(7) to continue international cooperation in magnetic fusion research for the benefit of all nations;

(8) to promote greater public understanding of magnetic fusion; and

(9) to maintain the United States as the world leader in magnetic fusion.

(Pub. L. 96–386, § 2, Oct. 7, 1980, 94 Stat. 1539.)

SHORT TITLE

Pub. L. 96–386, § 1, Oct. 7, 1980, 94 Stat. 1539, provided: ''That this Act [enacting this chapter] may be cited as the 'Magnetic Fusion Energy Engineering Act of 1980'.''

§ 9302. Definitions

For the purposes of this chapter—

(1) ''fusion'' means a process whereby two light nuclei, such as deuterium and tritium, collide at high velocity, forming a compound nucleus, which subsequently separates into constituents which are different from the original colliding nuclei, and which carry away the accompanying energy release;

(2) ''magnetic fusion'' means the use of magnetic fields to confine a very hot, fully ionized gas of light nuclei, so that the fusion process can occur;

(3) ''energy system'' means a facility designed to utilize energy released in the magnetic fusion process for the generation of electricity and the production of hydrogen or other fuels;

(4) ''fusion engineering device'' means a magnetic fusion facility which achieves at least a burning plasma and serves to test components for engineering purposes;

(5) ''demonstration plant'' means a prototype energy system which is of sufficient size to provide safety, environmental reliability, availability, and ready engineering extrapolation of all components to commercial size but which system need not be economically competitive with then alternative energy sources; and

(6) ''Secretary'' means Secretary of Energy.

(Pub. L. 96–386, § 3, Oct. 7, 1980, 94 Stat. 1540.)

§ 9303. Program activities

(a) Development in areas where lack of knowledge limits magnetic fusion energy systems

The Secretary shall initiate activities or accelerate existing activities in research areas in which the lack of knowledge limits magnetic fusion energy systems in order to ensure the achievement of the purposes of this chapter.

(b) Research programs on plasma confinement, alternate confinement concepts, advanced fuels, and properties of materials likely to be used in construction of fusion engineering devices

(1) The Secretary shall maintain an aggressive plasma confinement research program on the current lead concept to provide a full measure of support for the design, construction, and operation of the fusion engineering devices.

(2) The Secretary shall maintain a broadly based research program on alternate confinement concepts and on advanced fuels at a sufficient level of funding to achieve optimal design of each successive magnetic fusion facility using the then best available confinement and fuel concept.

(3) The Secretary shall ensure that research on properties of materials likely to be required for the construction of fusion engineering devices is adequate to provide timely information for the design of such devices.

(c) Fusion engineering device designs

(1) The Secretary shall initiate design activities on a fusion engineering device using the best available confinement concept to ensure operation of such a device at the earliest practicable time, but not later than the year 1990.

(2) The Secretary shall develop and test the adequacy of the engineering design of components to be utilized in the fusion engineering device.

(d) Operation of demonstration plant at turn of twenty-first century

The Secretary shall initiate at the earliest practical time each activity which he deems necessary to achieve the national goal for operation of a demonstration plant at the turn of the twenty-first century.

(e) Assessment of factors in determining commercial introduction of magnetic fusion energy systems

The Secretary shall continue efforts to assess factors which will determine the commercial introduction of magnetic fusion energy systems including, but not limited to—

(1) projected costs relative to other alternative energy sources;

(2) projected growth rates in energy demand;

(3) safety-related design limitations;

(4) environmental impacts; and

(5) limitations on the availability of strategic elements, such as helium, lithium, and special metals.

(Pub. L. 96–386, § 4, Oct. 7, 1980, 94 Stat. 1540.)

§ 9304. Comprehensive program management plan; submittal to Congressional committees

(a) The Secretary shall prepare a comprehensive program management plan for the conduct of the research, development, and demonstration activities under this chapter. Such plan shall include at a minimum—

(1) a presentation of the program strategy which will be used to achieve the purposes of this chapter;

(2) a five-year program implementation schedule, including identification of detailed milestone goals, with associated budget and program resources requirements;

(3) risk assessments;

(4) supporting research and development needed to solve problems which may inhibit or limit development of magnetic fusion energy systems; and

(5) an analysis of institutional, environmental, and economic considerations which are limiting the national magnetic fusion program.

