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Energy Policy Act of 2002: Summary of S. 1766 as Introduced

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Summary

The Energy Policy Act of 2002 (S. 1766) was introduced by Senate Majority Leader Daschle on December 5, 2001, and placed on the Senate Calendar for floor action. The bill is expected to be the primary vehicle for Senate debate on national energy policy.

Key elements of the bill include fundamental changes in electricity regulation; stronger incentives for energy efficiency, conservation, and renewable energy; authorization of energy research and development programs; and new programs to address global climate change. Several important sections have been reserved for drafting by specific committees, such as higher automobile fuel economy standards and new nuclear power plant security requirements. S. 1766 as introduced also does not have any energy tax provisions; some may be added on the floor. Oil and gas leasing in the Arctic National Wildlife Refuge (ANWR) is another major provision not included the bill – an issue that is likely to prompt vigorous floor debate.

S. 1766 would further the trend of the past two decades towards competitive electric markets. Subtitle B of Title II of S. 1766 would repeal the Public Utility Holding Company Act of 1935 (PUHCA), which makes certain multi-state utility holding companies subject to regulation by the Securities and Exchange Commission (SEC). Title II, Subtitle C of the bill would prospectively repeal Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA), which requires utilities to purchase electricity from certain small power producers and cogenerators of industrial heat and power.

Some S. 1766 provisions are intended to provide new areas of momentum for energy efficiency and energy conservation. A controversial provision is likely to be an increase in fuel economy standards for light-duty vehicles, but that language has yet to be drafted. For equipment and appliances, a controversial provision is likely to be a proposal to set a higher standard for central air conditioners and heat pumps.

Significant growth in renewable energy production may also be encouraged by S. 1766. For example, the Renewable Energy Portfolio Standard (RPS) could increase the production of electricity from a variety of renewable energy resources. The RPS incentives would be complemented by a revived Renewable Energy Production Incentive.

Several titles of S. 1766 contain provisions to address the global climate change issue. Finding growing evidence that increases in greenhouse gas concentrations are contributing to global climate changes, the bill calls for the United States to "demonstrate international leadership" in addressing the problem. Title X provides for organizational changes within the federal government to focus on climate change issues.

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Introduction and Overview

The Energy Policy Act of 2002 (S. 1766) was introduced December 5, 2001, and placed on the Senate Calendar for floor action. Introduced by Senate Majority Leader Daschle, S. 1766 is expected to be the primary vehicle for Senate debate on national energy policy.

Key elements of the bill include fundamental changes in electricity regulation; stronger incentives for energy efficiency, conservation, and renewable energy; authorization of energy research and development programs; and new programs to address global climate change. Several important sections have been reserved for drafting by specific committees, such as language that could affect corporate average fuel economy (CAFE) standards and new nuclear power plant security requirements. S. 1766 as introduced also excludes energy tax provisions, which are expected to be added on the floor.

Floor debate on S. 1766 is also likely to focus on another element not included in the bill: opening of the Arctic National Wildlife Refuge (ANWR) to oil and gas exploration and development. Opening of ANWR is a key element of the Bush Administration energy policy, issued in May 2001, omnibus energy legislation passed by the House August 2, 2001 (H.R. 4), and an omnibus energy bill introduced by Senator Murkowski February 26, 2001 (S. 389).[1] (Table 1 provides an overview comparison of major provisions in S. 1766 and H.R. 4.)

Electricity Regulation

S. 1766 would further the trend of the past two decades towards competitive electric markets. Technology improvements, changes in the economics for generating electricity, and new federal laws and regulations (EPACT, FERC Orders 888, 889, and 2000) have changed the nature of electric generation and created markets for electricity. As a result, widespread competition is occurring on the wholesale level and more than half of the states are moving towards retail competition.

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[1] For details of other energy proposals, see the following CRS reports: *Bush Energy Policy: Overview of Major Proposals and Legislative Action*, August 22, 2001, RL31096; *Securing America's Future Energy Act of 2001: Summary of H.R. 4 as Passed by the House*, October 10, 2001, RL31153; *Energy Tax Incentives: A Comparison of the National Energy Security Act of 2001 (S. 389) and the Democratic Alternative (S. 596*), May 8, 2001, RL30953.

Subtitle B of Title II of S. 1766 would repeal the Public Utility Holding Company Act of 1935 (PUHCA), which makes certain multi-state utility holding companies subject to regulation by the Securities and Exchange Commission (SEC). The bill would give the Federal Energy Regulatory Commission (FERC) and the state utility commissions access to utility books and records.

Electric utilities have argued that PUHCA reform would allow them to diversify their assets, improving the risk profile of electric utilities in much the same way as in other businesses: The risk of any one investment is tempered by the risk associated with all investments. Utilities have also argued that diversification into businesses outside their traditional core activities would lead to better use of under-utilized resources (due to the seasonal nature of electric demand). State regulators have expressed concerns that increased diversification could lead to abuses, including cross-subsidization: a regulated company subsidizing an unregulated affiliate. Section 227 of S. 1766 would retain FERC's authority to prevent cross-subsidization. Several consumer and environmental public interest groups, as well as state legislators, have expressed concerns that PUHCA repeal could exacerbate market power abuses in what they see as an industry where true competition does not yet exist.

Title II, Subtitle C of S. 1766 would prospectively repeal Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA), which requires utilities to purchase electricity from certain small power producers and cogenerators of industrial heat and power. Proponents of PURPA reform – primarily investor-owned utilities (IOUs) located in the Northeast and in California – argue that their state regulators' "misguided" implementation of PURPA in the early 1980s has forced them to pay contractually high prices for power they do not need. They argue that, given the current environment for cost-conscious competition, PURPA is outdated. The PURPA Reform Group, which promotes IOU interests, strongly supports such bills by contending that the current law's mandatory purchase obligation was anti-competitive and anti-consumer.

Opponents of these provisions (merchant power producers, industrial power customers, most segments of the natural gas industry, the renewable energy industry, and environmental groups) have many reasons to support PURPA as it stands. Mainly, their argument is that PURPA introduced competition in the electric generating sector and, at the same time, helped promote wider use of cleaner, alternative fuels to generate electricity. Since the electric generating sector is not yet fully competitive, they argue, repeal of PURPA would decrease competition and impede the development of the renewable energy industry. Additionally, opponents of repeal of §210 of PURPA argue that a repeal would create less competition and greater utility monopoly control over the electric industry.

Some have argued that the transmission and wholesale power markets cannot be competitive without additional market transparency, or access to market information. S. 1766 would require FERC to issue rules establishing an electronic information system to provide information about the availability and price of wholesale electric energy and transmission services to FERC, state commissions, buyers and sellers of wholesale electric energy, users of transmission services, and the public. S. 1766 directs FERC to develop transmission interconnection standards and reliability standards for users of the transmission system.

Energy Efficiency and Renewable Energy

Some S. 1766 provisions are intended to provide new areas of momentum for energy efficiency and energy conservation. One controversial provision is likely to be language that might, in effect, increase fuel economy standards for light-duty vehicles, but that language has not yet been finalized by the Senate Commerce Committee. For equipment and appliances, a controversial provision is likely to be a proposal to set a higher standard for central air conditioners and heat pumps. Other provisions that could provide some significant savings appear to be the Next Generation Lighting Initiative and the proposed efficiency standard for appliance standby power. Also, higher levels of authorizations for some existing energy efficiency grant and R&D programs, and authorizations to fund new programs could have a significant impact, if appropriated.

Significant growth in renewable energy production may also be encouraged by S. 1766. For example, the Renewable Energy Portfolio Standard (RPS) could increase the production of electricity from a variety of renewable energy resources. For retail suppliers that sell power to end-users, an RPS sets a minimum purchase requirement for electricity produced from renewable energy, which could be satisfied by direct power production or by purchasing tradeable credits. The RPS incentives would be complemented by the bill's Renewable Energy Production Incentive. Also, the Renewable Fuel Standard could have a significant effect on the production and use of fuels developed from renewable resources. It mandates that an increasing amount of renewable fuel (including ethanol and biodiesel) be blended into gasoline, starting with 2 billion gallons per year in 2003 and increasing to 5 billion gallons per year in 2012.

Climate Change

Several titles of S. 1766 contain provisions to address the global climate change issue. Finding growing evidence that increases in greenhouse gas concentrations are contributing to global climate changes, the bill calls for the United States to "demonstrate international leadership" in addressing the problem.

Title X provides for organizational changes within the federal government to focus on climate change issues. Specifically, a new National Office of Climate Change Response would develop a national response strategy; a new Interagency Task Force would coordinate federal climate change activities; a new Department of Energy (DOE) Office of Climate Change Technology would oversee research and development of new technology and provide analytical support and data; and an independent review board would review the response strategy and assess federal implementation of it.

Further climate change activities are detailed in Titles XI and XIII. Specifically, Title XI would establish a new national greenhouse gas database while Title XIII would focus the research, development, demonstration and technology deployment program within several federal agencies on global climate change science, and mitigation of its effects.

Comparison of S. 1766 and H.R. 4

Although both S. 1766 and H.R. 4 are omnibus energy bills, relatively few of the most significant recent energy proposals are found in both measures. Some of these provisions, as noted above, are intended to be included later in S. 1766, but others are intentionally excluded because of fundamental policy differences. Table 1 briefly summarizes the major aspects of the two bills.

Table 1. Major Provisions of House and Senate Energy Bills

Provision	S. 1766	H.R. 4
Electricity restructuring	Changes regulatory requirements to emphasize market rates.	No provision.
Arctic National Wildlife Refuge (ANWR)	No provision.	Opens ANWR to oil and gas leasing.
Corporate Average Fuel Economy (CAFE)	Provisions to be added.	Requires a reduction in fuel consumption by new light trucks.
Energy taxes	Provisions to be added.	Numerous tax incentives for oil and gas production, alternative fuels, and energy efficiency.
Global climate change	Establishes federal offices to focus on global climate change, authorizes R&D	No specific provisions.
Appliance efficiency standards	Requires higher standards for central air conditioners, heat pumps, and appliance standby power.	Sets standard for appliance standby power.
Nuclear accident liability (Price-Anderson Act)	Extends Price-Anderson coverage for DOE facilities.	No provisions. (Separate Price-Anderson extension, H.R. 2983, passed by House.)
Low-Income Home Energy Assistance Program (LIHEAP)	Annual authorization increased to $3.4 billion.	Annual authorization increased to $3.4 billion.
Energy Program Authorizations, FY2002-FY2006	Authorizes $48.4 billion (see table 2).	Authorizes $35.9 billion.

Organization of Report

The remainder of this report provides a section-by-section summary of the provisions of S. 1766 as introduced. Because this report is intended as a brief overview of the bill, little or no analysis is provided for most sections, and background information is discussed only to the extent necessary for understanding the bill's provisions. Further analysis and background are available in the CRS products cited at the end of the report.

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DIVISION A – Reliable and Diverse Power Generation and Transmission

TITLE I–REGIONAL COORDINATION

Policy on Regional Coordination (Section 101). It is the policy of the federal government to encourage states to coordinate their efforts to provide reliable and affordable energy services while minimizing the impact of providing such services on communities and the environment. Energy services are defined to include the generation or transmission of electricity, transportation, storage, distribution of petroleum and its products, or the reduction in electricity load through conservation, load management, and efficiency improvements.

