(b) EVALUATION AND ANALYSIS.—The Secretary shall direct the National Petroleum Council to conduct an evaluation and analysis to determine whether, and to what extent, environmental and other regulations affect new domestic refinery construction and significant expansion of existing refinery capacity.

(c) REPORTS TO CONGRESS.—

(1) INVESTIGATION.—On completion of the investigation under subsection (a), the Federal Trade Commission shall submit to Congress a report that describes—

(A) the results of the investigation; and

(B) any recommendations of the Federal Trade Commission.

(2) EVALUATION AND ANALYSIS.—On completion of the evaluation and analysis under subsection

(b), the Secretary shall submit to Congress a report that describes—

(A) the results of the evaluation and analysis; and

(B) any recommendations of the National Petroleum Council.

SEC. 1811. ALASKA NATURAL GAS PIPELINE.

Not later than 180 days after the date of enactment of this Act, and every 180 days thereafter until the Alaska natural gas pipeline commences operation, the Federal Energy Regulatory Commission shall submit to Congress a report describing—

(1) the progress made in licensing and constructing the pipeline; and

(2) any issue impeding that progress.

SEC. 1812. COAL BED METHANE STUDY.

(a) STUDY.—

(1) IN GENERAL.—The Secretary of the Interior, in consultation with the Administrator of the Environmental Protection Agency, shall enter into an arrangement under which the National Academy of Sciences shall conduct a study on the effect of coalbed natural gas production on surface and ground water resources, including ground water

aquifiers, in the States of Montana, Wyoming, Colorado, New Mexico, North Dakota, and Utah.

(2) MATTERS TO BE ADDRESSED.—The study shall address the effectiveness of—

(A) the management of coal bed methane produced water;

(B) the use of best management practices; and

(C) various production techniques for coal bed methane natural gas in minimizing impacts on water resources.

(b) DATA ANALYSIS.—The study shall analyze available hydrologic, geologic and water quality data, along with—

(1) production techniques, produced water management techniques, best management practices, and other factors that can mitigate effects of coal bed methane development;

(2) the costs associated with mitigation techniques;

(3) effects on surface or ground water resources, including drinking water, associated with surface or subsurface disposal of waters produced during extraction of coal bed methane; and

(4) any other significant effects on surface or ground water resources associated with production of coal-bed methane.

(c) RECOMMENDATIONS.—The study shall analyze the effectiveness of current mitigation practices of coal bed methane produced water handling in relation to existing Federal and State laws and regulations, and make recommendations as to changes, if any, to Federal law necessary to address adverse impacts to surface or ground water resources associated with coal bed methane development.

(d) COMPLETION OF STUDY.—The National Academy of Sciences shall submit the findings and recommendations of the study to the Secretary of the Interior and the Administrator of the Environmental Protection Agency within 12 months after the date of enactment of this Act, and shall upon completion make the results of the study available to the public.

(e) REPORT TO CONGRESS.—The Secretary of the Interior and the Administrator of the Environmental Protection Agency, after consulting with States, shall report to the Congress within 6 months after receiving the results of the study on—

(1) the findings and recommendations of the study;

(2) the agreement or disagreement of the Secretary of the Interior and the Administrator of the Environmental Protection Agency with each of its findings and recommendations; and

(3) any recommended changes in funding to address the effects of coal bed methane production on surface and ground water resources.

SEC. 1813. BACKUP FUEL CAPABILITY STUDY.

(a) STUDY.—

(1) IN GENERAL.—The Secretary shall conduct a study of the effect of obtaining and maintaining liquid and other fuel backup capability at—

(A) gas-fired power generation facilities; and

(B) other gas-fired industrial facilities.

(2) CONTENTS.—The study under paragraph (1) shall address—

(A) the costs and benefits of adding a different fuel capability to a power gas-fired power generating or industrial facility, taking into consideration regional differences;

(B) methods of the Federal Government and State governments to encourage gas-fired power generators and industries to develop the

capability to power the facilities using a backup fuel;

(C) the effect on the supply and cost of natural gas of—

(i) a balanced portfolio of fuel choices in power generation and industrial applications; and

(ii) State regulations that permit agencies in the State to carry out policies that encourage the use of other backup fuels in gas-fired power generation; and

(D) changes required in the Clean Air Act (42 U.S.C. 7401 et seq.) to allow natural gas generators to add clean backup fuel capabilities.

(b) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a report on the results of the study under subsection (a), including recommendations regarding future activity of the Federal Government relating to backup fuel capability.

SEC. 1814. INDIAN LAND RIGHTS-OF-WAY.

