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Part 1

SMART GRID FACILITATION ACT OF 2007

AUGUST 3, 2007.—Ordered to be printed

Mr. DINGELL, from the Committee on Energy and Commerce, submitted the following

R E P O R T

[To accompany H.R. 3237]

The Committee on Energy and Commerce, to whom was referred the bill (H.R. 3237) to facilitate the transition to a smart electricity grid, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

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PURPOSE AND SUMMARY

The purpose of H.R. 3237 is to facilitate and provide Federal leadership for the transition of the Nation's electricity sector to a "smart grid" and to encourage demand-response activities that support and improve the reliability of the grid. H.R. 3237 creates a Federal office in the Department of Energy (DOE) to serve as the

focal point for Federal efforts to facilitate this transition, creates a Federal program to provide grants matching one-fourth of qualifying "smart grid" investments made by private sector participants, and requires the States to consider adopting policies that will foster a "smart grid." The bill contains provisions for review and encouragement of demand-response potential, including requiring Federal agencies to monitor and reduce their own peak demands for power through demand response.

BACKGROUND AND NEED

Although the electric industry supplies the critical energy required for our highly-computerized society, the industry's own operations are not highly computerized. Adoption of "smart grid" technologies will provide new options to the various participants in the electricity sector, permit remote and automatic controls to be programmed to respond to contingencies or opportunities, and make more detailed information concerning supply, demand, economics, and grid conditions available on a real-time basis.

H.R. 3237 is intended to facilitate a transition toward a "smart grid" that participants in the electricity sector appear to agree would be beneficial and is likely inevitable. There is general recognition that the older analog and manual information and control systems on which the grid still relies eventually will be replaced with digital controls and information.

To date, however, this evolution has encountered institutional, economic, and practical barriers that the Federal Government can help reduce. At present, electric utilities are slow to make expensive "smart grid" investments unless their customers are prepared to benefit from them. At the same time, consumers are slow to purchase "smart grid" capable equipment when the grid does not accommodate or reward such investments. Prompting and accelerating such a transition, while not directing it to predetermined results in technology or in regulatory structure, will serve the national interest by helping the United States achieve a more resilient, efficient, and reliable electricity grid.

"Smart grid" technologies can provide signals about costs, availability, and the ability of given power plants to provide ancillary services to the grid, and can record the performance of these facilities in response to those signals. "Smart" sensors and monitors installed along the transmission and distribution systems can provide instant and pinpoint notice of a disruption or contingency that could threaten system reliability or operations. "Smart" meters can provide information about consumption at frequent intervals to utilities, supporting time-of-use pricing that reflects varying electricity value over time. Simultaneously, they can provide system information to electricity consumers and their equipment, to allow them to manage their own consumption in an economically optimum manner. For example, information provided through a smart grid can permit temporary suspension of operations at the utility's request to assure continuity of service to more critical uses or enable consumers to schedule their operations when prices are lowest.

These technologies may use varying modes of communication—such as wire-line, power-line, wireless, or internet. They may be owned and operated by various participants—utilities, customers, or third-parties. The technologies, however, should eventually com-

plement each other and operate in harmony across the interconnected electricity system. H.R. 3237 establishes a Federal policy and role in fostering a common set of national standards or protocols to achieve such interoperability.

The legislation is intended to help create the conditions for widespread innovation and creation of new value in the electricity sector, similar to the experience of recent decades in telecommunications, computer science, biotechnology, and other sectors. The Committee expects that electricity consumers and participants in the industry will all benefit from such innovation, but recognizes that it is likely there will be false starts, technological dead-ends, and competition among optional technologies. The Federal Government, however, should not try to direct or determine specific outcomes of this evolution. Similarly, the bill does not affect decisions by State regulators with respect to costs associated with smart grid investments.