Federal Support for Regional Coordination (Section 102). The Secretary of Energy shall provide technical assistance to states for regional coordination. Technical assistance may involve supply and demand forecasts, energy infrastructure planning and siting, emergency planning, and developing energy efficiency and conservation programs. The Secretary of Energy is directed, in consultation with the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of the Treasury, the Chairman of the Federal Energy Regulatory Commission (FERC), the Administrator of the Environmental Protection Agency, and the Chairman of the Council on Environmental Quality, to hold an annual conference to promote regional coordination on energy policy infrastructure issues. The Secretary of Energy is directed to report to the President and Congress with recommendations resulting from the conference.

TITLE II–ELECTRICITY

Subtitle A–Amendments to the Federal Power Act.

Definitions (Section 201). The Federal Power Act is amended to include federal power marketing agencies and municipal utilities in the definition of an electric utility. A definition of a transmitting utility is added to the Federal Power Act. A transmitting utility includes state and municipally owned or operated transmission facilities involved in interstate commerce or transmission of electricity at wholesale.

Electric Utility Mergers (Section 202). The Federal Power Act is amended to give FERC additional authority to authorize mergers and acquisitions. FERC must give state public utility commissions and Governors reasonable notice in writing as well as opportunity for hearing. This section could reduce state authority over certain merger and acquisition activity.

Market-Based Rates (Section 203). FERC may approve market-based rates when a seller and its markets meet certain criteria. FERC may revoke market-based rates if these rates are unjust, unreasonable, unduly discriminatory or preferential.

Refund Effective Date (Section 204). Section 206(b) of the Federal Power Act is amended to allow the effective date for refunds to begin at the time of the filing of a complaint with FERC. Currently, refunds begin a minimum of 60 days after the filing of the complaint.

Transmission Interconnections (Section 205). FERC must issue a rule establishing technical standards and procedures so that generators will be able to connect to the transmission system. The rule will also establish criteria for the apportionment or reimbursement of the costs to make the interconnection.

Open Access Transmission by Certain Utilities (Section 206). FERC is authorized, by rule or order, to require unregulated transmitting utilities to charge rates comparable to what they charge themselves, and that the terms and conditions of the sales are comparable to those required of other utilities. Exemptions are established for utilities selling less than 4 million megawatt-hours of electricity per year and for utilities that own or operate transmission facilities that are not necessary to facilitate a nationwide interconnected transmission system.

Electric Reliability Standards (Section 207). Federal Power Act is amended to require FERC to create and enforce mandatory electric reliability standards. The standards shall apply to any entity that uses interstate transmission lines or owns, operates, or maintains interstate transmission lines. FERC may, but is not required to, adopt and enforce the North American Electric Reliability Council's (NERC) standards. FERC may certify self-regulating reliability organizations to monitor and enforce compliance with reliability standards. FERC standards could apply to distribution facilities if state authority over these lines "unreasonably impairs the reliability of the interstate transmission system."

Market Transparency Rules (Section 208). Within 180 days after enactment, FERC is required to issue rules to establish an electronic system that provides information about the availability and price of wholesale electric energy and transmission services. Commercial or financial information that FERC determines to be privileged, confidential, or otherwise sensitive is exempt from disclosure.

Access to Transmission by Intermittent Generators (Section 209). FERC must require transmitting utilities to provide service to solar and wind generators at rates and terms that do not penalize the generator for scheduling deviations. FERC may exempt transmitting utilities from this provision when solar and wind generators constitute more than 20% of total interconnected generation.

Enforcement (Section 210). The criminal penalty section of the Federal Power Act (16 U.S.C. 825o(c)) is repealed. The civil penalty section of the Federal Power Act (16 U.S.C. 825o-l) is extended to include sections of this Act.

Subtitle B–Amendments to the Public Utility Holding Company Act.

Short Title (Section 221). This subtitle may be cited as the "Public Utility Holding Company Act of 2002."

Definitions (Section 222). The following terms are defined: affiliate; associate company; Commission; company; electric utility company; gas utility company; holding company; holding company system; jurisdictional rates; natural gas company; person; public utility; public utility company; state commission; subsidiary company, and voting security.

Repeal of the Public Utility Holding Company Act of 1935 (PUHCA) (Section 223). PUHCA is repealed.

Federal Access to Books and Records (Section 224). Federal access is provided to the books and records of holding companies and their affiliates. Federal officials must maintain the confidentiality of such books and records.

State Access to Books and Records (Section 225). A jurisdictional state commission may make a written request to a holding company or any associate company for access to specific books and records, which must be kept confidential. Compliance with this section is enforceable in U.S. District Court.

Exemption Authority (Section 226). FERC is directed to promulgate rules to exempt qualifying facilities, exempt wholesale generators, and foreign utility companies from the requirements of Section 224.

Affiliate Transactions (Section 227). FERC retains the authority to prevent cross-subsidization and to assure that jurisdictional rates are just and reasonable.

Applicability (Section 228). Except as specifically noted, this subtitle does not apply to the United States government, a state or any political subdivision of a state, or a foreign governmental authority operating outside the United States.

Effect on Other Regulations (Section 229). FERC or a state commission is not precluded from exercising its jurisdiction under otherwise applicable laws to protect utility customers.

Enforcement (Section 230). FERC has authority to enforce this provision under sections 306-317 of the Federal Power Act.

Savings Provisions (Section 231). Persons may continue to engage in legal activities in which they have been engaged or are authorized to engage in on the effective date of the subtitle. The subtitle does not limit the authority of the Federal Energy Regulatory Commission under the Federal Power Act or the Natural Gas Act.

Implementation (Section 232). Not later than 18 months after enactment, FERC will promulgate regulations necessary to implement this subtitle and submit to Congress recommendations for technical or conforming amendments to federal law that might be necessary carry out this subtitle.

Transfer of Resources (Section 233). The Securities and Exchange Commission will transfer all applicable books and records to FERC. No time frame is provided.

Inter-Agency Review of Competition in the Wholesale and Retail Markets for Electric Energy (Section 234). An inter-agency task force is created to perform a study and analysis of electric competition within U.S. wholesale and retail markets. The task force will submit a report not later than 1 year after the effective date of this Act.

GAO Study on Implementation (Section 235). The General Accounting Office is directed to study the effectiveness of the federal government and the states in: 1) preventing anti-competitive practices; and 2) promoting competition and efficient energy markets that benefit consumers. This report must be submitted to Congress no later than 24 months after the effective date of this Act.

Effective Date (Section 236). Eighteen months after enactment, this subtitle will take effect.

Authorization of Appropriations (Section 237). Necessary funds to carry out this subtitle are authorized to be appropriated.

Conforming Amendments to the Federal Power Act (Section 238). The Federal Power Act is amended to reflect the changes to the Public Utility Holding Company Act of 1935.

Subtitle C–Amendments to the Public Utility Regulatory Policies Act of 1978.

Real-Time Pricing Standard (Section 241). States must consider a standard for real-time pricing of electricity for retail customers. Real-time pricing on the retail level would reflect fluctuations of wholesale rates. Real-time metering and communications technology would be necessary to fully implement retail real-time pricing.

Adoption of Additional Standards (Section 242). States are required to consider implementation of technical and pricing standards for distributed generation interconnection to the local distribution system, a standard for each electric utility to develop a plan to develop a diverse fuel mix and technology mix for generating electricity, and a standard to increase the efficiency of fossil fuel generators.

Technical Assistance (Section 243). The Secretary of Energy is authorized to provide technical assistance to the states to help develop the standards under Section 242.

Cogeneration and Small Power Production Purchase and Sale Requirements (Section 244). Mandatory purchase requirements under §210 of the Public Utility Regulatory Policies Act of 1978 (PURPA) will not apply to new contracts after the date of enactment. FERC may enforce recovery of "stranded costs" incurred by utilities because of PURPA-mandated cogeneration and small power purchases. Ownership limitations under PURPA are repealed.

Net Metering for Renewable Energy and Fuel Cells (Section 245). Utilities whose annual retail sales exceed one million megawatt-hours must provide net metering services for certain generators fueled by solar, wind, landfill gas or fuel cells, or combined heat and power (CHP) systems. Maximum size requirements for residential and commercial systems are established. Electric utilities are required to charge the owner-operator of an on-site generating facility rates and charges identical to those charged to similar electric consumers. In addition, an electric utility may not charge additional standby, capacity, or interconnection charges. On-site generating facilities must meet safety performance standards.

Subtitle D–Consumer Protections.

Information Disclosure (Section 251). The Federal Trade Commission must issue rules requiring electric utilities to provide electric consumers information on the cost and type of service being offered.

Consumer Privacy (Section 252). The Federal Trade Commission is directed to issue rules prohibiting an electric utility from sharing its customers' individual information without prior written approval by a consumer.

Unfair Trade Practices (Section 253). The Federal Trade Commission is required to issue rules prohibiting slamming and cramming. Slamming occurs when an electric utility switches a customer's electric provider without the consumer's knowledge. Cramming occurs when an electric utility adds additional services and charges to a customer's account without the permission of the customer.

Applicable Procedures (Section 254). The Federal Trade Commission will adhere to the notice and comment rulemaking procedures under the Administrative Procedure Act (5U.S.C. Sec.533) for rules issued under this subtitle.

Federal Trade Commission Enforcement (Section 255). Violations of rules under this subtitle will be treated as violations of the Federal Trade Commission Act (15 U.S.C. section 57a).

State Authority (Section 256). States retain their current regulatory authority.

Application of Subtitle (Section 257). This subtitle applies only to electric utilities whose retail sales exceed 500 million kilowatt hours per calendar year.

Definitions (Section 258). Terms used in this subtitle are defined.

Subtitle E–Renewable Energy and Rural Construction Grants.

Renewable Energy Production Incentive (Section 261). A DOE grant incentive program for producing electricity from certain renewable energy sources (solar, wind, biomass, geothermal) is extended to include landfill gas, incremental hydropower, and ocean energy. Also, the criteria for a qualifying organization are revised and a sunset date of 2023 is established.

Assessments of Renewable Energy Resources (Section 262). DOE is directed to conduct an annual assessment, including an inventory and a development strategy, of renewable energy resources available in the United States.

Federal Purchase Requirement (Section 263). The President is directed to ensure that a certain percentage of the total electricity purchased by the federal government be generated from renewable energy sources (solar, wind, biomass, geothermal, fuel cells, incremental hydro). The requirement starts at 3% in FY2003 and rises to 7.5% in FY2010. Agencies are encouraged to use aggregation and other innovative purchasing practices. One-tenth of the amount is set as a minimum goal for generation by Native American tribes.

Rural Construction Grants (Section 264). The Department of Agriculture is directed to provide grants to construct or modernize electricity systems in rural and remote communities.

Renewable Portfolio Standard (Section 265). A program of flexible and tradeable credits is created to help retail electricity suppliers meet a minimum annual percentage requirement to produce power from renewable energy. The percentages, measured relative to an existing baseline of renewable generation, would ramp up from 2.5% in 2005 to 10% in 2020. Qualified resources include solar, wind, biomass, ocean, geothermal, incremental hydropower, and a generation offset.

Renewable Energy on Federal Lands (Section 266). The Secretary of the Interior is directed to develop a pilot program for the development of wind and solar energy on federal lands. DOE may provide a cost-share of up to 15% of project cost.

TITLE III - HYDROELECTRIC RELICENSING

Alternative Conditions (Sec. 301). Under section 4(e) and section 18 of the Federal Power Act, agencies must adopt an alternative condition proposed by an applicant for a hydroelectric relicensing project if the agency head determines that the proposed condition provides no less protection to the environment than the condition deemed necessary by the agency.