(a) STUDY.—

(1) IN GENERAL.—The Secretary and the Secretary of the Interior (referred to in this section as the ''Secretaries'') shall jointly conduct a study of

issues regarding energy rights-of-way on tribal land (as defined in section 2601 of the Energy Policy Act of 1992 (as amended by section 503)) (referred to in this section as ''tribal land'').

(2) CONSULTATION.—In conducting the study under paragraph (1), the Secretaries shall consult with Indian tribes, the energy industry, appropriate governmental entities, and affected businesses and consumers.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, the Secretaries shall submit to Congress a report on the findings of the study, including—

(1) an analysis of historic rates of compensation paid for energy rights-of-way on tribal land;

(2) recommendations for appropriate standards and procedures for determining fair and appropriate compensation to Indian tribes for grants, expansions, and renewals of energy rights-of-way on tribal land;

(3) an assessment of the tribal self-determination and sovereignty interests implicated by applications for the grant, expansion, or renewal of energy rights-of-way on tribal land; and

(4) an analysis of relevant national energy transportation policies relating to grants, expansions, and renewals of energy rights-of-way on tribal land.

SEC. 1815. MOBILITY OF SCIENTIFIC AND TECHNICAL PERSONNEL.

Not later than 2 years after the date of enactment of this section, the Secretary shall transmit to Congress a report that—

(1) identifies any policies or procedures of a contractor operating a National Laboratory or single-purpose research facility that create disincentives to the temporary or permanent transfer of scientific and technical personnel among the contractor-operated National Laboratories or contractor-operated single-purpose research facilities; and

(2) provides recommendations for improving interlaboratory exchange of scientific and technical personnel.

SEC. 1816. INTERAGENCY REVIEW OF COMPETITION IN THE WHOLESALE AND RETAIL MARKETS FOR ELECTRIC ENERGY.

(a) TASK FORCE.—There is established an interagency task force, to be known as the ''Electric Energy

Market Competition Task Force'' (referred to in this section as the ''task force''), consisting of 5 members—

(1) 1 of whom shall be an employee of the Department of Justice, to be appointed by the Attorney General of the United States;

(2) 1 of whom shall be an employee of the Federal Energy Regulatory Commission, to be appointed by the Chairperson of that Commission;

(3) 1 of whom shall be an employee of the Federal Trade Commission, to be appointed by the Chairperson of that Commission;

(4) 1 of whom shall be an employee of the Department, to be appointed by the Secretary; and

(5) 1 of whom shall be an employee of the Rural Utilities Service, to be appointed by the Secretary of Agriculture.

(b) STUDY AND REPORT.—

(1) STUDY.—The task force shall conduct a study and analysis of competition within the wholesale and retail market for electric energy in the United States.

(2) REPORT.—

(A) FINAL REPORT.—Not later than 1 year after the date of enactment of this Act, the task force shall submit to Congress a final re-

port on the findings of the task force under paragraph (1).

(B) PUBLIC COMMENT.—Not later than the date that is 60 days before a final report is submitted to Congress under subparagraph (A), the task force shall—

(i) publish in the Federal Register a draft of the report; and

(ii) provide an opportunity for public comment on the report.

(c) CONSULTATION.—In conducting the study under subsection (b), the task force shall consult with and solicit comments from any advisory entity of the task force, the States, representatives of the electric power industry, and the public.

SEC. 1817. STUDY OF RAPID ELECTRICAL GRID RESTORATION.

(a) STUDY.—

(1) IN GENERAL.—The Secretary shall conduct a study of the benefits of using mobile transformers and mobile substations to rapidly restore electrical service to areas subjected to blackouts as a result of—

(A) equipment failure;

(B) natural disasters;

(C) acts of terrorism; or

(D) war.

(2) CONTENTS.—The study under paragraph (1) shall contain an analysis of—

(A) the feasibility of using mobile transformers and mobile substations to reduce dependence on foreign entities for key elements of the electrical grid system of the United States;

(B) the feasibility of using mobile transformers and mobile substations to rapidly restore electrical power to—

(i) military bases;

(ii) the Federal Government;

(iii) communications industries;

(iv) first responders; and

(v) other critical infrastructures, as determined by the Secretary;

(C) the quantity of mobile transformers and mobile substations necessary—

(i) to eliminate dependence on foreign sources for key electrical grid components in the United States;

(ii) to rapidly deploy technology to fully restore full electrical service to prioritized Governmental functions; and

(iii) to identify manufacturing sources in existence on the date of enactment of this Act that have previously manufactured specialized mobile transformer or mobile substation products for Federal agencies.

(b) REPORT.—

(1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to the President and Congress a report on the study under subsection (a).

(2) INCLUSION.—The report shall include a description of the results of the analysis under subsection (a)(2).

SEC. 1818. STUDY OF DISTRIBUTED GENERATION.

