I

108TH CONGRESS
1ST SESSION

H. R. 1299

To amend the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 17, 2003

Mr. BOEHLERT introduced the following bill; which was referred to the Committee on Science

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A BILL

To amend the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Hydrogen Fuel Act of 2003'' or ''Hydrogen Act''.

SEC. 2. AMENDMENT TO THE MATSUNAGA ACT.

The Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 (42 U.S.C. 12401 et seq.) is amended by striking sections 102 through 109 and inserting the following:

"SEC. 102. FINDINGS, PURPOSES, AND DEFINITIONS.

''(a) FINDINGS.—Congress finds that—

''(1) the United States is currently dependent on foreign sources for a majority of its petroleum supply;

''(2) the Nation's dependence on foreign petroleum is expected to increase in the decades ahead;

''(3) the national interest is to reduce dependence on imported petroleum by accelerating Federal efforts to partner with the private sector in developing hydrogen and fuel cell technologies;

''(4) the national interest is to support industry's efforts to develop a light duty vehicle fleet that is free or near free of pollutant emissions and greenhouse gas emissions, and that helps to reduce the Nation's dependence on petroleum in a manner that maintains the freedom of consumers to purchase the kinds of vehicles they wish to drive and the freedom to refuel those vehicles safely and affordably;

''(5) the development of hydrogen fuel cell vehicles and supporting infrastructure will accelerate the parallel advancement of fuel cells for stationary power that will enhance the resiliency, reliability, and environmental performance of the Nation's electricity infrastructure;

''(6) ancillary benefits for the Nation, including the acceleration of fuel cell technology for consumer electronics and portable power, are likely to result from the advancement of hydrogen fuel cell vehicles and supporting infrastructure; and

''(7) vehicle technology development work should be performed in a manner that is cognizant of consumer acceptance and marketplace success.

''(b) PURPOSE.—The purpose of this Act is to reduce significantly the Nation's dependence on imported petroleum through support of the following Department of Energy programs and activities:

''(1) Research, development, demonstration, and technology transfer programs for hydrogen and fuel cells, leading to—

''(A) a decision by automakers no later than 2015 to offer affordable and technically viable hydrogen fuel cell vehicles in the mass consumer market; and

''(B) the mass market availability of affordable and technically viable hydrogen fuel cell vehicles and adequate refueling infrastructure no later than 2020.

''(2) An activity to establish international codes, standards, and safety protocols for the use and manufacture of domestic and foreign products.

''(3) Interagency, intergovernmental, and international programs and activities for education, information exchange, and cooperation.

''(4) A survey of private sector hydrogen energy research and development activities worldwide to ensure that Federal research and development activities do not—

''(A) unnecessarily duplicate any available research and development; or

''(B) displace or compete with the privately funded hydrogen energy research and development activities of United States industry.

''(c) DEFINITIONS.—In this Act:

''(1) The term 'Advisory Committee' means the Hydrogen Technical and Fuel Cell Advisory Committee established under section 108 of this Act.

''(2) The term 'Department' means the Department of Energy.

''(3) The term 'fuel cell' means a device that directly converts the chemical energy of a fuel and an oxidant into electricity by an electrochemical process taking place at separate electrodes in the device.

''(4) The term 'infrastructure' means the equipment, systems, or facilities used to produce, distribute, deliver, or store hydrogen and other advanced clean fuels.

''(5) The term 'light duty vehicle' means a car or truck classified by the Department of Transportation as a Class I or IIA vehicle.

''(6) The term 'Secretary' means the Secretary of Energy.

''SEC. 103. PLAN; REPORT.

''(a) PLAN.—The Secretary, in coordination with other appropriate Federal agencies, may prepare a comprehensive interagency coordination plan for research, development, and demonstration programs and activities under this Act. This plan may be submitted at the time of the President's annual budget submission to Congress.

''(b) REPORT.—Not later than one year after the date of enactment of the Hydrogen Fuel Act of 2003, and biennially thereafter, the Secretary may transmit to Congress a report on the status of programs and activities under this Act. This report may be submitted at the time of the President's annual budget submission to Congress. This report may include, in addition to any views and recommendations of the Secretary—

''(1) an assessment of the effectiveness of the programs and activities under this Act and the extent to which the purpose in section 102(b) has been met;

''(2) an analysis of the potential for interagency, intergovernmental, international, or private sector collaboration opportunities in research, development, demonstration, and other programs and activities under this Act; and

''(3) a discussion of how the Department has addressed recommendations of the Advisory Committee.

''SEC. 104. RESEARCH AND DEVELOPMENT.

''(a) PROGRAM.—In partnership with the private sector, the Secretary shall conduct a research and development program for—

''(1) hydrogen infrastructure;

''(2) fuel cells; and

''(3) hydrogen codes, standards, and safety protocols.