Charges for Tribal Lands (Sec. 302). Annual charges required under section 10 of the Federal Power Act must be fixed before new or original licenses for projects involving tribal lands in Indian reservations can be issued.

Disposition of Hydroelectric Charges (Sec. 303). A portion of funds arising from fees charged for hydroelectric licenses are to be used for protection of water resources on the public lands on which the project is located, or where the headwaters of the waterway serving the projects are located. Use of the funds is encouraged for the benefit of local communities within or near the public lands on which the project is located.

Annual Licenses (Sec. 304). Beginning with the fourth consecutive annual license granted to a project, FERC must begin interagency consultation and

publication of its reasons why continued annual licenses (as opposed to a standard license) is needed. Beginning with the seventh consecutive annual license, FERC must submit a report to Congress.

Enforcement of Mandatory Conditions (Sec. 305). FERC must enforce all mandatory conditions and fishway prescriptions imposed by the resource agencies (i.e., the Department of the Interior, the Department of Commerce, and the Department of Agriculture) if such conditions place direct and discernible duties on the licensee.

Hydroelectric Relicensing Procedures (Sec. 306). Coordinated regulations and procedures governing hydroelectric relicensing must be developed among FERC, the Department of the Interior, the Department of Commerce, and the Department of Agriculture. FERC must establish deadlines for certain of its procedures, as well as ensuring overall coordination of activities under the relicensing process.

Relicensing Study (Sec. 307). FERC and the resource agencies must jointly study relicenses issued since 1994, to determine how long it has taken to issue them, the additional costs to licensees, any difference in generating capacity, environmental benefits achieved, and litigation arising from the relicensing process. The purpose is to examine the extensive data from this group of relicensings to determine where problems and bottlenecks in the relicensing process actually exist.

Data Collection Procedures (Sec. 308). FERC, the Department of the Interior, the Department of Commerce, and the Department of Agriculture must jointly develop procedures to ensure complete and accurate information concerning time and cost to parties in hydroelectric relicensing processes.

TITLE IV - INDIAN ENERGY

Comprehensive Indian Energy Program (Section 401). A comprehensive Indian energy program at the DOE is established to assist tribes in meeting their energy needs and expanding opportunities to develop energy resources on tribal lands. A grant program and a loan guarantee program for Indian energy development are established. Federal agencies may give a preference to purchasing Indian energy.

Office of Indian Energy Policy and Programs (Section 402-403). Within the DOE, an Office of Indian Energy Policy and Programs is created to administer the programs from the previous section, 401. Appropriations are authorized.

Siting Energy Facilities on Tribal Lands (Section 404). Indian tribes may directly lease land and rights-of-way for energy facilities, without case-by-case review by the Secretary of the Interior, if the tribe develops, and the Secretary approves, tribal regulations, and the term of the agreement does not exceed 30 years.

Indian Mineral Development Act Review (Section 405). The Secretary of the Interior is required to undertake a review and make recommendations regarding tribal opportunities under the Indian Mineral Development Act.

Renewable Energy Study (Section 406). The Secretary of Energy is required to report on energy consumption and renewable energy development potential on Indian land, including identification of barriers to the development of renewable energy on tribal land.

Federal Power Marketing Administrations (Section 407). The Bonneville Power Administration and Western Area Power Administration are authorized to assist in developing distribution systems that provide power to Indian tribes using the federal transmission system. The assistance would involve studies to determine the capacity requirement, marketing approach, and conceptual design required to complete the distribution systems for use by the Indian tribe. Funding priority must be given to Indian tribes that do not have the financial capability to perform the studies.

Feasibility Study of Combined Wind and Hydropower Demonstration Project (Section 408). DOE, in conjunction with the Army and the Interior Department, is to study the feasibility of obtaining a marketable, firm electricity source from wind energy generated on tribal lands connected with hydropower generated by the U.S. Army Corp of Engineers at the Missouri River powerplants. The study will result in a report that will identify energy cost savings, river basin operation improvements, and transmission system improvements. The report shall make recommendations concerning a potential future demonstration project.

TITLE V–NUCLEAR POWER

Subtitle A–Price-Anderson Act Reauthorization.

Short Title (Section 501). This subtitle (sections 501-508) may be cited as the "Price-Anderson Amendments Act of 2002."

Extension of DOE Contractor Indemnification Authority (Section 502). DOE authority to indemnify nuclear contractors against radiological damage claims by members of the public is extended indefinitely. Without an extension, DOE's indemnification authority is to expire August 1, 2002.

DOE Liability Limit (Section 503). The liability limit for public damages resulting from a nuclear accident by a DOE contractor is raised from $9.43 billion to $10 billion, subject to an inflation adjustment under Section 506.

Nuclear Incidents Outside the United States (Section 504). DOE contractors' liability limit for nuclear accidents outside the United States is raised from $100 million to $500 million.

Reports on Changes to Price-Anderson Act (Section 505). DOE and the Nuclear Regulatory Commission (NRC) shall submit reports to Congress by August 1, 2013, to recommend continuation or modification of the Price-Anderson Act.

Inflation Adjustment of Liability Limit (Section 506). DOE must adjust the $10 billion nuclear accident liability limit for inflation every five years, using the aggregate percentage change in the Consumer Price Index.

Civil Penalties for Nonprofit Contractors (Section 507). A civil penalty exemption in existing law for specific nonprofit DOE contractors who violate nuclear safety regulations is replaced by provisions limiting nuclear safety penalties for any nonprofit contractor to the amount of the management fee it has earned under a DOE contract. An existing provision allowing all DOE nonprofit contractors to receive automatic remission of nuclear safety fines is repealed.

Effective Date of New Liability Limits (Section 508). The increased nuclear liability limits in this subsection shall apply only to accidents that occur after the date of enactment.

Subtitle B–Miscellaneous Provisions.

DOE Uranium Sales (Section 511). DOE may not sell uranium stockpiles that resulted from purchases of Russian highly enriched uranium (HEU) until March 24, 2009.

Thorium Cleanup Reimbursement (Section 512). Authorization for DOE to reimburse government-related cleanup costs incurred by the owner of a former thorium processing site is increased from $140 million to $263 million.

Fast Flux Test Facility (Section 513). DOE is prohibited from restarting the Fast Flux Test Facility (FFTF), a test reactor at Hanford, Washington, if the proposed missions can be conducted at other facilities that are already operating.

DIVISION B – Domestic Oil and Gas Production and Transportation

TITLE VI–OIL AND GAS PRODUCTION

Permanent Authority to Operate the Strategic Petroleum Reserve (Section 601). Federal authority to operate the Strategic Petroleum Reserve (SPR) and participate in international energy emergency planning – now set to expire at the end of FY2003 – is made permanent. This authority, established by the Energy Policy and Conservation Act of 1975 (P.L. 94-163), provides for fill and maintenance of the SPR, and also sets out the conditions and procedures for any drawdown of oil stored in the Reserve. The same authority also makes possible participation of domestic oil companies in pooling information without violating antitrust law. The authority most

recently expired at the end of March 2000, and it was several months before Congress agreed to an extension in P.L. 106-469.

Federal Leasing Programs for Oil and Gas (Section 602). The Secretary of the Interior shall ensure timely action on applications for oil and gas leases and drilling permits on federal lands. The Secretary of the Interior shall ensure compliance with the National Environmental Policy Act (NEPA) and other related activity through regular consultations with the states and improved inspections.

Oil and Gas Lease Acreage Limitations (Section 603). The acreage cap for oil and gas leases on federal lands is altered so that leases in production are excluded from current statewide acreage limitations.

Hydraulic Fracturing (Section 604). EPA is required to conduct a study of the effects of hydraulic fracturing on underground sources of drinking water. Hydraulic fracturing involves the injection of high pressure water and chemicals into wells to crack hydrocarbon-bearing sandstone so that oil and gas will flow more easily to a well bore and rise to the surface. After the EPA study is reviewed by the National Academy of Sciences, the EPA Administrator is to determine – after informal public hearings and public comment – whether hydraulic fracturing endangers groundwater and regulation is called for. Any resulting regulations are to be promulgated within 6 months, after appropriate notice and opportunity for public comment. If regulations are deemed unnecessary, states will be relieved from further obligation to regulate hydraulic fracturing.

Orphaned Wells on Federal Land (Section 605). The Secretary of the Interior shall establish a program to ensure remediation, reclamation and closure of orphaned oil and gas wells on Bureau of Land Management (BLM) and Forest Service lands. These sites are ranked based on the potential damage to the environment.

Orphaned and Abandoned Oil and Gas Wells (Section 606). The Secretary of Energy shall establish a 10-year technical assistance program that would help states quantify and mitigate environmental risks posed by abandoned well sites.

Offshore Development (Section 607). The Minerals Management Service (MMS) is authorized to allow offshore oil and gas lessees to suspend operations to reevaluate geological subsalt data, if MMS determines that such a suspension would prevent waste from unnecessary well drilling and maximize recovery of oil and gas.

Coalbed Methane Study (Section 608). The Secretary of the Interior, in consultation with other agencies, shall conduct a study on the effects of coalbed methane production on surface and water resources to determine whether existing regulations are sufficient or need revision to protect against potential future adverse impact, with emphasis on water quality, water disposal, and groundwater depletion.

Fiscal Policies to Maximize Recovery of Domestic Oil and Gas (Section 609). DOE and other agencies shall evaluate current royalty and tax policies that could affect oil and gas exploration, development, and investment. Some of the focus is on deepwater offshore Gulf of Mexico. Recommendations will be

made that seek to balance the public interest in receiving tax and royalty revenue with national security and economic interests.

Strategic Petroleum Reserve (Section 610). The SPR must be filled to capacity as soon as "practicable" and by any means, including arranging for deliveries of "royalty in kind" oil (provided by producers on federal land in lieu of cash royalties). Additionally, no later than six months after enactment, the Secretary of Energy shall present a report that assesses whether the current capacity of the SPR is adequate to meet potential contingencies, and a plan to Congress to eliminate any "infrastructure impediments" to a drawdown. After completion of currently scheduled deliveries, there will remain more than 100 million barrels of unfilled capacity in the SPR.

TITLE VII–NATURAL GAS PIPELINES

Subtitle A–Alaska Natural Gas Pipeline.

Short Title and Purposes (Sections 701 and 702). This subtitle may be called the "Alaska Natural Gas Pipeline Act of 2002." Its purpose is to expedite the completion of one or more pipelines to deliver Alaskan natural gas to the contiguous 48 states.

Expedited Certification (Section 703). FERC must issue a certificate for a proposed Alaskan gas pipeline based on Natural Gas Act criteria, notwithstanding the Alaska Natural Gas Transportation Act. A certificate must be issued within 60 days of a final environmental impact statement.

Environmental Reviews (Section 704). FERC is designated as the lead agency for environmental reviews of an Alaska gas pipeline. FERC must issue a draft environmental impact statement (EIS) within 12 months after determining the pipeline certificate application is complete. The final EIS is to be issued 6 months after the draft statement.

Federal Coordinator (Section 705). A new executive branch office, the Federal Coordinator for Alaska Natural Gas Transport Projects, is established to coordinate the expeditious discharge of all federal agency activities and compliance with this act.

Judicial Review (Section 706). Legal challenge to agency actions under this bill are directed to the U.S. Court of Appeals for the D.C. Circuit

Loan Guarantee (Section 707). Loan guarantees of up to $10 billion are provided for an Alaska gas transport system certified by FERC. Project sponsors are required to "put 20% down;" other terms and conditions are to be worked out by the Secretary of Energy.