(a) STUDY.—

(1) IN GENERAL.—

(A) POTENTIAL BENEFITS.—The Secretary, in consultation with the Federal Energy Regulatory Commission, shall conduct a study of the potential benefits of cogeneration and small power production.

(B) RECIPIENTS.—The benefits described in subparagraph (A) include benefits that are received directly or indirectly by—

(i) an electricity distribution or transmission service provider;

(ii) other customers served by an electricity distribution or transmission service provider; and

(iii) the general public in the area served by the public utility in which the cogenerator or small power producer is located.

(2) INCLUSIONS.—The study shall include an analysis of—

(A) the potential benefits of—

(i) increased system reliability;

(ii) improved power quality;

(iii) the provision of ancillary services;

(iv) reduction of peak power requirements through onsite generation;

(v) the provision of reactive power or volt-ampere reactives;

(vi) an emergency supply of power;

(vii) offsets to investments in generation, transmission, or distribution facilities that would otherwise be recovered through rates;

(viii) diminished land use effects and right-of-way acquisition costs; and

(ix) reducing the vulnerability of a system to terrorism; and

(B) any rate-related issue that may impede or otherwise discourage the expansion of cogeneration and small power production facilities, including a review of whether rates, rules, or other requirements imposed on the facilities are comparable to rates imposed on customers of the same class that do not have cogeneration or small power production.

(3) VALUATION OF BENEFITS.—In carrying out the study, the Secretary shall determine an appropriate method of valuing potential benefits under varying circumstances for individual cogeneration or small power production units.

(b) REPORT.—Not later than 18 months after the date of enactment of this Act, the Secretary shall—

(1) complete the study;

(2) provide an opportunity for public comment on the results of the study; and

(3) submit to the President and Congress a report describing—

(A) the results of the study; and

(B) information relating to the public comments received under paragraph (2).

(c) PUBLICATION.—After submission of the report under subsection (b) to the President and Congress, the Secretary shall publish the report.

SEC. 1819. NATURAL GAS SUPPLY SHORTAGE REPORT.

(a) IN GENERAL.—Not later than 180 days after the date of enactment of this Act, the Secretary shall submit to Congress a report on natural gas supplies and demand.

(b) PURPOSE.—The purpose of the report under subsection (a) is to develop recommendations for achieving a balance between natural gas supply and demand in order to—

(1) provide residential consumers with natural gas at reasonable and stable prices;

(2) accommodate long-term maintenance and growth of domestic natural gas-dependent industrial, manufacturing, and commercial enterprises;

(3) facilitate the attainment of national ambient air quality standards under the Clean Air Act (43 U.S.C. 7401 et seq.);

(4) achieve continued progress in reducing the emissions associated with electric power generation; and

(5) support the development of the preliminary phases of hydrogen-based energy technologies.

(c) COMPREHENSIVE ANALYSIS.—The report shall include a comprehensive analysis of, for the period beginning on January 1, 2004, and ending on December 31, 2015, natural gas supply and demand in the United States, including—

(1) estimates of annual domestic demand for natural gas, taking into consideration the effect of Federal policies and actions that are likely to increase or decrease the demand for natural gas;

(2) projections of annual natural gas supplies, from domestic and foreign sources, under Federal policies in existence on the date of enactment of this Act;

(3) an identification of estimated natural gas supplies that are not available under those Federal policies;

(4) scenarios for decreasing natural gas demand and increasing natural gas supplies that compare the relative economic and environmental impacts of Federal policies that—

(A) encourage or require the use of natural gas to meet air quality, carbon dioxide emission reduction, or energy security goals;

(B) encourage or require the use of energy sources other than natural gas, including coal, nuclear, and renewable sources;

(C) support technologies to develop alternative sources of natural gas and synthetic gas, including coal gasification technologies;

(D) encourage or require the use of energy conservation and demand side management practices; and

(E) affect access to domestic natural gas supplies; and

(5) recommendations for Federal actions to achieve the purposes described in subsection (b), including recommendations that—

(A) encourage or require the use of energy sources other than natural gas, including coal, nuclear, and renewable sources;

(B) encourage or require the use of energy conservation or demand side management practices;

(C) support technologies for the development of alternative sources of natural gas and synthetic gas, including coal gasification technologies; and

(D) would improve access to domestic natural gas supplies.

(d) CONSULTATION.—In preparing the report under subsection (a), the Secretary shall consult with—

(1) experts in natural gas supply and demand; and

(2) representatives of—

(A) State and local governments;

(B) tribal organizations; and

(C) consumer and other organizations.

(e) HEARINGS.—In preparing the report under subsection (a), the Secretary may hold public hearings and provide other opportunities for public comment, as the Secretary considers appropriate.

