

of Pub. L. 109-58, which is classified to section 16251(d) of this title but was translated as meaning section 952(d) of Pub. L. 109-58 to reflect the probable intent of Congress, because section 952(d) relates to Generation IV Nuclear Energy Systems Initiative and section 942(d) relates to limitations on production incentives for cellulosic biofuels.

§ 16022. Project management

(a) Departmental management

(1) In general

The Project shall be managed in the Department by the Office of Nuclear Energy, Science, and Technology.

(2) Generation IV Nuclear Energy Systems program

The Secretary may combine the Project with the Generation IV Nuclear Energy Systems Initiative.

(3) Existing DOE project management expertise

The Secretary may utilize capabilities for review of construction projects for advanced scientific facilities within the Office of Science to track the progress of the Project.

(b) Laboratory management

(1) Lead Laboratory

The Idaho National Laboratory shall be the lead National Laboratory for the Project and shall collaborate with other National Laboratories, institutions of higher education, other research institutes, industrial researchers, and international researchers to carry out the Project.

(2) Industrial partnerships

(A) In general

The Idaho National Laboratory shall organize a consortium of appropriate industrial partners that will carry out cost-shared research, development, design, and construction activities, and operate research facilities, on behalf of the Project.

(B) Cost-sharing

Activities of industrial partners funded by the Project shall be cost-shared in accordance with section 16352 of this title.

(C) Preference

Preference in determining the final structure of the consortium or any partnerships under this part shall be given to a structure (including designating as a lead industrial partner an entity incorporated in the United States) that retains United States technological leadership in the Project while maximizing cost sharing opportunities and minimizing Federal funding responsibilities.

(3) Prototype plant siting

The prototype nuclear reactor and associated plant shall be sited at the Idaho National Laboratory in Idaho.

(4) Reactor test capabilities

The Project shall use, if appropriate, reactor test capabilities at the Idaho National Laboratory.

(5) Other Laboratory capabilities

The Project may use, if appropriate, facilities at other National Laboratories.

(Pub. L. 109-58, title VI, §642, Aug. 8, 2005, 119 Stat. 795.)

§ 16023. Project organization

(a) Major project elements

The Project shall consist of the following major program elements:

- (1) High-temperature hydrogen production technology development and validation.
- (2) Energy conversion technology development and validation.
- (3) Nuclear fuel development, characterization, and qualification.
- (4) Materials selection, development, testing, and qualification.
- (5) Reactor and balance-of-plant design, engineering, safety analysis, and qualification.

(b) Project phases

The Project shall be conducted in the following phases:

(1) First project phase

A first project phase shall be conducted to—

- (A) select and validate the appropriate technology under subsection (a)(1);
- (B) carry out enabling research, development, and demonstration activities on technologies and components under paragraphs (2) through (4) of subsection (a);
- (C) determine whether it is appropriate to combine electricity generation and hydrogen production in a single prototype nuclear reactor and plant; and
- (D) carry out initial design activities for a prototype nuclear reactor and plant, including development of design methods and safety analytical methods and studies under subsection (a)(5).

(2) Second project phase

A second project phase shall be conducted to—

- (A) continue appropriate activities under paragraphs (1) through (5) of subsection (a);
- (B) develop, through a competitive process, a final design for the prototype nuclear reactor and plant;
- (C) apply for licenses to construct and operate the prototype nuclear reactor from the Nuclear Regulatory Commission; and
- (D) construct and start up operations of the prototype nuclear reactor and its associated hydrogen or electricity production facilities.

(c) Project requirements

(1) In general

The Secretary shall ensure that the Project is structured so as to maximize the technical interchange and transfer of technologies and ideas into the Project from other sources of relevant expertise, including—

- (A) the nuclear power industry, including nuclear powerplant construction firms, particularly with respect to issues associated with plant design, construction, and operational and safety issues;
- (B) the chemical processing industry, particularly with respect to issues relating to—
 - (i) the use of process energy for production of hydrogen; and