Definitions (Section 708). This section defines the concept of Alaska natural gas as applying to the North Slope, including the Continental Shelf. It also

defines the pipeline system as that part within the United States, and subject to FERC jurisdiction.

Savings Clause (Section 709). Nothing in this title shall affect the Alaska Gas Transportation Act.

Sense of the Senate (Section 710). It is the sense of the Senate that commercialization of Alaskan gas is economically important to both the United States and Canada. It is urged that North American steel be used in pipeline construction, and that the project sponsors negotiate a project labor agreement to expedite construction.

Subtitle B–Operating Pipelines.

Historic Preservation Act and Pipelines (Section 711). Pipelines are exempt from being included in the National Register of Historic Places under the National Historic Preservation Act (NHPA) unless they have been abandoned or the pipeline owner consents to such inclusion. At issue is whether a pipeline company wishing to expand or renovate facilities can be compelled to perform historical documentation and preservation in order to have its facilities involuntarily designated as historical sites as a FERC condition for a new construction certificate.

Environmental Review and Permitting (Section 712). The Chairman of the Council on Environmental Quality (CEQ), in coordination with the Chairman of FERC, is to form an interagency task force that will develop an interagency memorandum of understanding to expedite pipeline projects. The task force is to consist of the lead agency chairs, and the heads of BLM, the Fish and Wildlife Service, Corps of Engineers, Forest Service, EPA, and the Advisory Council on Historic Preservation.

DIVISION C – Diversifying Energy Demand and Improving Efficiency

TITLE VIII–FUELS AND VEHICLES

Subtitle A–Increased Vehicle Fuel Efficiency.

Increased Vehicle Fuel Efficiency (Section 801). This section has been reserved for statutory language to be provided by the Senate Committee on Commerce, Science, and Transportation.

Fuel Economy of the Federal Automobile Fleet (Section 802). The head of each federal agency shall determine the average fuel economy of all automobiles in the agency's automobile fleet, thereby establishing a baseline for this section. New automobiles would be procured so that, by September 30, 2003, the average fuel economy of new automobiles in the agency's fleet is at least 1 mile per gallon higher than the baseline, and not less than 3 miles per gallon higher than the

baseline by September 30, 2005. This section does not apply to vehicles designed for combat-related missions, law enforcement work, or emergency rescue work.

Assistance for State Programs to Retire Fuel-Inefficient Motor Vehicles (Section 803). Grants are provided by DOE to states to carry out incentive programs to scrap cars and light trucks with poor vehicle fuel efficiency.

Subtitle B–Alternative and Renewable Fuels.

Increased Use of Alternative Fuels by Federal Fleets (Section 811). Federal dual-fuel vehicles (those capable of being fueled by both a conventional and alternative fuel) must be fueled by alternative fuels. In the event that all of these vehicles cannot operate on alternative fuels, the Secretary of Energy may waive the requirement in part. However, by September 30, 2003, at least 50% (by volume) of the fuel used by these vehicles must be alternative fuel, and by September 30, 2005, 75% must be alternative fuel.

Exception to HOV Passenger Requirements for Alternative Fuel Vehicles (Section 812). States are permitted to exempt one-passenger alternative fuel vehicles from high occupancy vehicle (HOV) restrictions.

Data Collection (Section 813). The Administrator of the Energy Information Administration (EIA) is required to conduct a survey on alternative fuels and publish monthly data on quantities of fuel produced, imported, and consumed, as well as production costs, marketing costs, and market prices.

Green School Buses (Sections 814 to 816). A pilot program is established at the Department of Energy to provide grants to local governments and contractors that provide school bus service for public school systems to aid in the purchase of alternative fuel and advanced diesel buses, and the infrastructure necessary to support them. In addition, Section 815 establishes a pilot program for the development and demonstration of fuel cell school buses.

Biodiesel Fuel Use Credit (Section 817). Fleet operators may claim alternative fuel vehicle credits for excess purchase of biodiesel fuel.

Renewable Content of Motor Fuel (Section 818). Beginning in 2003, motor gasoline must contain a certain amount of renewable fuel. In 2003, 2 billion gallons of renewable fuel must be sold annually, increasing incrementally each year to 5 billion gallons in 2012. After 2012, the percentage of renewable fuel in the motor fuel pool must be constant.

Neighborhood Electric Vehicles (Section 819). Neighborhood electric vehicles may be treated as alternative fuel vehicles for compliance and tax purposes.

Subtitle C–Federal Reformulated Fuels.

Leaking Underground Storage Tanks (Section 822). Leaking Underground Storage Tank (LUST) trust funds may be used for remediation of methyl tertiary butyl ether (MTBE) contamination.

Authority for Water Quality Protection from Fuels (Section 823). The Administrator of the Environmental Protection Agency (EPA) may control or prohibit the sale of fuel or fuel additives that may harm water quality. Four years after the date of enactment, the use of MTBE in gasoline is banned.

Waiver of Oxygen Content Requirement for Reformulated Gasoline (Section 824). The Governor of a state may apply for a waiver to the oxygen requirement in federal reformulated gasoline (RFG).

Public Health and Environmental Impacts of Fuels and Fuel Additives (Section 825). The EPA Administrator must study the health and environmental effects of fuels and fuel additives, including ethyl tertiary butyl ether (ETBE).

Analyses of Motor Vehicle Fuel Changes (Section 826). The EPA Administrator must publish an analysis of the changes in emissions and air quality resulting from the implementation of Subtitle C.

Additional Opt-in Areas Under Reformulated Gasoline (Section 827). Areas in compliance with ozone standards may opt-in to the federal RFG program.

MTBE Merchant Producer Conversion Assistance (Section 828). EPA may provide grants to producers that convert MTBE production facilities for the production of other RFG additives that do not threaten air or water quality.

TITLE IX–ENERGY EFFICIENCY AND ASSISTANCE TO LOW INCOME CONSUMERS

Subtitle A–Low Income Assistance and State Energy Programs.

Funding for Low Income Home Energy Assistance Program (LIHEAP), Weatherization Assistance, and State Energy Grants (Section 901). Annual funding for LIHEAP, including emergency funds, training and technical assistance, and the weatherization assistance program are authorized for FY2003 through FY2005.

State Energy Programs (Section 902). Annual funding for state energy conservation programs is authorized for FY2003 through FY2005. Each state plan shall have a goal to improve energy efficiency in 2010 by 25% over 1990.

Energy Efficient Schools (Section 903). A High Performance Schools Program is created at DOE to provide grants to the states to improve energy efficiency through the renovation or construction of elementary and secondary school buildings. Funding is authorized from FY2003 through FY2012.

Low-Income Community Energy Efficiency Pilot Program (Section 904). Funding is authorized for a 3-year competitive program of grants to community development corporations for energy efficiency and renewable energy

projects in low-income urban and rural communities. Grants can be used for studies, plans, development projects, and technical and financial assistance. Nonprofit community development corporations are locally controlled public/private partnerships that work with low-income communities to attract capital and create jobs.

Subtitle B–Federal Energy Efficiency.

Energy Management Requirements (Section 911). The baseline for measuring energy performance in federal buildings is changed from 1985 to 2000. A rising efficiency target starts at 2% in 2002 and reaches 20% in 2011.

Energy Use Measurement and Accountability (Section 912). Federal buildings are required to be metered or sub-metered by October 1, 2004. Federal agencies are directed to begin using the metered data by January 1, 2003. Each agency is required to develop a plan to use real-time electricity-use data to reduce energy costs and consumption.

Federal Building Performance Standards (Section 913). DOE is directed to establish revised energy efficiency performance standards for new federal buildings. Buildings are required to exceed the Energy Star criteria, or certain other codes, by at least 10%. DOE and EPA are to jointly develop an energy labeling program for buildings that exceed the revised standards by 15% or more.

Procurement of Energy Efficient Products (Section 914). Federal agencies are directed to purchase Energy Star-rated or Federal Energy Management Program (FEMP)-designated energy-efficient products, unless they either are not reasonably available or are not expected to be cost-effective over their projected life.

Cost Savings From Replacement Facilities (Section 915). Under an energy savings performance contract (ESPC), federal agencies may count savings from reduced operation and maintenance costs at replacement facilities.

Repeal of Energy Savings Performance Contract Sunset (Section 916). The October 1, 2003, sunset for federal use of energy savings performance contracts (ESPCs) is repealed.

Energy Savings Performance Contract (ESPC) Definitions (Section 917). Certain ESPC definitions are modified. Specifically, the definition of energy savings is expanded to include a reduction in water costs, ESPCs are permitted to be used for replacement facilities, and a definition of "water conservation measure" is provided.

Review of Energy Savings Performance Contract Program (Section 918). DOE is required to issue a report to Congress that identifies obstacles to the full use of the ESPC program and opportunities to increase program flexibility and effectiveness.

Federal Energy Bank (Section 919). The Treasury Department is authorized to establish a fund or "bank" from which federal agencies could borrow

money to invest in energy efficiency and renewable energy projects. The bank would be funded by appropriations, as available, but deposits from appropriations would cease once the total value exceeds $1 billion.

Energy and Water Savings in Congressional Buildings (Section 920). The Architect of the Capitol is directed to develop and implement an energy and water conservation strategy for congressional buildings. Also, state-of-the-art energy efficiency and renewable energy technologies are required to be used in the new Capitol Visitors Center.

Subtitle C–Industrial Efficiency and Consumer Products.

Voluntary Commitments to Reduce Industrial Energy Intensity (Section 921). For 2002 through 2012, DOE is authorized to enter into voluntary agreements with industry sectors or individual companies to reduce the energy use per unit of production in industrial processes by a minimum of 2.5% per year.

Authority to Set Standards for Commercial Products (Section 922). DOE's authority to set energy efficiency standards for consumer products is expanded to include commercial products.

Appliance Efficiency Definitions (Section 923). Definitions are provided for battery chargers, commercial refrigerators and freezers, external power supply devices, exit signs, certain low-voltage transformers, and other terms related to appliance efficiency.

Test Procedures for Appliance Efficiency (Section 924). Energy efficiency test procedures for exit signs and transformers are prescribed, and DOE is directed to prescribe testing procedures for ceiling fans, vending machines, and commercial refrigerators.

Energy Labeling (Section 925). The Federal Trade Commission is directed to consider changes to improve the effectiveness of energy labels on consumer products. Also, DOE is directed to prescribe labeling requirements for the products added by this subtitle.

Energy Star Program (Section 926). The Energy Star program, which identifies and promotes energy-efficient products and buildings, is given statutory authority to operate at DOE and EPA.

Energy Conservation Standards for Central Air Conditioners and Heat Pumps (Section 927). A seasonal energy efficiency ratio (SEER) of 13 is set as the standard for central air conditioning units and central air conditioning heat pumps manufactured in 2006 and future years.

Energy Conservation Standards for Additional Consumer and Commercial Products (Section 928). An expedited rulemaking is established to set energy efficiency standards for energy used in the standby mode of battery chargers and external power supplies, and a process is created to determine whether efficiency standards should be established for the standby mode of certain other

appliances. Also, rulemakings are required to develop standards for ceiling fans, vending machines, commercial refrigerators and freezers, and unit heaters. Further, efficiency standards are established for exit signs, torchiere lamps, and low-voltage dry-type transformers.