Demand response practices enable electricity consumers to become more active participants in power markets. Such programs provide incentives to consumers to curtail their own uses for the benefit of the broader system economics and reliability. As a major electricity consumer, the Federal Government itself has an opportunity and an obligation to be aware of its own peak power consumption and, wherever feasible, to reduce its peak demand or offer demand response. H.R. 3237 is intended to create better understanding of the potential for demand response and to foster demand response practices on the grid. Coupled with the "smart grid" technologies that will make such programs easy to administer and will make their market value more transparent, demand response practices will improve the economics and operation of the electricity infrastructure that, provides a vital basis for a modem economy and society.

HEARINGS

There was one oversight hearing and one legislative hearing held by the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, in connection to the bill reported by the Committee.

The Subcommittee on Energy and Air Quality held a hearing on "Facilitating the Transition to a Smart Electric Grid: on Thursday, May 3, 2007. The Subcommittee received testimony from the following: Michael W. Howard, Ph.D., P.E., Senior Vice President, Research and Development, Electric Power Research Institute; Mr. Dean Kamen, President, DEKA Research and Development; Mr. Dan Delurey, Executive Director, Demand Response and Advanced Metering Coalition, Mr. Kurt Yeager, Executive Director, Galvin Electricity Initiative; Mr. Brad Gammons, Vice President, IBM Global Energy and Utilities Industry; Ms. Audrey A. Zibelman, Chief Operating Officer, PJM Interconnection; Mr. John Bryson, Chairman, CEO and President, Edison International; Mr. Kevin Kolevar, Director, Office of Energy Delivery and Electricity Reliability, U.S. Department of Energy; The Honorable Jon Wellinghoff, Commissioner, Federal Energy Regulatory Commission; The Honorable Robert F. Lieberman, Commissioner, Illinois Commerce Commission.

The Subcommittee held a legislative hearing entitled "Legislative Hearing on Discussion Drafts concerning Energy Efficiency, Smart Electricity Grid, Energy Policy Act of 2005 Title XVII Loan Guarantees, and Standby Loans for Coal-to-Liquids Projects." The Subcommittee received testimony from the following: Mr. David Rogers, Deputy Assistant Secretary for Energy Efficiency, U.S. Department of Energy; Ms. Kateri Callahan, President, Alliance to Save Energy; Mr. Jay Birnbaum, Vice President and General Counsel, Current Group, LLC.; Ms. Katharine A. Fredriksen, Principal Deputy Assistant Secretary for Policy and International Affairs, U.S. Department of Energy; Mr. Don Maley, Vice President, Leucadia International Corporation; Daniel A. Lashof, Ph.D., Science Director, Climate Center, Natural Resources Defense Council.

SUBCOMMITTEE CONSIDERATION

Prior to the introduction of H.R. 3237, its text was considered in the Committee as a Committee Print.

On Wednesday, June 20, 2007, the Subcommittee on Energy and Air Quality met in open markup session and considered a Committee Print to facilitate the transition to a smart electricity grid. The Committee Print was favorably forwarded to the full Committee, without amendment, by a recorded vote of 16–10. The Committee Print forwarded by the Subcommittee was subsequently designated Committee Print #2 for full Committee consideration.

COMMITTEE CONSIDERATION

On Wednesday, June 27, 2007, the full Committee met in open markup session and ordered the Committee Print favorably reported to the House, amended, by a voice vote. On July 31, 2007, a clean bill, H.R. 3237, was introduced with the approved language of the Committee Print, and was referred to the full Committee to be reported to the House without further consideration.

COMMITTEE VOTES

Clause 3(b) of rule XIII of the Rules of the House of Representatives requires the Committee to list the record votes on the motion to report legislation and amendments thereto. Mr. Dingell moved that the Committee report the Committee Print, amended, favorably to the House. The motion to report the Committee Print favorably to the House was agreed to by a voice vote. There were no recorded votes on this legislation in the full Committee.

COMMITTEE OVERSIGHT FINDINGS

Regarding clause 3(c)(1) of rule XIII of the Rules of the House of Representatives, the oversight findings of the Committee on the bill are reflected in this report.