''(b) PROGRAM GOALS.—The goals of the research and development program under this section are—

''(1) to enable a decision by automakers not later than 2015 to offer affordable and technically

viable hydrogen fuel cell vehicles in the mass consumer market; and

''(2) to enable production and delivery to consumers of model year 2020 hydrogen fuel cell vehicles that will have—

''(A) a range of at least three hundred miles;

''(B) safety and performance comparable to vehicle technologies in the market; and

''(C) when compared to light duty vehicles in model year 2003—

''(i) a fuel economy that is two and one half times the equivalent fuel economy of comparable light duty vehicles in model year 2003; and

''(ii) zero or near zero emissions of pollutants; and

''(D) vehicle fuel system crash integrity and occupant protection.

''(c) HYDROGEN INFRASTRUCTURE.—The research and development program for hydrogen infrastructure may include—

''(1) safe and convenient refueling;

''(2) activities leading to widespread availability of hydrogen from domestic energy sources through—

''(A) production, including emphasis on cost-effective production from domestic energy sources;

''(B) delivery, including transmission by pipeline and other distribution methods for hydrogen; and

''(C) storage, including storage in surface transportation vehicles; and

''(3) hydrogen for fuel cells, and other energy conversion devices for portable, stationary, and transportation applications.

''(d) FUEL CELLS.—The research and development program for fuel cells and their portable, stationary, and transportation applications may include—

''(1) a safe, economical, and environmentally sound hydrogen fuel cell; and

''(2) a fuel cell for light duty vehicles and other vehicles.

''(e) HYDROGEN CODES, STANDARDS, AND SAFETY PROTOCOLS.—

''(1) IN GENERAL.—The Department's research and development program for hydrogen codes, standards, and safety protocols includes as a goal the establishment of international codes, standards, and safety protocols for the performance and manufac-

ture of domestic and foreign products, including motor vehicles and equipment. The Department shall coordinate these activities with other Federal agencies.

''(2) REPRESENTATION.—The Department may represent the United States interests with respect to activities and programs under this Act, in coordination with the Department of Transportation, before governments and nongovernmental organizations including—

''(A) other Federal, State, regional, and local governments and their representatives;

''(B) industry and its representatives, including members of the energy and transportation industries; and

''(C) in consultation with the Department of State, foreign governments and their representatives including international organizations.

''(f) FEDERAL FUNDING.—

''(1) PROCEDURES.—The Secretary shall carry out the research and development programs and activities under this Act using a competitive, merit-review process and consistent with the generally applicable Federal laws and regulations governing awards

of financial assistance, contracts, or other agreements.

''(2) DUPLICATION.—The Department shall—

''(A) survey private sector hydrogen energy research and development activities worldwide; and

''(B) endeavor to avoid duplication or displacement of other research and development programs and activities.

''(g) COST SHARING.—

''(1) IN GENERAL.—The Secretary shall require a commitment from non-Federal sources of at least 20 percent of the cost of proposed research and development.

''(2) RANKING FACTOR.—The Department shall make the percentage of cost-sharing a ranking factor in making competitive awards.

''(3) REDUCTION.—The Secretary may reduce the cost sharing requirement under paragraph (1)—

''(A) if the Secretary determines that the research and development is of a basic or fundamental nature; or

''(B) for technical analyses, outreach programs, or other activities including educational programs under section 107 that the Secretary

does not expect to result in a marketable product.

"SEC. 105. DEMONSTRATIONS.

"(a) DEMONSTRATION PROGRAM.—The purpose of demonstrations is to evaluate commercial applicability of technologies or to identify additional research or development needs that cannot be identified through other means. In partnership with the private sector, and in coordination with the Department of Transportation, the Secretary may conduct a demonstration program for—

"(1) hydrogen infrastructure;

"(2) fuel cells and fuel cell technologies including hydrogen-powered fuel cell vehicles; and

"(3) hydrogen codes, standards, and safety protocols.

"(b) FEDERAL FUNDING.—The Secretary shall carry out demonstrations under this section using a competitive, merit-review process and consistent with the generally applicable Federal laws and regulations governing awards of financial assistance, contracts, or other agreements. The Department shall endeavor to avoid duplication or displacement of other demonstrations.

"(c) COST SHARING.—

"(1) IN GENERAL.—The Secretary shall require a commitment from non-Federal sources of at least

50 percent of the costs directly relating to a demonstration under this Act.

''(2) RANKING FACTOR.—The Secretary shall make the percentage of cost-sharing a ranking factor in making competitive awards.

''(3) REDUCTION.—The Secretary may reduce the non-Federal cost sharing requirement under paragraph (1) if the Secretary determines that the reduction is appropriate considering the technological risks involved.

''(4) COOPERATIVE AGREEMENTS WITH GOVERNMENTS.—The Secretary may enter into cost-sharing agreements with Federal, State, or local governments to demonstrate applications using hydrogen and fuel cells.

''SEC. 106. TECHNOLOGY ASSESSMENT AND TRANSFER.

''(a) PROGRAM.—The Secretary may conduct a program to transfer technology to the private sector under this Act. The purpose of the technology transfer program is to foster the exchange of generic, nonproprietary information and technology, developed under this Act, among industry, academia, and the Federal Government, to help the United States economy attain the economic benefits of this information and technology, among other purposes.