Consumer Education on Energy Efficiency Benefits of Air Conditioning, Heating, and Ventilation Maintenance (Section 929). DOE is directed to establish a public education program on the energy savings benefits of proper maintenance of air conditioning, heating and ventilation equipment.

Subtitle D–Housing Efficiency.

Capacity Building for Energy Efficient, Affordable Housing (Section 931). The Department of Housing and Urban Development (HUD) is required to conduct activities that provide energy-efficient affordable housing and residential energy conservation measures under the HUD Demonstration Act.

Increase of Community Development Block Grant Public Services Cap for Energy Conservation and Efficiency Activities (Section 932). HUD is required to increase the amount of assistance for public services involving energy conservation and efficiency by 10%.

FHA Mortgage Insurance Incentives for Energy Efficient Housing (Section 933). The amount that property value covered by mortgage insurance may be increased because of the installation of a solar energy system is increased from 20% to 30%.

Public Housing Capital Fund (Section 934). The Fund is modified to include improvements to energy- and water-use efficiency by applying certain industry standards for energy and water conserving fixtures and fittings and by such other means that HUD deems appropriate.

Grants for Energy-Conserving Improvements for Assisted Housing (Section 935). The use of HUD grants for improvements to certain multifamily housing projects is expanded to include energy and water conserving fixtures and fittings that meet certain industry standards.

North American Development Bank (Section 936). The North American Free Trade Agreement Implementation Act is amended to encourage U.S. Board members of the North American Development Bank to finance projects involving energy efficiency and renewable energy under the Bank's charter on environmental infrastructure projects.

DIVISION D–Integration of Energy Policy and Climate Change Policy

TITLE X–CLIMATE CHANGE POLICY FORMULATION

Subtitle A–Global Warming.

Sense of Congress on Global Warming (Section 1001). Discussed below.

Subtitle B–Climate Change Strategy.

Findings and Purpose of Title (Sections 1001,1012,1013). These sections details the findings and purpose of Title X. Specifically, growing evidence is found that increases in greenhouse gas concentrations are contributing to global climate change, and it is the Sense of the Congress that the United States should demonstrate international leadership and responsibility in mitigating the health, environmental, and economic threats posed by global warming. The purpose of the Title is to develop a national focal point for climate change response through a new National Office of Climate Change Response (NOCCR) in the Executive Office of the President (EOP). The new office is to develop a United States Climate Change Response Strategy (CCRS) based on parameters identified in the Title. Also created are an Interagency Task Force to serve as a coordinating mechanism for the federal government; an Office of Climate Change Technology (OCCT) within DOE to manage research and development related to new greenhouse gas mitigating technologies and to provide analytical support and data; and an independent review board to review the CCRS and assess the Federal Government's implementation of it.

Definitions (Section 1014). Critical terms used in the title are defined, including "climate-friendly technology."

United States Climate Change Response Strategy (Section 1015). The NOCCR is directed to develop the CCRS with the long-term goal of stabilization of greenhouse gas concentrations. The CCRS is to encompass four key elements – (1) emissions mitigation measures; (2) technology innovation; (3) climate adaptation research; and (4) expanded efforts to resolve remaining scientific and economic uncertainty. The NOCCR is to develop the CCRS consistent with various national goals and with the maximum extent of public and interest group participation practicable. The CCRS is to be updated every two years, and progress reports are to be sent by the President to Congress annually.

National Office of Climate Change Response of the Executive Office of the President (Section 1016). The NOCCR is established within the EOP. NOCCR is to focus on achieving the long-term goal of stabilizing greenhouse gas concentrations while minimizing adverse short-term and long-term economic and social effects. Duties including establishing priorities for the CCRS; establishing the Interagency Task Force; ensuring the objective nature of the CCRS; and, advising the

President on federal implementation of climate change activities. The Director of the NOCCR shall prepare an annual report for the President to submit to the Congress assessing progress in achieving its long-term goal and making recommendations to close any gaps.

Also established is the U.S. Climate Change Response Interagency Task Force. The Interagency Task Force shall serve as the primary forum through which federal agencies assist the NOCCR in developing and updating the CCRS, and assist the Director of the NOCCR in preparing its annual report to Congress.

Technology Innovation Program Implemented Through the Office of Climate Change Technology of the Department of Energy (Section 1017). The OCCT is established within the Department of Energy. Its primary responsibility is to manage an energy technology research and development program that focuses on high-risk, breakthrough technologies that promise to mitigate and/or sequester emissions of greenhouse gases. In addition, OCCT is to support development of the CCRS and the activities of the Interagency Task Force through provision of staff, data, and analytical tools. The OCCT is to maintain core analytical capabilities and other expertise in support of the CCRS, and to see that information is broadly disseminated. The Director of the OCCT is required to submit to Congress and the NOCCR an annual report on its progress in meeting the goal of the energy technology research and development program.

In addition, the OCCT is to design and manage an international carbon dioxide sequestration monitoring and data collection program. The object of the program is to determine the appropriateness of various sequestration mechanisms.

Additional Offices and Activities (Section 1018). Other federal agencies may establish appropriate offices as necessary to carry out the provisions of this Act.

United States Climate Change Response Strategy Review Board (Section 1019). An independent U.S. Climate Change Response Strategy Review Board (Review Board) is established within the executive branch. The 11 members are appointed by the President and with the advice and consent of the Senate. The Review Board is to assess the adequacy of the initial NCCS and subsequent updates within 180 days of its submission, and submit a report to the President, appropriate federal agency heads, and the Congress. At the request of the Congress or the President, the Review Board may provide recommendations on additional climate change-related topics.

Subtitle C–Science and Technology Policy.

Global Climate Change in the Office of Science and Technology Policy (Section 1031). Section 101(b) of the National Science and Technology Policy, Organization, and Priorities Act of 1976 is amended to include under the Office of Science and Technology Policy (OSTP) the duty of “improving efforts to understand, assess, predict, mitigate and respond to global climate change”.

Establishment of Associate Director for Global Climate Change (Section 1032). An Associate Director for Global Climate Change is established within OSTP.

Subtitle D–Miscellaneous Provisions.

Additional Information for Regulatory Review (Section 1041). Agencies are required to include in any Statement of Energy Effects pursuant to Executive Order 13211 an estimate of the net change in greenhouse gas emissions resulting from the proposed federal action, and which policies or measures will be undertaken to mitigate or offset the increased emissions.

Greenhouse Gas Emissions From Federal Facilities (Section 1042). Four federal agencies are required to develop a methodology for estimating greenhouse gas emissions from all federally owned, leased, or operated facilities, including mobile sources. A report is required within 18 months of enactment.

TITLE XI–GREENHOUSE GAS DATABASE

Definitions (Section 1101). Terms for Title XI are defined. Six gases are included in the definition of greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

National Greenhouse Gas Database (Section 1102). The National Greenhouse Gas Database is established to collect, verify, and analyze information on greenhouse gas emissions and reductions by entities in the United States. Entities that emit more than 1,000 metric tons of carbon dioxide equivalent shall report their emissions, and any voluntary reductions in those emissions, to the Secretary of Energy annually. Such information shall be made public, except for that necessary to protect trade secrets or national security.

Interagency Task Force on Greenhouse Gas Database (Section 1103). An Interagency Task Force is established to advise the Secretary of Energy and the Chair of the Task Force on the design, operation, and improvement of the database.

Measurement and Verification (Section 1104). The Chair of the Interagency Task Force, in cooperation with the National Institute of Standards and Technology, shall develop and promulgate methodologies for measuring and verifying greenhouse gas emissions and reduction, along with accounting and reporting standards.

DIVISION E – Enhancing Research, Development, and Training

TITLE XII – ENERGY RESEARCH AND DEVELOPMENT PROGRAMS

Short Title (Section 1201). This division (Sections 1201-1505) may be cited as the "Energy Science and Technology Enhancement Act of 2002."

Findings (Section 1202). The purpose of this Act is to develop a national energy strategy that employs an energy research, development, demonstration, and technology deployment program that supports a national climate change strategy, helps maintain domestic energy production, lowers natural gas prices, and helps U.S. firms compete in future markets for advanced energy technologies.

Definitions (Section 1203). A definition is provided for the "national laboratories" owned by DOE. Also, definitions are provided for DOE "missions," "institution of higher education," and "technology deployment."

Construction With Other Laws (Section 1204). Except where otherwise noted, DOE is directed to carry out the research, development, demonstration, and technology deployment provisions of Title XII and Title XIV in accordance with the Atomic Energy Act, the Federal Nonnuclear Research and Development Act, the Energy Policy Act, and any other Act under which DOE is authorized to carry out such activities.

Subtitle A–Energy Efficiency.

Enhanced Energy Efficiency Research and Development (Section 1211). Funding for DOE energy-efficient housing, industrial energy efficiency, transportation energy efficiency, and distributed generation programs is authorized for FY2003 through FY2006. Also, certain energy efficiency improvement goals for 2010 are set for each program.

Energy Efficiency Science Initiative (Section 1212). Funding for the energy efficiency science initiative, a joint program between the Office of Energy Efficiency and Renewable Energy and the Office of Science, is authorized indefinitely. Also, an annual report to Congress on the program's activities is required.

Next Generation Lighting Initiative (Section 1213). DOE is directed to establish a consortium to research and develop the next generation of white-light emitting diodes for ultra-efficient lighting applications. The program is to provide grants for fundamental research and establish grants, contracts, and cooperative agreements for technology development and demonstration. Also, DOE is encouraged to work with the National Academy of Sciences to conduct periodic reviews of the initiative.

Railroad Efficiency (Section 1214). DOE, in cooperation with the Department of Transportation (DOT) and EPA, is directed to establish a public-private research partnership to improve railroad locomotive technologies by increasing fuel economy, reducing emissions, improving safety, and lowering costs.

Subtitle B–Renewable Energy.

Enhanced Renewable Energy Research and Development (Section 1221). Funding is authorized for FY2003 though FY2006 for DOE wind power, photovoltaics, solar thermal, biomass and biofuel, geothermal, hydrogen, hydropower, and electric energy systems and storage programs. For a variety of years from 2005 through 2015, goals for improvements in cost per unit of energy produced are set for each technology program. Also, DOE is directed to conduct special demonstration projects in rural and remote areas.

Bioenergy Programs (Section 1222). Funding is authorized for DOE biopower and biofuels programs for FY2003 through FY2006.

Hydrogen Research and Development (Section 1223). The Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 is amended, directing DOE to develop hydrogen production from renewable and non-renewable sources. Also, DOE is directed to foster hydrogen use in remote areas, in economic development, and in reducing the environmental impact of fossil fuel use. Further, DOE is to prepare a federal agency coordination plan that will serve as the basis for a required biennial report to Congress that starts one year after enactment. Other amendments address project cost-sharing with the private sector, a new focus on global markets, changes to the technical advisory panel, integration with fuel cells, and funding authorizations for FY2003 through FY2006.

Subtitle C–Fossil Energy.

Enhanced Fossil Energy R&D (Section 1231). Funding is authorized from FY2003-FY2006 for fossil energy research and development programs. Program goals include reducing emissions from fossil fuels, and developing technologies that can produce methane hydrates and produce oil and gas in ultra-deepwater environments. The onshore emphasis will be on enhancing domestic supply and technology available to independent operators. Transportation fuels research and development is to be directed toward fuels from coal and natural gas, coal liquefaction, and biomass.