STATEMENT OF GENERAL PERFORMANCE GOALS AND OBJECTIVES

The goals and objectives of H.R. 3237 are to facilitate the transition to a smart electricity grid, to establish a Grid Modernization Commission that will assess both progress towards a smart grid, to require development of protocols and standards for information management, to establish a smart grid investment grant program,

to require state regulatory authorities to consider ways to encourage Smart Grid implementation and energy efficiency to assess and achieve demand response potential, and to establish programs to reduce Federal peak electricity demand.

NEW BUDGET AUTHORITY, ENTITLEMENT AUTHORITY, AND TAX EXPENDITURES

Regarding compliance with clause 3(c)(2) of rule XIII of the Rules of the House of Representatives, the Committee finds that H.R. 3237 would result in no new or increased budget authority, entitlement authority, or tax expenditures or revenues.

EARMARKS AND TAX AND TARIFF BENEFITS

Regarding compliance with clause 9 of rule XXI of the Rules of the House of Representatives, H.R. 3237 does not contain any congressional earmarks, limited tax benefits, or limited tariff benefits as defined in clause 9(d), 9(e), or 9(f) of Rule XXI.

COMMITTEE COST ESTIMATE

The Committee will adopt as its own the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974.

CONGRESSIONAL BUDGET OFFICE ESTIMATE

Regarding clause 3(c)(3) of rule XIII of the Rules of the House of Representatives, a cost estimate on H.R. 3237 by the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974 was not available as of the time of the filing of this report by the committee.

FEDERAL MANDATES STATEMENT

The Committe will adopt as its own the estimate of Federal mandates prepared by the Director of the Congressional Budget Office pursuant to section 423 of the Unfunded Mandates Reform Act.

ADVISORY COMMITTEE STATEMENT

Regarding section 5(b) of the Federal Advisory Committee Act, the bill does not establish any committee that is subject to such Act.

CONSTITUTIONAL AUTHORITY STATEMENT

Pursuant to clause 3(d)(1) of rule XIII of the Rules of the House of Representatives, the Committee finds that the Constitutional authority for this legislation is provided in Article I, section 8, clause 3, which grants Congress the power to regulate commerce with foreign nations, among the several States, and with the Indian tribes, and in the provisions of Article I, section 8, clause 1, that relate to expending funds to provide for the general welfare of the United States.

APPLICABILITY TO LEGISLATIVE BRANCH

The Committee finds that the legislation does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act.

SECTION-BY-SECTION ANALYSIS OF THE LEGISLATION

SUBTITLE A: SMART GRID FACILITATION

Section 101. Statement of Policy in Support of Modernization of Electricity Grid—Establishes Federal policy to support implementation of Smart Grid technologies.

Section 102. Grid Modernization Commission—Establishes a Grid Modernization Commission (Commission) to lead the Federal effort to implement Smart Grid technologies and to work with States and utilities.

Section 103. Grid Assessment and Report—Instructs the Commission to study barriers to compatible Smart Grid technology implementation and to recommend means to assure development of consistent national protocols and model standards for Smart Grid technologies.

Section 104. Federal Matching Fund for Smart Grid Investment Costs—Creates Federal matching grant program to reimburse one-fourth of the costs of implementation of Smart Grid technologies where consumers, utilities, States or other participants contribute three-quarters of the costs.

Section 105. Smart Grid Technology Deployment Program—Instructs DOE to develop programs to assist deployment of Smart Grid technologies and to perform cooperative demonstration projects with as many as five electric utilities.

Section 106. Smart Grid Information Requirements—Instructs the Commission to work with States, utilities, and others to determine the information required by consumers to utilize Smart Grid technologies.

Section 107. State Consideration of Incentives for Smart Grid—Amends the Public Utility Regulatory Policies Act of 1978 (PURPA) to require States to consider regulatory standards that would (1) allow utilities to include Smart Grid investments in rates; (2) "decouple" utility profits from the volume of electricity throughput to consumers; and (3) require utilities to make time-sensitive supply, cost, price, and other information available to consumers to facilitate Smart Grid technologies and demand response.

Section 108. DOE Study of Security Attributes of Smart Grid Systems—Requires DOE to study the effects of Smart Grid technologies on the security of the electricity grid and infrastructure.