SEC. 1820. HYDROGEN PARTICIPATION STUDY.

Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a report evaluating methodologies to ensure the widest participation practicable in setting goals and milestones under the hydrogen program of the Department, including international participants.

SEC. 1821. OVERALL EMPLOYMENT IN A HYDROGEN ECONOMY.

(a) STUDY.—

(1) IN GENERAL.—The Secretary shall carry out a study of the likely effects of a transition to a hydrogen economy on overall employment in the United States.

(2) CONTENTS.—In completing the study, the Secretary shall take into consideration—

(A) the replacement effects of new goods and services;

(B) international competition;

(C) workforce training requirements;

(D) multiple possible fuel cycles, including usage of raw materials;

(E) rates of market penetration of technologies; and

(F) regional variations based on geography.

(b) REPORT.—Not later than 18 months after the date of enactment of this Act, the Secretary shall submit to Congress a report describing the findings, conclusions, and recommendations of the study under subsection (a).

SEC. 1822. STUDY OF BEST MANAGEMENT PRACTICES FOR ENERGY RESEARCH AND DEVELOPMENT PROGRAMS.

(a) IN GENERAL.—The Secretary shall enter into an arrangement with the National Academy of Public Admin-

istration under which the Academy shall conduct a study to assess management practices for research, development, and demonstration programs at the Department.

(b) SCOPE OF THE STUDY.—The study shall consider—

(1) management practices that act as barriers between the Office of Science and offices conducting mission-oriented research;

(2) recommendations for management practices that would improve coordination and bridge the innovation gap between the Office of Science and offices conducting mission-oriented research;

(3) the applicability of the management practices used by the Department of Defense Advanced Research Projects Agency to research programs at the Department;

(4) the advisability of creating an agency within the Department modeled after the Department of Defense Advanced Research Projects Agency;

(5) recommendations for management practices that could best encourage innovative research and efficiency at the Department; and

(6) any other relevant considerations.

(c) REPORT.—Not later than 18 months after the date of enactment of this Act, the Secretary shall submit

to Congress a report on the study conducted under this section.

SEC. 1823. EFFECT OF ELECTRICAL CONTAMINANTS ON RELIABILITY OF ENERGY PRODUCTION SYSTEMS.

Not later than 180 days after the date of enactment of this Act, the Secretary shall enter into a contract with the National Academy of Sciences under which the National Academy of Sciences shall determine the effect that electrical contaminants (such as tin whiskers) may have on the reliability of energy production systems, including nuclear energy.

SEC. 1824. ALTERNATIVE FUELS REPORTS.

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress reports on the potential for each of biodiesel and hythane to become major, sustainable, alternative fuels.

(b) BIODIESEL REPORT.—The report relating to biodiesel submitted under subsection (a) shall—

(1) provide a detailed assessment of—

(A) potential biodiesel markets and manufacturing capacity; and

(B) environmental and energy security benefits with respect to the use of biodiesel;

(2) identify any impediments, especially in infrastructure needed for production, distribution, and storage, to biodiesel becoming a substantial source of fuel for conventional diesel and heating oil applications;

(3) identify strategies to enhance the commercial deployment of biodiesel; and

(4) include an examination and recommendations, as appropriate, of the ways in which biodiesel may be modified to be a cleaner-burning fuel.

(c) HYTHANE REPORT.—The report relating to hythane submitted under subsection (a) shall—

(1) provide a detailed assessment of potential hythane markets and the research and development activities that are necessary to facilitate the commercialization of hythane as a competitive, environmentally friendly transportation fuel;

(2) address—

(A) the infrastructure necessary to produce, blend, distribute, and store hythane for widespread commercial purposes; and

(B) other potential market barriers to the commercialization of hythane;

(3) examine the viability of producing hydrogen using energy-efficient, environmentally friendly

methods so that the hydrogen can be blended with natural gas to produce hythane; and

(4) include an assessment of the modifications that would be required to convert compressed natural gas vehicle engines to engines that use hythane as fuel.

(d) GRANTS FOR REPORT COMPLETION.—The Secretary may use such sums as are available to the Secretary to provide, to 1 or more colleges or universities selected by the Secretary, grants for use in carrying out research to assist the Secretary in preparing the reports required to be submitted under subsection (a).

SEC. 1825. FINAL ACTION ON REFUNDS FOR EXCESSIVE CHARGES.

(a) FINDINGS.—Congress finds that—

(1) the State of California experienced an energy crisis;

(2) FERC issued an order requiring a refund of the portion of charges on the sale of electric energy that was unjust or unreasonable during that crisis;

(3) as of the date of enactment of this Act, none of the refunds ordered to date have been received by the State of California; and

(4) the Commission has ruled that the State of California is entitled to approximately $3 billion in

refunds; the State of California maintains that that $8.9 billion in refunds is owed.