Power Plant Improvement Initiative (Section 1232). DOE shall carry out projects to demonstrate the commercial application of advanced lignite and coal-based technology for power plants. Interim efficiency and emission milestones for 2010 and 2020 are established. A study shall be performed to assess environmental and economic performance criteria for coal-based technology. Funding of $200 million per year is authorized from FY2003 through FY2011.

R&D for Advanced Coal Mining Technologies (Section 1233). A federal-private sector research partnership is established to set research priorities for advanced coal mining technologies, support joint R&D projects, and expand research

capacity at educational institutions. Funding is authorized for FY2003-FY2004, with 20% to be spent at universities.

Ultra-deepwater Exploration and Production Technologies (Section 1234). The Secretary of Energy shall establish a program to conduct long-term R&D into ultra-deepwater development and environmental mitigation technologies. An advisory committee, appointed by the Secretary, shall advise the Secretary on this program. Research awards will be available to help maximize U.S. Gulf of Mexico ultra-deepwater potential.

Research and Development for New Natural Gas Transportation Technologies (Section 1235). The Secretary shall conduct a 5-year R&D program for natural gas use in transportation and distribution infrastructure.

Authorization of Appropriations for Office of Arctic Energy (Section 1236). Up to $25 million for years FY2003- FY2011 is authorized for the Office of Arctic Energy.

Subtitle D–Nuclear Energy.

Enhanced Nuclear Energy Research and Development (Section 1241). DOE shall conduct an R&D program to enhance nuclear energy. The program shall support improvements in existing commercial reactors, examine advanced reactor designs, attract new nuclear science and engineering students, and maintain isotope production capability.

University Nuclear Science and Engineering Support (Section 1242). DOE shall provide support to university nuclear science and engineering programs, including programs to help students and faculty, helping to maintain university reactors and infrastructure, and interaction between university nuclear programs and DOE national laboratories.

Nuclear Energy Research Initiative (Section 1243). From funding authorized for Enhanced Nuclear Energy Research and Development (Section 1241), DOE shall provide grants for nuclear energy research.

Nuclear Energy Plant Optimization Program (Section 1244). From amounts authorized under Section 1241, DOE shall provide grants for up to half the cost of projects to improve nuclear power plant reliability, availability, and productivity.

Nuclear Energy Technology Development Program (Section 1245). From amounts authorized under Section 1241, DOE shall develop a "technology roadmap" for designing and developing new U.S. commercial nuclear reactors. The roadmap shall include a study of advanced, "Generation IV" reactor designs to support a decision on selecting the most promising of those designs for commercial deployment.

Subtitle E – Fundamental Energy Science.

Enhanced Programs in Fundamental Energy Science (Section 1251). Funding is authorized for the program of fundamental research conducted by the DOE Office of Science. Where appropriate, this program shall help inform the applied R&D programs of the Department. The Office's scientific user facilities shall be maintained, upgraded, and expanded and shall be an integral part of the Department's fundamental science mission. The Office shall maintain a leading-edge research capability in energy-related aspects of nanoscience and nanotechnology, advanced scientific computing, and genome research. Appropriations are authorized for fiscal year 2003 (an increase of approximately 20% above the 2002 appropriation) and subsequent fiscal years through 2006 (annual increases of approximately 10%).

Nanoscale Science and Engineering Research (Section 1252). A program is established within the Office of Science for nanoscience and nanoengineering R&D. The program shall support both individual investigators and multidisciplinary teams and the establishment of research centers and facilities. Technology transfer, collaboration, and coordination with industry and other agencies are encouraged. Appropriations for fiscal years 2003 through 2006 are authorized, including a separate authorization for centers and facilities. The bulk of this program would currently fall within the scope of the materials sciences subprogram of the Office's basic energy sciences program.

Advanced Scientific Computing for Energy Missions (Section 1253). The advanced scientific computing program of the Office of Science is authorized and expanded to include, as well as research, the deployment of high-performance computing and collaboration tools for research in DOE mission areas. The program is to be integrated and consistent with the Accelerated Strategic Computing Initiative of the National Nuclear Security Agency and other related programs. Appropriations are authorized for fiscal year 2003 (an increase of approximately 75% above the 2002 appropriation) and for subsequent fiscal years through 2006.

Fusion Energy Sciences Program and Planning (Section 1254). An overall plan, based on certain specified objectives, shall be submitted for the fusion energy sciences program of the Office of Science. By July 1, 2004, a plan shall be submitted for construction of a burning plasma experiment in the United States. By July 1, 2004, a plan may be submitted for U.S. participation in an international burning plasma experiment, if the Secretary finds that construction of such an experiment is highly likely and U.S. participation would be more cost effective than construction of a domestic experiment. All three plans are to be prepared in consultation with the Fusion Energy Sciences Advisory Committee, and the latter two are to include reviews by the National Academy of Sciences. Appropriations are authorized for fiscal year 2003 (an increase of approximately 35% above the 2002 appropriation) but not for subsequent years.

Subtitle F–Energy, Safety, and Environmental Protection.

Critical Energy Infrastructure Protection Research and Development (Section 1261). DOE shall conduct a program for research,

development, and deployment of technologies to protect energy infrastructure. Appropriations of $10 million per year are authorized for FY2003-FY2006.

Pipeline Integrity, Safety, and Reliability Research and Development (Section 1262). DOT and DOE shall conduct a research program to ensure the integrity of natural gas and hazardous liquid pipelines.

R&D for Remediation of Groundwater From Energy Activities (Section 1263). DOE shall conduct research to improve methods for environmental restoration of groundwater contaminated by oil and gas production and other energy activities.

TITLE XIII–CLIMATE CHANGE RESEARCH AND DEVELOPMENT

Subtitle A–Department of Energy Programs.

Program Goals (Section 1301). The goal of the research, development, demonstration, and technology deployment program established under subtitle A of Title XIII is to improve scientific understanding of energy development's effect on Earth's climate system; help mitigate its effects; and further the goals of the United Nations Framework Convention on Climate Change in a manner that does not seriously harm the economy.

Department of Energy Global Change Science Research (Section 1302). DOE's Office of Science shall conduct a comprehensive research program to understand and address the effects of energy development and use on the global climate system. Activities shall include climate modeling and integrated assessment of climate change effects on economic and social systems.

Amendments to the Federal Nonnuclear Research and Development Act of 1974 (Section 1303). The Federal Nonnuclear Research and Development Act of 1974 is amended to include development of greenhouse gas reduction, removal, and sequestration technologies to its purposes, along with pursuing all long-term climate technology strategy to demonstrate a variety of technologies by which stabilization of greenhouse gases might be best achieved.

Subtitle B–Department of Agriculture Programs.

Carbon Sequestration Basic and Applied Research (Section 1311). The Secretary of Agriculture is required to conduct basic and applied research on carbon sequestration, and fund non-Departmental research through competitive grants. The goal of the research is to study the net sequestration of carbon by soils and plants, and study the net greenhouse gas emissions from agriculture.

Carbon Sequestration Demonstration Projects and Outreach (Section 1312). The Secretary of Agriculture is required to fund projects to demonstrate the ability to monitor and verify carbon sequestration, and to educate

farmers and ranchers about the economic and environmental benefits of conservation practices that increase sequestration.

Subtitle C–Clean Energy Technology Exports Program.

Clean Energy Technology Exports Program (Section 1321). An Interagency Working Group on Clean Energy Technology Exports is established to focus on opening and expanding energy markets and transferring clean energy technology overseas. Authorized activities include analyzing opportunities for international development, demonstration, and deployment of clean energy technology, investigating ways to improve technology transfer and technology exports to foreign countries, and making other assessments and recommendations with respect to the program's implementation. Annual reports on activities and expenditures are required.

International Energy Technology Deployment Program (Section 1322). Section 1608 of the 1992 Energy Policy Act is amended to include an International Energy Technology Deployment Program. Projects deployed in foreign countries that are significantly more efficient than conventional technology in terms of greenhouse gases produced per unit of energy may be eligible for loans or loan guarantees under the program. Such projects would be cost-shared with the host country: 50% contribution of the host country in a developed county, 10% contribution by the host country in a developing country.

Subtitle D–Climate Change Science and Information.

Part I–Amendments to the Global Change Research Act of 1990.

Amendments to the Global Change Research Act of 1990 (Sections 1331-1334). Section 1334 would require the National Science and Technology Council to develop a 1-year strategic plan for the United States Global Climate Change Research Program and submit that plan to Congress within 180 days of enactment. A revised implementation plan would also be submitted.

Integrated Program Office (Section 1335). The Global Change Research Act of 1990 is amended to establish within the Office of Science and Technology Policy (OSTP) an Integrated Program Office to manage coordination and integration of global change research activities and budgets, along with identifying projects to fill research gaps.

Part II–National Climate Services Monitoring.

National Climate Service Plan (Sections 1341-1346). The National Climate Program Act is amended to require the Secretary of Commerce to submit to congressional committees an action plan for a National Climate Service. The plan shall include recommendations and funding estimates for a national center for climate monitoring and predicting; a national coordinated modeling strategy; a program to ensure data quality and dissemination; and mechanisms to improve coordination within government and with the academic community. As part of the National Climate Service, the Secretary of Commerce is to establish a comprehensive atmospheric

monitoring and verification program, and issue an annual report that identifies trends on local, regional, and national levels along with individual or multiple source emissions or reductions.

Part III–Ocean and Coastal Observing System.

Oceans and Coastal Observing System (Sections 1351 and 1352). Through the National Ocean Research Leadership Council, the President shall establish and maintain an integrated ocean and coastal observing system for understanding, improving, and protecting coastal and marine ecosystems and other purposes.

Subtitle E–Climate Change Technology.

Development of New Measurement Technologies (Sections 1361-1363). The Secretary of Commerce shall initiate a program to develop innovative standards and technologies for calculating greenhouse gas emissions and reductions from various sources. The National Institute of Standards and Technology Act is amended to establish within the Institute a program to perform and support research on global climate change standards and processes, focused on providing knowledge applicable to reducing greenhouse gases. Activities include developing enhanced monitoring and modeling standards; assisting the development of a baseline for future greenhouse gas emissions trading, including international trading; and assisting in developing improved industrial processes designed to reduce or eliminate greenhouse gases. This effort shall include using the expertise of the National Measurement Laboratories of the National Institute of Standards and Technology.

Technology Development and Diffusion (Section 1364). The Director of the National Institute of Standards and Technology may focus some the Institute's competitions on greenhouse gas reduction technologies. A special small business program may also be developed.

Subtitle F–Climate Adaptation and Hazards Prevention.

Part I–Assessment and Adaptation.

Regional Climate Assessment and Adaptation Program (Section 1371). The President shall establish within the Department of Commerce a National Climate Change Vulnerability and Adaptation Program for regional impacts of global climate change. The program shall submit a report to Congress within 2 years on the Nation's preparedness for climate change and recommend mitigation strategies and programs.

Coastal Vulnerability and Adaptation (Section 1372). The Secretary of Commerce shall conduct regional assessments of coastal vulnerability to climate change within two years of enactment, and submit to Congress regional adaptation plans to address those impacts within 3 years of enactment. Matching funds to assist coastal adaptation programs shall be provided based on the formula established in the Coastal Zone Management Act of 1972.

PART II–Forecasting and Planning Pilot Programs.

Remote Sensing Pilot Projects (Section 1381-1384). The National Aeronautics and Space Administration (NASA) shall establish a competitive grant program for pilot projects to explore the integrated use of remote sensing and other geospatial information to address governmental adaptation needs to forecast coastal zone and land use changes from global climate change.