SUBTITLE B: DEMAND RESPONSE

Section 111. Electricity Sector Demand Response—Amends the National Energy Conservation Policy Act by adding three new sections:

(1) Federal Electricity Peak Demand Reduction Standard—Requires Federal agencies to reduce their peak electricity consumption by 2 percent per year for a 10-year period, or make such de-

mand available as demand response, and include results in reports to Congress.

National Action Plan for Demand Response—Requires the Commission to conduct an assessment of demand response potential and to prepare a plan to achieve that potential through assistance to States.

(3) Environmental Attributes and Impacts of Demand Response and Smart Grid System—Requires an EPA Study of environmental effects of demand response and Smart Grid implementation.

CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

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

PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978

* * * * * * *

TITLE I—RETAIL REGULATORY POLICIES FOR ELECTRIC UTILITIES

* * * * * * *

Subtitle B—Standards For Electric Utilities

SEC. 111. CONSIDERATION AND DETERMINATION RESPECTING CERTAIN RATEMAKING STANDARDS.

(a) * * *

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(d) ESTABLISHMENT.—The following Federal standards are hereby established:

(1) * * *

* * * * * * *

(16) UTILITY INVESTMENT IN SMART GRID INVESTMENTS.—Each electric utility shall prior to undertaking investments in non-advanced grid technologies demonstrate that alternative investments in advanced grid technologies have been considered, including from a standpoint of cost-effectiveness, where such cost-effectiveness considers costs and benefits on a life-cycle basis.

(17) UTILITY COST OF SMART GRID INVESTMENTS.—Each electric utility shall be permitted to—

(A) recover from ratepayers the capital and operating expenditures and other costs of the utility for qualified smart grid system, including a reasonable rate of return on the capital expenditures of the utility for a qualified smart grid system, and

(B) recover in a timely manner the remaining book-value costs of equipment rendered obsolete by the deployment of a qualified smart grid system, based on the remaining depreciable life of the obsolete equipment.

(18) RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY INVESTMENTS.—

(A) IN GENERAL.—The rates allowed to be charged by any electric utility shall—

(i) align utility incentives with the delivery of cost-effective energy efficiency; and

(ii) promote energy efficiency investments.

(B) POLICY OPTIONS.—In complying with subparagraph (A), each State regulatory authority and each nonregulated utility shall consider—

(i) removing the throughput incentive and other regulatory and management disincentives to energy efficiency;

(ii) providing utility incentives for the successful management of energy efficiency programs;

(iii) including the impact on adoption of energy efficiency as 1 of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives;

(iv) adopting rate designs that encourage energy efficiency for each customer class; and

(v) allowing timely recovery of energy efficiency-related costs.

(19) SMART GRID INFORMATION.—

(A) STANDARD.—All electricity purchasers shall be provided direct access, both in written and electronic machine-readable form, to information from their electricity provider as provided in subparagraph (B).

(B) INFORMATION.—Information provided under this section shall conform to the standardized rules issued by the Commission on Grid Modernization under section 106(b) of the [SHORT TITLE Act of 2007] and shall include:

(i) PRICES.—Purchasers and other interested persons shall be provided with information on:

(I) Time-based electricity prices in the wholesale electricity market; and

(II) Time-based electricity retail prices or rates that are available to the purchasers.

(ii) USAGE.—Purchasers shall be provided with the number of electricity units, expressed in kwh, purchased by them

(iii) INTERVALS AND PROJECTIONS.—Updates of information on prices and usage shall be offered on not less than a daily basis, shall include hourly price and use information, where available, and shall include a day-ahead projection of such price information to the extent available.

(iv) SOURCES.—Purchasers and other interested person shall be provided with written information on the sources of the power provided by the utility, to the extent it can be determined, by type of generation, includ-

ing greenhouse gas emissions and criteria pollutants associated each type of generation, for intervals during which such information is available on a cost-effective basis, but not less than monthly.

(C) ACCESS.—Purchasers shall be able to access their own information at any time through the internet and on other means of communication elected by that utility for Smart Grid applications. Other interested persons shall be able to access information not specific to any purchaser through the Internet. Information specific to any purchaser shall be provided solely to that purchaser.