(b) FERC shall—

(1) seek to conclude its investigation into the unjust or unreasonable charges incurred by California during the 2000–2001 electricity crisis as soon as possible;

(2) seek to ensure that refunds the Commission determines are owed to the State of California are paid to the State of California; and

(3) submit to Congress a report by December 31, 2005, describing the actions taken by the Commission to date under this section and timetables for further actions.

SEC. 1826. FUEL CELL AND HYDROGEN TECHNOLOGY STUDY.

(a) FINDINGS.—Congress finds that—

(1) according to the National Academy of Sciences, ''Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise . . . Human-induced warming and associated sea level rises are expected to continue through the 21st century.'';

(2) in 2001, the Intergovernmental Panel on Climate Change (IPCC) concluded that the average temperature of the Earth can be expected to rise between 2.5 and 10.4 degrees Fahrenheit in this century and ''there is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities'';

(3) the National Academy of Sciences has stated that ''the IPCC's conclusion that most of the observed warming of the last 50 years is likely to have been due to the increase of greenhouse gas concentrations accurately reflects the current thinking of the scientific community on this issue'' and that ''there is general agreement that the observed warming is real and particularly strong within the past twenty years'';

(4) a significant Federal investment toward the development of fuel cell technologies and the transition from petroleum to hydrogen in vehicles could significantly contribute to the reduction of carbon dioxide emissions by reducing fuel consumption;

(5) a massive infusion of resources and leadership from the Federal Government would be needed to create the necessary fuel cell technologies that

provide alternatives to petroleum and the more efficient use of energy; and

(6) the Federal Government would need to commit to developing, in conjunction with private industry and academia, advanced vehicle technologies and the necessary hydrogen infrastructure to provide alternatives to petroleum.

(b) STUDY.—

(1) IN GENERAL.—As soon as practicable after the date of enactment of this Act, the Secretary shall enter into a contract with the National Academy of Sciences and the National Research Council to carry out a study of fuel cell technologies that provides a budget roadmap for the development of fuel cell technologies and the transition from petroleum to hydrogen in a significant percentage of the vehicles sold by 2020.

(2) REQUIREMENTS.—In carrying out the study, the National Academy of Sciences and the National Research Council shall—

(A) establish as a goal the maximum percentage practicable of vehicles that the National Academy of Sciences and the National Research Council determines can be fueled by hydrogen by 2020;

(B) determine the amount of Federal and private funding required to meet the goal established under subparagraph (A);

(C) determine what actions are required to meet the goal established under subparagraph (A);

(D) examine the need for expanded and enhanced Federal research and development programs, changes in regulations, grant programs, partnerships between the Federal Government and industry, private sector investments, infrastructure investments by the Federal Government and industry, educational and public information initiatives, and Federal and State tax incentives to meet the goal established under subparagraph (A);

(E) consider whether other technologies would be less expensive or could be more quickly implemented than fuel cell technologies to achieve significant reductions in carbon dioxide emissions;

(F) take into account any reports relating to fuel cell technologies and hydrogen-fueled vehicles, including—

(i) the report prepared by the National Academy of Engineering and the National Research Council in 2004 entitled ''Hydrogen Economy: Opportunities, Costs, Barriers, and R&D Needs''; and

(ii) the report prepared by the U.S. Fuel Cell Council in 2003 entitled ''Fuel Cells and Hydrogen: The Path Forward'';

(G) consider the challenges, difficulties, and potential barriers to meeting the goal established under subparagraph (A); and

(H) with respect to the budget roadmap—

(i) specify the amount of funding required on an annual basis from the Federal Government and industry to carry out the budget roadmap; and

(ii) specify the advantages and disadvantages to moving toward the transition to hydrogen in vehicles in accordance with the timeline established by the budget roadmap.

SEC. 1827. PASSIVE SOLAR TECHNOLOGIES.

(a) DEFINITION OF PASSIVE SOLAR TECHNOLOGY.—In this section, the term ''passive solar technology'' means a passive solar technology, including daylighting, that—

(1) is used exclusively to avoid electricity use; and

(2) can be metered to determine energy savings.

(b) STUDY.—The Secretary shall conduct a study to determine—

(1) the range of levelized costs of avoided electricity for passive solar technologies;

(2) the quantity of electricity displaced using passive solar technologies in the United States as of the date of enactment of this Act; and

(3) the projected energy savings from passive solar technologies in 5, 10, 15, 20, and 25 years after the date of enactment of this Act if—

(A) incentives comparable to the incentives provided for electricity generation technologies were provided for passive solar technologies; and

(B) no new incentives for passive solar technologies were provided.