(b) The Secretary shall transmit the comprehensive program management plan to the Committee on Science and Technology of the House

of Representatives and the Committee on Energy and Natural Resources of the Senate not later than January 1, 1982.

(Pub. L. 96–386, § 5, Oct. 7, 1980, 94 Stat. 1541.)

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 9305. Magnetic fusion engineering center

(a) Development plan

The Secretary shall develop a plan for the creation of a national magnetic fusion engineering center for the purpose of accelerating fusion technology development via the concentration and coordination of major magnetic fusion engineering devices and associated activities at such a national center.

(b) Factors considered in formulation of development plan

In developing the plan, the Secretary shall include relevant factors including, but not limited to—

(1) means of saving cost and time through the establishment of the national center relative to the cost and schedule currently projected for the program;

(2) means of providing common facilities to be shared by many magnetic fusion concepts;

(3) assessment of the environmental and safety-related aspects of the national center;

(4) provisions for international cooperation in magnetic fusion activities at the national center;

(5) provision of access to facilities for the broader technical involvement of domestic industry and universities in the magnetic fusion energy program;

(6) siting criteria for the national center including a list of potential sites;

(7) the advisability of establishing such a center considering all factors, including the alternative means and associated costs of pursuing such technology; and

(8) changes in the management structure of the magnetic fusion program to allow more effective direction of activities related to the national center.

(c) Report to Congressional committees

The Secretary shall submit not later than July 1, 1981, a report to the House Committee on Science and Technology and the Senate Committee on Energy and Natural Resources characterizing the plan and setting forth the steps necessary for implementation of the plan, including any steps already implemented.

(Pub. L. 96–386, § 6, Oct. 7, 1980, 94 Stat. 1541.)

CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 9306. Repealed. Pub. L. 104–46, title V, § 509, Nov. 13, 1995, 109 Stat. 421

Section, Pub. L. 96–386, § 7, Oct. 7, 1980, 94 Stat. 1542, related to establishment, membership, duties, etc., of technical panel on magnetic fusion and required panel to submit to Energy Research Advisory Board on at least a triennial basis a written report of its findings and recommendations with regard to magnetic fusion program.

§ 9307. Program advisory committees

The Secretary may direct the director of each laboratory or installation at which a major magnetic fusion facility is operated for, or funded primarily by, the Federal Government to establish, for the sole purpose of providing advice to such director, a program advisory committee composed of persons with expertise in magnetic fusion from such domestic industry, universities, government laboratories, and other scientific and technical organizations as such director deems appropriate.

(Pub. L. 96–386, § 8, Oct. 7, 1980, 94 Stat. 1543.)

TERMINATION OF ADVISORY COMMITTEES

Advisory committees established after Jan. 5, 1973, to terminate not later than the expiration of the 2-year period beginning on the date of their establishment, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided for by law. See section 14 of Pub. L. 92–463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

§ 9308. International cooperation; examination of impact on national magnetic fusion program; exploration of prospects for joint funding in construction of fusion engineering device; report to Congressional committees on results of examination and exploration

(a)(1) The Secretary in consultation with the Secretary of State shall actively seek to enter into or to strengthen existing international cooperative agreements in magnetic fusion research and development activities of mutual benefit to all parties.

(2) The Secretary shall seek to achieve equitable exchange of information, data, scientific personnel, and other considerations in the conduct of cooperative efforts with technologically advanced nations.

(b)(1) The Secretary shall examine the potential impacts on the national magnetic fusion program of United States participation in an international effort to construct fusion engineering devices.

(2) The Secretary shall explore, to the extent feasible, the prospects for joint financial participation by other nations with the United States in the construction of a fusion engineering device.

(3) Within two years of October 7, 1980, the Secretary shall transmit to the House Committee on Science and Technology and the Senate Committee on Energy and Natural Resources the results of such examinations and explorations with his recommendations for construction of a national or international fusion engineering device: *Provided, however*, That such examinations and explorations shall not have the effect of delaying design activities related to a national fusion engineering device.