SEC. 112. OBLIGATIONS TO CONSIDER AND DETERMINE.

(a) * * *

(b) TIME LIMITATIONS.—(1) * * *

* * * * * * *

(6)(A) Not later than 1 year after the enactment of this paragraph, but not less than 3 years after the conclusion of any prior review of such standards, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated utility shall commence the consideration referred to in section 111, or set a hearing date for consideration, with respect to the standards established by paragraphs (16) through (19) of section 111(d). Not later than 6 months after the promulgation of rules by the Commission on Grid Modernization under section 106(b) of the [SHORT TITLE Act of 2007], each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated utility shall commence the consideration referred to in section 111, or set a hearing date for consideration, with respect to the standard established by paragraph (19) of section 111(d).

(B) Not later than 2 years after the date of the enactment of the this paragraph, but not less than 4 years after the conclusion of any prior review of such standard, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority), and each nonregulated electric utility, shall complete the consideration, and shall make the determination, referred to in section 111 with respect to each standard established by paragraphs (16) through (18) of section 111(d). Not later than 18 months after the promulgation of rules by the Commission on Grid Modernization under section 106(b) of the [SHORT TITLE Act of 2007] each State regulatory authority (with respect to each electric utility for which it has ratemaking authority), and each nonregulated electric utility, shall complete the consideration, and shall make the determination, referred to in section 111 with respect to each standard established by paragraph (19) of section 111(d).

(c) FAILURE TO COMPLY.—Each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated electric utility shall undertake the consideration, and make the determination, referred to in section 111 with respect to each standard established by section 111(d) in the first rate proceeding commenced after the date three years after the date of enactment of this Act respecting the rates of such utility if such State regulatory authority or nonregulated electric utility has not, before such date, complied with subsection (b)(2) with

respect to such standard. In the case of each standard established by paragraphs (11) through (13) of section 111(d), the reference contained in this subsection to the date of enactment of this Act shall be deemed to be a reference to the date of enactment of such paragraphs (11) through (13). In the case of the standard established by paragraph (14) of section 111(d), the reference contained in this subsection to the date of enactment of this Act shall be deemed to be a reference to the date of enactment of such paragraph (14). In the case of the standard established by paragraph (15), the reference contained in this subsection to the date of enactment of this Act shall be deemed to be a reference to the date of enactment of paragraph (15). *In the case of the standards established by paragraphs (16) through (19) of section 111(d), the reference contained in this subsection to the date of enactment of this Act shall be deemed to be a reference to the date of enactment of such paragraphs.*

(d) PRIOR STATE ACTIONS.—Subsections (b) and (c) of this section shall not apply to the standards established by paragraphs (11) through (13) *and paragraphs (16) through (18)* of section 111(d) in the case of any electric utility in a State if, before the enactment of this subsection—

(1) * * *

* * * * * * *

(g) RECONSIDERATION OF PRIOR TIME-OF-DAY AND COMMUNICATION STANDARDS.—Not later than 1 year after the enactment of this subsection, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority) and each nonregulated utility shall commence a reconsideration under section 111, or set a hearing date for reconsideration, with respect to the standards established by paragraphs (3) and (14) of section 111(d) to take into account Smart Grid technologies. Not later than 2 years after the date of the enactment of this subsection, each State regulatory authority (with respect to each electric utility for which it has ratemaking authority), and each nonregulated electric utility, shall complete the reconsideration, and shall make the determination, referred to in section 111 with respect to the standards established by paragraphs (3) and (14) of section 111(d).

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NATIONAL ENERGY CONSERVATION POLICY ACT

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TITLE I—GENERAL PROVISIONS

SEC. 101. SHORT TITLE AND TABLE OF CONTENTS.

(a) * * *

(b) TABLE OF CONTENTS.—

TITLE I—GENERAL PROVISIONS

Sec. 101. Short title and table of contents.
Sec. 102. Findings and statement of purposes.