(c) REPORT.—Not later than 120 days after the date of enactment of this Act, the Secretary shall submit to Congress a report that describes the results of the study under subsection (b).

SEC. 1828. STUDY OF LINK BETWEEN ENERGY SECURITY AND INCREASES IN VEHICLE MILES TRAVELED.

(a) IN GENERAL.—The Secretary shall enter into an arrangement with the National Academy of Sciences under which the Academy shall conduct a study to assess the implications on energy use and efficiency of land development patterns in the United States.

(b) SCOPE.—The study shall consider—

(1) the correlation, if any, between land development patterns and increases in vehicle miles traveled;

(2) whether petroleum use in the transportation sector can be reduced through changes in the design of development patterns;

(3) the potential benefits of—

(A) information and education programs for State and local officials (including planning officials) on the potential for energy savings through planning, design, development, and infrastructure decisions;

(B) incorporation of location efficiency models in transportation infrastructure planning and investments; and

(C) transportation policies and strategies to help transportation planners manage the de-

mand for the number and length of vehicle trips, including trips that increase the viability of other means of travel; and

(4) such other considerations relating to the study topic as the National Academy of Sciences finds appropriate.

(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the National Academy of Sciences shall submit to the Secretary and Congress a report on the study conducted under this section.

SEC. 1829. SCIENCE STUDY ON CUMULATIVE IMPACTS OF MULTIPLE OFFSHORE LIQUEFIED NATURAL GAS FACILITIES.

(a) IN GENERAL.—The Secretary (in consultation with the National Oceanic Atmospheric Administration, the Commandant of the Coast Guard, affected recreational and commercial fishing industries, and affected energy and transportation stakeholders) shall carry out a study and compile existing science (including studies and data) to determine the risks or benefits presented by cumulative impacts of multiple offshore liquefied natural gas facilities reasonably assumed to be constructed in an area of the Gulf of Mexico using the open-rack vaporization system.

(b) ACCURACY.—In carrying out subsection (a), the Secretary shall verify the accuracy of available science and

develop a science-based evaluation of significant short-term and long-term cumulative impacts, both adverse and beneficial, of multiple offshore liquefied natural gas facilities reasonably assumed to be constructed in an area of the Gulf of Mexico using or proposing the open-rack vaporization system on the fisheries and marine populations in the vicinity of the facility.

SEC. 1830. ENERGY AND WATER SAVING MEASURES IN CONGRESSIONAL BUILDINGS.

(a) IN GENERAL.—The Architect of the Capitol, as part of the process of updating the Master Plan Study for the Capitol complex, shall—

(1) carry out a study to evaluate the energy infrastructure of the Capitol complex to determine how to augment the infrastructure to become more energy efficient—

(A) by using unconventional and renewable energy resources;

(B) by—

(i) incorporating new technologies to implement effective green building solutions;

(ii) adopting computer-based building management systems; and

(iii) recommending strategies based on end-user behavioral changes to implement low-cost environmental gains; and

(C) in a manner that would enable the Capitol complex to have reliable utility service in the event of power fluctuations, shortages, or outages;

(2) carry out a study to explore the feasibility of installing energy and water conservation measures on the rooftop of the Dirksen Senate Office Building, including the area directly above the food service facilities in the center of the building, including the installation of—

(A) a vegetative covering area, using native species to the maximum extent practicable, to—

(i) insulate and increase the energy efficiency of the building;

(ii) reduce precipitation runoff and conserve water for landscaping or other uses;

(iii) increase, and provide more efficient use of, available outdoor space through management of the rooftop of the center of the building as a park or garden area for occupants of the building; and

(iv) improve the aesthetics of the building; and

(B) onsite renewable energy and other state-of-the-art technologies to—

(i) improve the energy efficiency and energy security of the building or the Capitol complex by providing additional or backup sources of power in the event of a power shortage or other emergency;

(ii) reduce the use of resources by the building; or

(iii) enhance worker productivity; and

(C) not later than 180 days after the date of enactment of this Act, submit to Congress a report describing the findings and recommendations of the study under subparagraph (B).

(b) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to the Architect of the Capitol to carry out this section $2,000,000 for each of fiscal years 2006 through 2010.

SEC. 1831. STUDY OF AVAILABILITY OF SKILLED WORKERS.

(a) IN GENERAL.—The Secretary shall enter into an arrangement with the National Academy of Sciences under which the National Academy of Sciences shall conduct a study of the short-term and long-term availability

of skilled workers to meet the energy and mineral security requirements of the United States.

(b) INCLUSIONS.—The study shall include an analysis of—

(1) the need for and availability of workers for the oil, gas, and mineral industries;

(2) the availability of skilled labor at both entry level and more senior levels; and

(3) recommendations for future actions needed to meet future labor requirements.