TITLE XIV – MANAGEMENT OF DOE SCIENCE AND TECHNOLOGY PROGRAMS

Definitions (Section 1401). The term "single-purpose research facility" includes 15 named DOE-owned facilities and any similar DOE organization designated as such by the Secretary.

Availability of Funds (Section 1402). Appropriations authorized under titles XII (energy R&D), XIII (climate change R&D), and XV (traineeships and fellowships) shall remain available until expended.

Cost Sharing (Section 1403). Cost-sharing is required for DOE projects funded from appropriations authorized under subtitles A through D of title XII (energy efficiency R&D, renewable energy R&D, fossil energy R&D, and nuclear energy R&D). The non-federal share must be at least 20% for research and development projects and at least 50% for demonstration and deployment projects. The Secretary may waive or reduce these requirements under certain conditions.

Merit Review of Proposals (Section 1404). An independent review of scientific and technical merit shall be conducted before a proposal can be funded from appropriations authorized under title XII (energy R&D), subtitle A of title XIII (DOE climate change R&D), or title XV (traineeships and fellowships).

External Technical Review of Departmental Programs (Section 1405). Advisory boards shall be established to oversee DOE R&D in energy efficiency, renewable energy, fossil energy, nuclear energy, and climate change technology. The requirement may be met by existing DOE boards or by boards established by the National Academy of Sciences. Existing advisory committees shall continue to oversee R&D programs of the Office of Science.

Improved Coordination and Management of Civilian Science and Technology Programs (Section 1406). The new position of DOE Under Secretary for Energy and Science is established, with authority over the assistant secretaries responsible for energy R&D, energy technology, and science, and to serve as science and technology advisor to the Secretary. The Director of the Office of Science shall become an assistant secretary, while certain advisory responsibilities are transferred to the new under secretary. An additional assistant secretary position is created, and it is the sense of the Senate that leadership for DOE missions in nuclear energy should be at the assistant secretary level.

Improved Coordination of Technology Transfer Activities (Section 1407). A Technology Partnership Working Group is established, consisting of representatives of the DOE national laboratories and single-purpose research facilities, to coordinate technology transfer. A Technology Transfer Coordinator is established to oversee DOE technology transfer activities and coordinate the activities of the Technology Partnership Working Group.

Technology Infrastructure Program (Section 1408). A program is established to help national laboratories and single-purpose research facilities stimulate the development of technology clusters, "leverage and benefit" from commercial activities, and exchange scientific and technological expertise with other organizations. Projects funded under this program must include at least one national laboratory or single-purpose research facility and at least one business, institution of higher education, nonprofit institution, or agency of a state, local, or tribal government, and the nonfederal participants must provide at least half the funding. Criteria for project selection are established, and a report must be submitted by January 1, 2004, on whether the program should continue and, if so, how it should be managed.

Small Business Advocacy and Assistance (Section 1409). A small business assistance program is established. A small business advocate must be appointed at each national laboratory and, if directed by the Secretary, at each single-purpose research facility.

Other Transactions (Section 1410). Alternative types of transactions for support of research projects are authorized for situations in which (1) a standard contract, grant, or cooperative agreement would be infeasible or inappropriate, (2) the research to be supported does not duplicate existing DOE programs, and (3) government funds are half or less of the total funding for the project. These transactions shall be exempt from the patent rights and invention reporting requirements of 42 U.S.C. 5908, and DOE shall not disclose confidential information submitted by non-federal participants or developed as part of a supported project. Guidelines for these transactions must be established.

Mobility of Scientific and Technical Personnel (Section 1411). The Technology Transfer Coordinator (established by Section 1407) must prepare a report on disincentives to the transfer of scientific and technical personnel among the contractor-operated national laboratories and single-purpose research facilities.

National Academy of Sciences Report (Section 1412). The National Academy of Sciences must prepare a study on accelerating the cycle of energy technology research, development, and deployment.

Report on Technology Readiness and Barriers to Technology Transfer (Section 1413). The Technology Partnership Working Group (established by Section 1407) must issue biennial reports on barriers to technology transfer, ways to lower them, and the readiness for technology transfer of

technologies developed under the DOE energy efficiency, renewable energy, fossil energy, and nuclear energy programs.[2]

TITLE XV – PERSONNEL AND TRAINING

Workforce Trends and Traineeship Grants (Section 1501). The Energy Information Administration must monitor trends in the energy industry technical workforce, include statistics on these trends in its annual reports, and report to Congress when a significant personnel shortfall occurs or is forecast. A grant program is created for training technical personnel in shortfall areas.

Postdoctoral and Senior Research Fellowships in Energy Research (Section 1502). A program of postdoctoral fellowships in energy research and development is established. The Secretary of Energy may arrange for this program to be administered by the National Academy of Sciences, which administers similar programs for several other agencies. A program of senior research fellowships in energy research and development is created to support senior researchers and their research groups for periods of at least three years.

Training Guidelines for Electric Energy Industry Personnel (Section 1503). The Secretary must work with utilities and unions to create model employee training guidelines to increase electric reliability.

National Center on Energy Management and Building Technologies (Section 1504). In cooperation with certain industry representatives, DOE is directed to establish a Center that conducts research, education, and training to improve energy efficiency and indoor air quality for industrial, commercial, and residential buildings.

Improved Access to Energy-Related Scientific and Technical Careers (Section 1505). DOE education programs must give priority to activities that encourage women and minorities to pursue scientific and technical careers. DOE national laboratories (and other DOE science facilities when directed by the Secretary) must increase the participation of historically Black colleges and universities, Hispanic-serving institutions, and tribal colleges in activities such as research, equipment transfer, training, and mentoring that increase the capacity of those institutions to train personnel in science and engineering. The Secretary is to report on activities under this section within two years.

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[2]The bill text gives a nonexistent cross-reference to subtitles A through D of title XIV. This summary assumes that the intent was to reference subtitles A through D of title XII.

DIVISION F – Technology Assessment and Studies

TITLE XVI – TECHNOLOGY ASSESSMENT

National Science and Technology Assessment Service (Section 1601). A Science and Technology Assessment Service is established within the legislative branch to provide Congress with information on national issues in science and technology policy. The Service would be overseen by a Board consisting of 12 Members of Congress, three from each party in each House, and a Director appointed by the Board. Activities would be initiated at the request of the Board, the Director, or any congressional committee chairman. An annual report must be submitted that includes, where feasible, an identification of areas requiring future analysis. The language of this section is drawn mostly from the Office of Technology Assessment Act (P.L. 92-484), which created the Office of Technology Assessment in 1972. The Office of Technology Assessment was abolished in 1995.

TITLE XVII–STUDIES

Regulatory Reviews (Section 1701). Each federal agency is required to review its regulations and standards to identify barriers to market entry and market development for energy-efficient technologies, including fuel cells, combined heat and power, distributed power generation, and small-scale renewable energy equipment. Further, each agency is required to identify actions it could take to remove barriers to market entry and market expansion, increase energy efficiency, and encourage processes to meet energy and environmental goals. Also, each agency is directed to report to Congress within one year, and then at least once every five years thereafter, on the barriers identified and its planned actions to address the barriers and opportunities.

Assessment of Dependence of Hawaii on Oil (Section 1702). The Secretary of Energy is required to initiate a study not later than 60 days after enactment to assess the economic risk posed by the dependence of Hawaii on oil as the principal source of energy. The study will examine the potential for renewable energy sources and make appropriate recommendations, and will also analyze the potential for use of liquefied natural gas.

Study of Siting an Electric Transmission System on Amtrak Right-of-Way (Section 1703). The Secretary of Energy must contract with Amtrak to study the feasibility of building and operating a new electric transmission system on the Amtrak right-of-way in the Northeast Corridor.

DIVISION G – Energy Infrastructure Security

TITLE XIII–CRITICAL ENERGY INFRASTRUCTURE

Subtitle A–Department of Energy Programs.

DOE Role in Energy Infrastructure Security (Sections 1801-1805). DOE's mission shall include energy infrastructure security, and the Secretary is authorized to establish programs to provide financial, technical, and administrative assistance related to energy infrastructure security. The Secretary, in consultation with a new advisory committee on energy infrastructure security, shall support the establishment of industry best practices and standards.

Subtitle B–Department of the Interior Programs.

OCS Energy Infrastructure Security (Section 1811). The Outer Continental Shelf (OCS) Energy Infrastructure Security Program is established to provide funds to states to protect against threats to OCS facilities and related infrastructure. A state plan is required and a formula shall be set up for amounts to be disbursed to the states. Restoration of coastal wetland is an activity of energy security to be considered part of the critical OCS energy infrastructure.

Subtitle C–Commercial Nuclear Facility Security.

Commercial Nuclear Facility Security (Section 1821). Reserved.

Funding Authorizations

Table 2. Authorized Appropriations in S. 1766

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Division A	**Reliable and Diverse Power Generation and Transmission**									
TITLE II	--ELECTRICITY									
Subtitle B	--Amendments to the Public Utility Holding Company Act									
Sec. 237.	Authorization of appropriations.	ss						ss		ss
Subtitle E	--Renewable Energy and Rural Construction Grants									
Sec. 261.	Renewable energy production incentive. FY 03-23		ss	ss	ss	ss	ss	ss	ss	ss
Sec. 264.	Rural construction grants.		20.0	20.0	20.0	20.0	20.0	100.0	40.0	140.0
TITLE IV	--INDIAN ENERGY									
Sec. 402.	Comprehensive Indian Energy Programs.	ss						ss		ss
Sec. 408.	Feasibility study of combined wind & hydropower demo project.	0.5						0.5		0.5
TITLE V	--NUCLEAR POWER									
Subtitle B	--Miscellaneous Provisions									
Sec. 512.	Thorium reimbursement	20.5	20.5	20.5	20.5	20.5	20.5	123.0		123.0
	Subtotal Division A	**21.0**	**40.5**	**40.5**	**40.5**	**40.5**	**40.5**	**223.5**	**40.0**	**263.5**
Division B	**Domestic Oil and Gas Production and Transportation**									
TITLE VI	--OIL AND GAS PRODUCTION									
Sec. 601.	Strategic Petroleum Reserve	ss						ss		ss
Sec. 602.	Federal onshore leasing programs for oil and gas.		60.0	60.0	60.0	60.0		240.0		240.0
Sec. 605.	Orphaned wells on Federal lands.		5.0	5.0	5.0			15.0		15.0
Sec. 606.	Orphaned and abandoned oil and gas well program.		5.0	5.0	5.0			15.0		15.0
	Subtotal Division B	**ss**	**70.0**	**70.0**	**70.0**	**60.0**	**0.0**	**270.0**	**0.0**	**270.0**