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TITLE V—FEDERAL ENERGY INITIATIVE

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PART 5—PEAK DEMAND REDUCTION

SEC. 571. DEFINITIONS

(a) SECRETARY.—As used in this part, the term "Secretary" means the Secretary of Energy.

(b) FEDERAL AGENCY.—As used in this part, the term "Federal agency" has the same meaning as provided by section 551 of this Act.

SEC. 572. FEDERAL ELECTRICITY PEAK DEMAND REDUCTION STANDARD

(a) 2008 AGENCY ANNUAL ENERGY PLAN.—Each Federal agency shall prepare, and include in its annual report under section 548(a) of this Act, each of the following:

(1) A determination of the agency's aggregate electricity demand during the system peak hours for the utilities providing electricity service to its facilities during 2006 and 2007.

(2) A forecast for each year through 2018 of the projected growth in such peak demand in light of projected growth of facilities, staff, activities, electric intensity of activities, and other relevant factors.

(b) FEDERAL ELECTRICITY PEAK DEMAND REDUCTION STANDARD.—

(1) IN GENERAL.—Except as provided in paragraph (2), for calendar year 2009 and each calendar year thereafter, each Federal agency shall reduce its aggregate peak electricity demand or make such amounts of electricity demand available in the form of demand response, by the percentage amount specified in the Federal Electricity Peak Demand Reduction Standard set forth in the following table:

FEDERAL ELECTRICITY PEAK DEMAND REDUCTION STANDARD

Calendar Year	*Reduction of Peak Demand Forecast*
2009	*2 percent of the peak demand forecast for calendar year 2009*
2010	*4 percent of the peak demand forecast for calendar year 2010*
2011	*6 percent of the peak demand forecast for calendar year 2011*
2012	*8 percent of the peak demand forecast for calendar year 2012*
2013	*10 percent of the peak demand forecast for calendar year 2013*
2014	*12 percent of the peak demand forecast for calendar year 2014*
2015	*14 percent of the peak demand forecast for calendar year 2015*
2016	*16 percent of the peak demand forecast for calendar year 2016*

FEDERAL ELECTRICITY PEAK DEMAND REDUCTION STANDARD—CONTINUED

Calendar Year	*Reduction of Peak Demand Forecast*
2017	*18 percent of the peak demand forecast for calendar year 2017*
2018 and each calendar year thereafter.	*20 percent of the peak demand forecast for the applicable calendar year*

In the table above, the term "forecast" refers to the forecast set forth in the 2008 report under section 548(a) of this Act as updated in accordance with subsection in (c)(1)(C).

(2) EXCEPTION.—The standard under this subsection shall not apply to any activity of a Federal agency relating to defense or national security if compliance with the standard would have an adverse mission impact on the activity, as determined by the Secretary of Defense or the Secretary of Homeland Security.

(c) IMPLEMENTATION OF STANDARD.—

(1) IN GENERAL.—Not later than January 1, 2010, and each calendar year thereafter, each Federal agency shall include in the annual energy plan of the Federal agency each of the following:

(A) An assessment of whether the Federal agency was in compliance with the standard under subsection (b) for the preceding year.

(B) A description of—

(i) the method by which the Federal agency proposes to comply with the standard for the following calendar year; and

(ii) the factors relied on by the head of the Federal agency in determining whether to participate in demand response programs offered by an electric utility or others during the preceding calendar year; and

(iii) if the Federal agency did not participate in a demand response program offered by each utility providing electric service to facilities of the agency during the preceding calendar year, an explanation for the decision by the head of the Federal agency to not participate.

(C) An update of the agency's prior forecast for the remaining years in the period until 2018.

(2) AVAILABILITY TO PUBLIC.—Not later than January 1, 2010, and each calendar year thereafter, the head of each Federal agency shall make available to the public a description of each provision included in the annual energy plan of the Federal agency described in subparagraphs (A) through (C) of paragraph (1).