(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall submit to Congress a report that describes the results of the study.

SEC. 1832. REVIEW OF ENERGY POLICY ACT OF 1992 PROGRAMS.

(a) IN GENERAL.—Not later than 180 days after the date of enactment of this section, the Secretary of Energy shall complete a study to determine the effect that titles III, IV, and V of the Energy Policy Act of 1992 (42 U.S.C. 13211 et seq.) have had on—

(1) the development of alternative fueled vehicle technology;

(2) the availability of that technology in the market; and

(3) the cost of alternative fueled vehicles.

(b) TOPICS.—As part of the study under subsection (a), the Secretary shall specifically identify—

(1) the number of alternative fueled vehicles acquired by fleets or covered persons required to acquire alternative fueled vehicles;

(2) the quantity, by type, of alternative fuel actually used in alternative fueled vehicles acquired by fleets or covered persons;

(3) the quantity of petroleum displaced by the use of alternative fuels in alternative fueled vehicles acquired by fleets or covered persons;

(4) the direct and indirect costs of compliance with requirements under titles III, IV, and V of the Energy Policy Act of 1992 (42 U.S.C. 13211 et seq.), including—

(A) vehicle acquisition requirements imposed on fleets or covered persons;

(B) administrative and recordkeeping expenses;

(C) fuel and fuel infrastructure costs;

(D) associated training and employee expenses; and

(E) any other factors or expenses the Secretary determines to be necessary to compile reliable estimates of the overall costs and benefits

of complying with programs under those titles for fleets, covered persons, and the national economy;

(5) the existence of obstacles preventing compliance with vehicle acquisition requirements and increased use of alternative fuel in alternative fueled vehicles acquired by fleets or covered persons; and

(6) the projected impact of amendments to the Energy Policy Act of 1992 made by this title.

(c) REPORT.—Upon completion of the study under this section, the Secretary shall submit to Congress a report that describes the results of the study and includes any recommendations of the Secretary for legislative or administrative changes concerning the alternative fueled vehicle requirements under titles III, IV and V of the Energy Policy Act of 1992 (42 U.S.C. 13211 et seq.).

SEC. 1833. STUDY OF FEASIBILITY AND EFFECTS OF REDUCING USE OF FUEL FOR AUTOMOBILES.

(a) STUDY.—

(1) IN GENERAL.—Not later than 30 days after the date of the enactment of this Act, the Administrator of the National Highway Traffic Safety Administration shall conduct a study of the feasibility and effects of reducing, by a significant percentage,

by model year 2014, the amount of fuel consumed by automobiles.

(2) INCLUSIONS.—The study under paragraph (1) shall include an examination of—

(A) the Federal policy of establishing average fuel economy standards for automobiles and requiring each automobile manufacturer to comply with average fuel economy standards that apply to the automobiles the manufacturer produces (including recommendations of alternatives to that policy);

(B) methods by which automobile manufacturers could contribute toward achieving the reduction described in paragraph (1);

(C) the potential of using fuel cell technology in motor vehicles to determine the extent to which fuel cell technology contributes to achieving the reduction described in paragraph (1); and

(D) the effects of the reduction described in paragraph (1) on—

(i) gasoline supplies;

(ii) the automobile industry, including sales of automobiles manufactured in the United States;

(iii) motor vehicle safety;

(iv) air quality; and

(v) the consumer price for light duty trucks typically purchased for agricultural purposes, including by providing estimates for price differences for the years 2008 through 2012, comparing—

(I) light duty truck fuel economy if no legislative changes are made to average fuel economy standards; to

(II) light duty truck fuel economy under the reduction described in paragraph (1).

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, the Administrator shall submit to Congress a report on the findings, conclusions, and recommendations of the study under subsection (a).

SEC. 1834. STUDY ON THE BENEFITS OF ECONOMIC DISPATCH.

(a) STUDY.—The Secretary of Energy, in coordination and consultation with the States, shall conduct a study on—

(1) the procedures currently used by electric utilities to perform economic dispatch;

(2) identifying possible revisions to those procedures to improve the ability of nonutility generation resources to offer their output for sale for the purpose of inclusion in economic dispatch; and

(3) the potential benefits to residential, commercial, and industrial electricity consumers nationally and in each state if economic dispatch procedures were revised to improve the ability of nonutility generation resources to offer their output for inclusion in economic dispatch.

(b) DEFINITION.—The term ''economic dispatch'' when used in this section means the operation of generation facilities to produce energy at the lowest cost to reliably serve consumers, recognizing any operational limits of generation and transmission facilities.