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Division C	**Diversifying Energy Demand and Improving Efficiency**									
TITLE VIII	--FUELS AND VEHICLES									
Subtitle A	--Increased Vehicle Fuel Efficiency									
Sec. 803	State programs to retire fuel-inefficient motor vehicles.	ss						ss		ss
Subtitle B	--Alternative and Renewable Fuels									
Sec. 816.	Authorization of appropriations.		50.0	60.0	70.0	80.0		260.0		260.0
Subtitle C	--Federal Reformulated Fuels									
Sec. 822.	Leaking underground storage tanks.	250.0	30.0	30.0	30.0	30.0	30.0	400.0		400.0
Sec. 828.	MBTE merchant producer conversion assistance.	250.0	250.0	250.0				750.0		750.0
	Subtotal, Title VIII, Fuels and Vehicles	500.0	330.0	340.0	100.0	110.0	30.0	1,410.0	0.0	1,410.0
TITLE IX	--ENERGY EFFICIENCY AND ASSISTANCE TO LOW INCOME CONSUMERS									
Subtitle A	--Low Income Assistance and State Energy Programs									
Sec. 901.	LIHEAP		3,400.0	3,400.0	3,400.0			10,200.0		10,200.0
	Weatherization Assistance		325.0	400.0	500.0			1,225.0		1,225.0
Sec. 902.	State Energy Conservation Grants		100.0	100.0	125.0	ss	ss	325.0	ss	325.0
Sec. 903.	Energy efficient schools.		200.0	210.0	220.0	230.0	ss	860.0	ss	860.0
Sec. 904.	Low income community energy efficiency pilot program.		10.0	10.0	10.0			30.0		30.0
	(Sec. 904. NTE 10M per year for FY03-05)									
Subtitle B	--Federal Energy Efficiency									
Sec. 913.	Federal building performance standards.	ss						ss		ss
Sec. 919.	Federal Energy Banks.		250.0	250.0	250.0	250.0		1,000.0		1,000.0
	Subtotal, Title IX, State Programs		4,285.0	4,370.0	4,505.0	480.0	0.0	13,640.0	0.0	13,640.0
	Subtotal Division C	**500.0**	**4,615.0**	**4,710.0**	**4,605.0**	**590.0**	**30.0**	**15,050.0**	**0.0**	**15,050.0**
Division D	**Integration of Energy Policy and Climate Change Policy**									
TITLE X	--CLIMATE CHANGE POLICY FORMULATION									

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Subtitle B	--Climate Change Strategy									
Sec. 1020.	Authorization of appropriations.									
	National Office of Climate Change Response		5.0	5.0	5.0	5.0	5.0	25.0	20.0	45.0
	Office Climate Change Technology (FY03-11)		4.8					4.8		4.8
	Climate Change Response Strategy Review Board		3.0	3.0	3.0	3.0	3.0	15.0	12.0	27.0
	Subtotal Division D		**12.8**	**8.0**	**8.0**	**8.0**	**8.0**	**44.8**	**32.0**	**76.8**
Division E	**Enhancing Research, Development, and Training**									
TITLE XII	--ENERGY RESEARCH AND DEVELOPMENT PROGRAMS [a]									
Subtitle A	--Energy Efficiency									
Sec. 1211.	Enhanced energy efficiency research and development.		700.0	784.0	878.0	983.0		3,345.0		3,345.0
Sec. 1213.	Next generation lighting initiative.		50.0	50.0	50.0	50.0	50.0	250.0	200.0	450.0
Sec. 1214.	Railroad efficiency.		60.0	70.0				130.0		130.0
	Subtotal, Energy Efficiency		810.0	904.0	928.0	1,033.0	50.0	3,725.0	200.0	3,925.0
Subtitle B	--Renewable Energy									
Sec. 1221.	Enhanced renewable energy research and development.		500.0	595.0	683.0	733.0		2,511.0		2,511.0
Sec. 1222.	*Bioenergy part of Sec. 1221 total*									
	Biopower Energy Systems		*60.3*	*69.3*	*79.6*	*86.3*		*295.5*		*295.5*
	Biofuels Energy Systems		*57.5*	*66.1*	*76.0*	*81.4*		*281.0*		*281.0*
Sec. 1223.	Hydrogen R&D									
	Matsunaga Hydrogen R&D and Demonstration program		65.0	70.0	75.0	80.0		290.0		290.0
	Fuel Cells - Hydrogen Future Act		25.0	30.0	35.0	40.0		130.0		130.0
	Subtotal, Renewable Energy		590.0	695.0	793.0	853.0	0.0	2,931.0	0.0	2,931.0
Subtitle C	--Fossil Energy									
Sec. 1231.	Enhanced fossil energy R&D		485.0	508.0	532.0	558.0		2,083.0		2,083.0
Sec. 1232.	Power plant improvement initiative.		0.2	0.2	0.2	0.2		0.8	1.0	1.8
Sec. 1233.	R&D for advanced safe and efficient coal mining technologies.		12.0	15.0				27.0		27.0
Sec. 1235.	R&D for new natural gas transportation technologies.									
Sec. 1236.	Authorization of appropriations for Office of Arctic Energy.									
	Subtotal, Fossil Energy		497.2	523.2	532.2	558.2	0.0	2,110.8	1.0	2,111.8

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Subtitle D	--Nuclear Energy									
Sec. 1241.	Enhanced nuclear energy research and development.									
	University nuclear science, nuclear power research		100.0	110.0	120.0	130.0		460.0		460.0
	Nuclear research capacity and infrastructure		200.0	202.0	207.0	212.0		821.0		821.0
	Subtotal, Nuclear Energy		300.0	312.0	327.0	342.0	0.0	1,281.0	0.0	1,281.0
Subtitle E	--Fundamental Energy Science									
Sec. 1251.	Enhanced programs in fundamental energy science.		3,785.0	4,153.0	4,586.0	5,000.0		17,524.0		17,524.0
Sec. 1252.	*Nanoscale science and engineering research.*		*270.0*	*290.0*	*310.0*	*330.0*		*1,200.0*		*1,200.0*
Sec. 1253.	*Advanced scientific computing for energy missions.*		*285.0*	*300.0*	*310.0*	*320.0*		*1,215.0*		*1,215.0*
Sec. 1254.	*Fusion energy sciences program and planning.*		*335.0*					*335.0*		*335.0*
	items above in italic are part of Sec. 1251 total									
	Subtotal, Fundamental Energy Science		3,785.0	4,153.0	4,586.0	5,000.0	0.0	17,524.0	0.0	17,524.0
Subtitle F	--Energy, Safety, and Environmental Protection									
Sec. 1261.	Critical energy infrastructure protection R&D		10.0	10.0	10.0	10.0		40.0		40.0
Sec. 1262.	Pipeline integrity, safety, and reliability R&D		6.0	6.0	6.0	6.0		24.0		24.0
Sec. 1263.	R&D for remediation of groundwater from energy activities.		10.0	10.0	10.0	10.0		40.0		40.0
	Subtotal, Energy, Safety, & Environmental Protection		26.0	26.0	26.0	26.0	0.0	104.0	0.0	104.0
	Subtotal, Title XII, Energy Research & Development Programs		6,008.2	6,613.2	7,192.2	7,812.2	50.0	27,675.8	201.0	27,876.8
TITLE XIII	--CLIMATE CHANGE RESEARCH AND DEVELOPMENT [a]									
Subtitle A	--Department of Energy Programs									
Sec. 1302.	Department of Energy global change science research.		150.0	175.0	200.0	230.0		755.0		755.0
Subtitle B	--Department of Agriculture Programs									
Sec. 1311.	Carbon sequestration basic and applied research.		25.0	25.0	25.0	25.0		100.0		100.0
Sec. 1312.	Carbon sequestration demonstration projects and outreach.		10.0	10.0	10.0	10.0		40.0		40.0
Subtitle C	--Clean Energy Technology Exports Program									
Sec. 1322.	International energy technology deployment program.		100.0	100.0	100.0	100.0	100.0	500.0	400.0	900.0

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Subtitle D	--Climate Change Science and Information									
Part II	--National Climate Services Monitoring									
Sec. 1344.	Authorization of appropriations.	50.0	65.0	75.5				190.5		190.5
Part III	--Ocean and Coastal Observing System									
Sec. 1352.	Authorization of appropriations.		235.0	315.0	390.0	445.0		1,385.0		1,385.0
Subtitle F	--Climate Adaptation and Hazards Prevention									
Part I	--Assessment and Adaptation									
Sec. 1371.	Regional climate assessment and adaptation program.	4.5						4.5		4.5
Sec. 1372.	Coastal vulnerability and adaptation.	3.0	3.0	3.0	3.0	3.0	3.0	18.0	12.0	30.0
PART II	--Forecasting and Planning Pilot Programs									
Sec. 1384.	Authorization of appropriations.		17.5	20.0	22.5	25.0		85.0		85.0
	Subtotal, Title XIII, Climate Change R&D	57.5	605.5	723.5	750.5	838.0	103.0	3,078.0	412.0	3,490.0
TITLE XIV	--MANAGEMENT OF DOE SCIENCE AND TECHNOLOGY PROGRAMS									
Sec. 1402.	Availability of funds. [a] (available until expended)									
Sec. 1408.	Technology infrastructure program.		10.0	10.0				20.0		20.0
TITLE XV	--PERSONNEL AND TRAINING [a]									
Sec. 1501.	Workforce trends and traineeship grants.		ss	ss	ss	ss		ss		ss
Sec. 1502.	Postdoctoral & senior research fellowships in energy research.		ss	ss	ss	ss		ss		ss
	Subtotal Division E	**57.5**	**6,623.7**	**7,346.7**	**7,942.7**	**8,650.2**	**153.0**	**30,773.8**	**613.0**	**31,386.8**
Division F	**Technology Assessment and Studies**									
TITLE XVI	--TECHNOLOGY ASSESSMENT									
Sec. 1601.	National Science and Technology Assessment Service.		450.0	450.0	450.0	450.0		1,800.0	900.0	2,700.0
DIVISION G	--ENERGY INFRASTRUCTURE SECURITY									
TITLE XIII	--CRITICAL ENERGY INFRASTRUCTURE									

	in millions	FY 02*	FY 03	FY 04	FY 05	FY 06	FY 07	FY02-07	FY 08-11	FY 02-11
Subtitle B	--Department of the Interior Programs									
Sec. 1811.	Outer Continental Shelf energy infrastructure security.		450.0	450.0	450.0	450.0	450.0	2,250.0	450.0	2,700.0
	Subtotal Division F		**900.0**	**900.0**	**900.0**	**900.0**	**450.0**	**4,050.0**	**1,350.0**	**5,400.0**
	Total Authorized Appropriations	**78.5**	**11,932.0**	**12,735.2**	**13,466.2**	**10,138.7**	**651.5**	**49,002.1**	**2,035.0**	**51,037.1**

NOTES:
*FY02 column includes funds for other years when no year has been specified.
ss = such sums as may be necessary
[a] Availability of Funds. Section 1402 says that appropriations authorized under certain titles shall remain available until expended, as opposed to expiring at the end of the fiscal year as is normally the case. Those effected are titles XII (energy R&D), XIII (climate change R&D), and XV (traineeships and fellowships).

Related CRS Reports

CRS Issue Brief IB90122. *Automobile and Light Truck Fuel Economy: Is CAFE Up to Standards?* Updated regularly.

CRS Issue Brief IB10073. *The Arctic National Wildlife Refuge: The Next Chapter.* Updated regularly.

CRS Report RL31096. *Bush Energy Policy: Overview of Major Proposals and Legislative Action.* August 22, 2001.

CRS Report RL30941. *Department of Energy Research and Development Budget for FY2002: Description and Analysis.* November 6, 2001.

CRS Report RL31049. *Energy in 2001: Crisis Again?* July 31, 2001.

CRS Issue Brief IB10080. *Energy Policy: Setting the Stage for the Current Debate.* Updated regularly.

CRS Report RL31127. *Energy Efficiency and Energy Conservation Legislation in the 107th Congress.* September 19, 2001.

CRS Report RL30953. *Energy Tax Incentives: A Comparison of the National Energy Security Act of 2001 (S. 389) and the Democratic Alternative (S. 596).* May 8, 2001.

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