may be referred to as the 'Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990'."

#### § 12402. Report to Congress

(a) Not later than January 1, 1999, the Secretary shall transmit to Congress a detailed report on the status and progress of the programs authorized under this chapter.

(b) A report under subsection (a) shall include, in addition to any views and recommendations of the Secretary—

(1) an analysis of the effectiveness of the programs authorized under this chapter, to be prepared and submitted to the Secretary by the Hydrogen Technical Advisory Panel established under section 12407 of this title; and

(2) recommendations of the Hydrogen Technical Advisory Panel for any improvements in the program that are needed, including recommendations for additional legislation.

(Pub. L. 101–566, §103, Nov. 15, 1990, 104 Stat. 2797; Pub. L. 104–271, title I, §102(a), Oct. 9, 1996, 110 Stat. 3304.)

#### AMENDMENTS

1996—Pub. L. 104–271 amended section generally, substituting provisions requiring report to Congress on chapter programs by Jan. 1, 1999, for provisions regarding preparation and contents of comprehensive 5-year program management plan for research and development activities and comprehensive large-scale hydrogen demonstration plan with respect to section 12404 demonstrations.

# § 12403. Hydrogen research and development

#### (a) Program

The Secretary shall conduct a hydrogen research and development program relating to production, storage, transportation, and use of hydrogen, with the goal of enabling the private sector to demonstrate the technical feasibility of using hydrogen for industrial, residential, transportation, and utility applications.

#### (b) Research

In conducting the program authorized by this section, the Secretary shall—

(1) give particular attention to developing an understanding and resolution of critical technical issues preventing the introduction of hydrogen into the marketplace;

(2) initiate or accelerate existing research in critical technical issues that will contribute to the development of more economic hydrogen production and use, including, but not limited to, critical technical issues with respect to production (giving priority to those production techniques that use renewable energy resources as their primary source of energy for hydrogen production), liquefaction, transmission, distribution, storage, and use (including use of hydrogen in surface transportation); and

(3) survey private sector hydrogen activities and take steps to ensure that research and development activities under this section do not displace or compete with the privately funded hydrogen research and development activities of United States industry.

## (c) Innovative energy technologies

The Secretary is authorized to evaluate any reasonable new or improved technology, includ-

ing basic research on highly innovative energy technologies, that could lead or contribute to the development of economic hydrogen production, storage, and utilization.

#### (d) Renewable energy systems; hybrid systems

The Secretary is authorized to evaluate any reasonable new or improved technology that could lead or contribute to, or demonstrate the use of, advanced renewable energy systems or hybrid systems for use in isolated communities that currently import diesel fuel as the primary fuel for electric power production.

#### (e) Information

The Secretary is authorized to arrange for tests and demonstrations and to disseminate to researchers and developers information, data, and other materials necessary to support the research and development activities authorized under this section and other efforts authorized under this chapter, consistent with section 12405 of this title.

#### (f) Federal funding

The Secretary shall carry out the research and development activities authorized under this section only through the funding of research and development proposals submitted by interested persons according to such procedures as the Secretary may require and evaluate on a competitive basis using peer review. Such funding shall be in the form of a grant agreement, procurement contract, or cooperative agreement (as those terms are used in chapter 63 of title 31).

### (g) Non-Federal funding

The Secretary shall not consider a proposal submitted by a person from industry unless the proposal contains a certification that reasonable efforts to obtain non-Federal funding for the entire cost of the project have been made, and that such non-Federal funding could not be reasonably obtained. As appropriate, the Secretary shall require a commitment from non-Federal sources of at least 50 percent of the cost of the development portion of such a proposal.

# (h) Prohibition on duplicative efforts

The Secretary shall not carry out any activities under this section that unnecessarily duplicate activities carried out elsewhere by the Federal Government or industry.

# (i) Federal funding consistent with the Agreement on Subsidies and Countervailing Measures

The Secretary shall establish, after consultation with other Federal agencies, terms and conditions under which Federal funding will be provided under this chapter that are consistent with the Agreement on Subsidies and Countervailing Measures referred to in section 3511(d)(12) of title 19.

(Pub. L. 101–566, §104, Nov. 15, 1990, 104 Stat. 2798; Pub. L. 104–271, title I, §103(a), Oct. 9, 1996, 110 Stat. 3305.)

#### AMENDMENTS

1996—Pub. L. 104–271 amended section generally, substituting present provisions for provisions which stated in subsec. (a) the Secretary was to conduct a research and development program for development of a domes-