(d) MODIFICATIONS TO FEDERAL ENERGY MANAGEMENT PROGRAM.—The Secretary shall make any modification to the Federal Energy Management Program of the Department of Energy that the Secretary determines to be necessary to

(1) incorporate the standard established under subsection (b) into the Federal Energy Management Program;

(2) assist any Federal agency to comply with the standard established under subsection (b) through any appropriate means, including conducting 1 or more demonstration projects at Federal facilities.

(e) ANNUAL REPORT.—Not later than March 1, 2010, and annually thereafter, the Secretary shall submit to Congress a report that evaluates the success of agencies in meeting the standard established under subsection (b) and the success of the Federal Energy Management Program in assisting agencies with meeting the standard, and the costs and benefits of such participation.

SEC. 573. NATIONAL ACTION PLAN FOR DEMAND RESPONSE

(a) NATIONAL ASSESSMENT AND REPORT.—The Grid Modernization Commission established under subtitle A of title III of the [SHORT TITLE Act of 2007] shall conduct a National Assessment of Demand Response. The Commission shall, within 18 months of the date on which the full Commission first meets, submit a Report to Congress that includes each of the following:

(1) Estimation of nationwide demand response potential in 5 and 10 year horizons, including data on a State-by-State basis, and a methodology for updates of such estimates on an annual basis.

(2) Estimation of how much of this potential can be achieved within 5 and 10 years after the enactment of this Act accompanied by specific policy recommendations that if implemented can achieve the estimated potential. Such recommendations shall include options for funding and/or incentives for the development of demand response resources. The Commission shall seek to take advantage of preexisting research and ongoing work, and shall assume that there is no duplication of effort. The Commission shall further note any barriers to demand response programs that are flexible, non-discriminatory, and fairly compensatory for the services and benefits made available and shall provide recommendations for overcoming such barriers.

(b) NATIONAL ACTION PLAN ON DEMAND RESPONSE.—The Grid Modernization Commission shall further develop and implement a National Action Plan on Demand Response. Such Plan shall be completed within one year after the completion of the National Assessment of Demand Response, and shall meet each of the following objectives:

(1) Provision of adequate technical assistance to States to allow them to maximize the amount of demand response resources that can be developed and deployed.

(2) Implementation of a national communications program that includes broad-based customer education and support.

(3) Development and dissemination of tools, information and other support mechanisms for use by customers, states, utilities and demand response providers.

(c) AUTHORIZATION.—There are authorized to be appropriated to carry out this section not more than $10,000,000 for each of the fiscal years 2008 and 2009 and $20,000,000 for each of the fiscal years 2010 through 2020.

SEC. 574. REPORT ON ENVIRONMENTAL ATTRIBUTES AND IMPACTS OF DEMAND RESPONSE AND SMART GRID SYSTEMS

(a) REPORT.—The Administrator of the Environmental Protection Agency shall solicit public input and, within 6 months after completion of the National Assessment of Demand Response required by

section 573, submit a report to Congress that addresses each of the following:

(1) A quantitative assessment and determination of the existing and potential impacts of demand response and "smart grid" systems on air emissions and air quality, including but not limited to carbon dioxide, oxides of nitrogen and oxides of sulfur.

(2) An assessment and determination of the existing and potential impacts of demand response and "smart grid" systems on environmental parameters other than emissions and air quality, including but not limited to:

(A) Land use.

(B) Water use.

(C) Use of renewable energy.

(D) Effect on energy sources other than electricity.

(3) A detailed plan for how Energy Efficiency and Clean Energy programs administered by the Agency, including the Energy Star Program, will incorporate and encourage end-use efficiency, demand response and "smart grid" systems and technologies, including but not limited to each of the following:

(A) Requirements that appliances and other equipment are capable of manually and automatically receiving and acting upon pricing and control information and or instructions provided by the customer, a load serving entity or a third-party designated by the customer.

(B) Requirements for time-based valuation of kilowatt hour reductions in planning and evaluation of energy efficiency programs.

(C) Education and communication, including to state energy officials and state regulators, that build awareness of demand response and smart grid systems and technologies and their existing and potential relationship to such Agency programs.

(b) FUNDING.—There are authorized to be appropriated to carry out this section such sums as may be necessary for fiscal year 2010, to remain available until expended.

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