(c) REPORT TO CONGRESS AND THE STATES.—Not later than 90 days after the date of enactment of this Act, and on a yearly basis following, the Secretary of Energy shall submit a report to Congress and the States on the results of the study conducted under subsection (a), including recommendations to Congress and the States for any suggested legislative or regulatory changes.

SEC. 1835. RENEWABLE ENERGY ON FEDERAL LAND.

(a) NATIONAL ACADEMY OF SCIENCES STUDY.—Not later than 90 days after the date of enactment of this Act,

the Secretary of the Interior shall enter into a contract with the National Academy of Sciences under which the National Academy of Sciences shall—

(1) study the potential of developing wind, solar, and ocean energy resources (including tidal, wave, and thermal energy) on Federal land available for those uses under current law and the outer Continental Shelf;

(2) assess any Federal law (including regulations) relating to the development of those resources that is in existence on the date of enactment of this Act; and

(3) recommend statutory and regulatory mechanisms for developing those resources.

(b) SUBMISSION TO CONGRESS.—Not later than 2 years after the date of enactment of this Act, the Secretary of the Interior shall submit to Congress the results of the study under subsection (a).

SEC. 1836. INCREASED HYDROELECTRIC GENERATION AT EXISTING FEDERAL FACILITIES.

(a) IN GENERAL.—The Secretary of the Interior, the Secretary of Energy, and the Secretary of the Army shall jointly conduct a study of the potential for increasing electric power production capability at federally owned or operated water regulation, storage, and conveyance facilities.

(b) CONTENT.—The study under this section shall include identification and description in detail of each facility that is capable, with or without modification, of producing additional hydroelectric power, including estimation of the existing potential for the facility to generate hydroelectric power.

(c) REPORT.—The Secretaries shall submit to the Committees on Energy and Commerce, Resources, and Transportation and Infrastructure of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a report on the findings, conclusions, and recommendations of the study under this section by not later than 18 months after the date of the enactment of this Act. The report shall include each of the following:

(1) The identifications, descriptions, and estimations referred to in subsection (b).

(2) A description of activities currently conducted or considered, or that could be considered, to produce additional hydroelectric power from each identified facility.

(3) A summary of prior actions taken by the Secretaries to produce additional hydroelectric power from each identified facility.

(4) The costs to install, upgrade, or modify equipment or take other actions to produce additional hydroelectric power from each identified facility and the level of Federal power customer involvement in the determination of such costs.

(5) The benefits that would be achieved by such installation, upgrade, modification, or other action, including quantified estimates of any additional energy or capacity from each facility identified under subsection (b).

(6) A description of actions that are planned, underway, or might reasonably be considered to increase hydroelectric power production by replacing turbine runners, by performing generator upgrades or rewinds, or construction of pumped storage facilities.

(7) The impact of increased hydroelectric power production on irrigation, water supply, fish, wildlife, Indian tribes, river health, water quality, navigation, recreation, fishing, and flood control.

(8) Any additional recommendations to increase hydroelectric power production from, and reduce costs and improve efficiency at, federally owned or operated water regulation, storage, and conveyance facilities.

SEC. 1837. SPLIT-ESTATE FEDERAL OIL AND GAS LEASING AND DEVELOPMENT PRACTICES.

(a) REVIEW.—In consultation with affected private surface owners, oil and gas industry, and other interested parties, the Secretary of the Interior shall undertake a review of the current policies and practices with respect to management of Federal subsurface oil and gas development activities and their effects on the privately owned surface. This review shall include—

(1) a comparison of the rights and responsibilities under existing mineral and land law for the owner of a Federal mineral lease, the private surface owners and the Department;

(2) a comparison of the surface owner consent provisions in section 714 of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1304) concerning surface mining of Federal coal deposits and the surface owner consent provisions for oil and gas development, including coalbed methane production; and

(3) recommendations for administrative or legislative action necessary to facilitate reasonable access for Federal oil and gas activities while addressing surface owner concerns and minimizing impacts to private surface.

(b) REPORT.—The Secretary of the Interior shall report the results of such review to Congress not later than 180 days after the date of enactment of this Act.

SEC. 1838. RESOLUTION OF FEDERAL RESOURCE DEVELOPMENT CONFLICTS IN THE POWDER RIVER BASIN.

(a) REVIEW.—The Secretary of the Interior shall review Federal and State laws in existence on the date of enactment of this Act in order to resolve any conflict relating to the Powder River Basin in Wyoming and Montana between—

(1) the development of Federal coal; and

(2) the development of Federal and non-Federal coalbed methane.

(b) REPORT.—Not later than 180 days after the date of enactment of this Act, the Secretary of the Interior shall submit to Congress a report that—

(1) describes methods of resolving a conflict described in subsection (a); and

(2) identifies a method preferred by the Secretary of the Interior, including proposed legislative language, if any, required to implement the method.