''(b) ADVICE AND ASSISTANCE.—The Secretary shall direct the program authorized by this section with the advice and assistance of the Advisory Committee.

''SEC. 107. INTERAGENCY TASK FORCE.

''(a) ESTABLISHMENT.—Not later than 120 days after the date of enactment of the Hydrogen Fuel Act of 2003, the President shall establish an interagency task force, chaired by the Director of the Office of Science and Technology Policy or his designee, with representatives from each of the following:

''(1) The Department of Energy.

''(2) The Department of Transportation.

''(3) The Department of State.

''(4) The Department of Defense.

''(5) The Department of Commerce (including the National Institute of Standards and Technology).

''(6) The Environmental Protection Agency.

''(7) The National Aeronautics and Space Administration.

''(8) Other Federal agencies as the Director determines appropriate.

''(b) DUTIES OF THE INTERAGENCY TASK FORCE.—

''(1) PLANNING.—The interagency task force shall coordinate the implementation of the inter-

agency coordination plan prepared under section 103(a), and shall work toward development of—

"(A) a safe, economical, and environmentally sound hydrogen infrastructure;

"(B) uniform hydrogen codes, standards, and safety protocols;

"(C) fuel cells in government applications, including portable, stationary, and transportation applications; and

"(D) vehicle hydrogen fuel system integrity safety performance.

"(2) INFORMATION EXCHANGE.—(A) The interagency task force shall coordinate interagency programs and activities including the exchange of information.

"(B) The heads of all agencies, including those whose agencies are not represented on the interagency task force, shall cooperate with and furnish information to the interagency task force and the Department.

"(C) The information exchange may consist of workshops, publications, conferences, and a database for use by the public and private sectors. The interagency task force shall—

''(i) foster the exchange of generic, non-proprietary information and technology among industry, academia, and government;

''(ii) update the inventory and assessment of hydrogen, fuel cells, and other advanced technologies, including the commercial capability of each technology for the economic and environmentally safe production, distribution, delivery, storage, and use of hydrogen;

''(iii) integrate technical and other information made available as a result of the programs and activities under this Act;

''(iv) promote the marketplace introduction of infrastructure for hydrogen-powered fuel cell vehicles; and

''(v) conduct an education program to provide hydrogen and fuel cell information to potential end-users.

''SEC. 108. ADVISORY COMMITTEE.

''(a) ESTABLISHMENT.—The Hydrogen Technical and Fuel Cell Advisory Committee shall be established to advise the Secretary on the programs and activities under this Act.

''(b) MEMBERSHIP.—

''(1) MEMBERS.—The Advisory Committee is comprised of not fewer than 12 nor more than 25 members. The Secretary shall appoint members to represent domestic industry, academia, professional societies, government agencies, and financial, environmental, and other appropriate organizations based on the Secretary's assessment of the technical and other qualifications of committee members and the needs of the Advisory Committee.

''(2) TERMS.—The term of a member of the Advisory Committee shall be not more than three years. The Secretary may appoint members of the Advisory Committee in a manner that allows the terms of the members serving at any time to expire at spaced intervals so as to ensure continuity in the functioning of the Advisory Committee. A member of the Advisory Committee whose term is expiring may be reappointed.

''(3) CHAIRPERSON.—The Chair of the Advisory Committee shall be a member of the Advisory Committee, elected by the members from among their number.

''(c) REVIEW.—The Advisory Committee shall review and make recommendations to the Secretary in a biennial report on—

''(1) the implementation of programs and activities under this Act;

''(2) the safety, economical, environmental, and other consequences of technologies for the production, distribution, delivery, storage, or use of hydrogen and fuel cells; and

''(3) the interagency coordination plan prepared under section 103(a).

''(d) RESPONSE TO RECOMMENDATIONS.—The Secretary shall consider, but need not adopt, any recommendations of the Advisory Committee under subsection (c). The Secretary shall either describe the implementation of each recommendation made, or provide an explanation of the reasons that a recommendation will not be implemented, in the report transmitted under section 103(b).

''(e) ADVISORY COMMITTEE SUPPORT.—The Secretary shall provide resources necessary in the judgment of the Secretary for the Advisory Committee to carry out its responsibilities under this Act.

''SEC. 109. NATIONAL ACADEMY OF SCIENCES REVIEW.

''Beginning two years after the date of enactment of the Hydrogen Fuel Act of 2003, and every four years thereafter, the National Academy of Sciences shall review the progress made through the programs and activities au-

thorized under this Act and shall report to the Congress on the results of this review.''.

SEC. 3. TECHNICAL AND CONFORMING AMENDMENTS TO THE HYDROGEN FUTURE ACT OF 1996.

The Hydrogen Future Act of 1996 is repealed.

SEC. 4. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to carry out the purposes of this Act for fiscal years 2003 through 2008, $1,223,000,000.

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