

**(c) Defense Advanced Research Projects Agency**

The Director of the Defense Advanced Research Projects Agency shall, in conformance with the Superconductivity Action Plan, conduct activities to—

- (1) augment, as appropriate, basic and applied superconductivity research conducted in other Federal agencies and industry; and
- (2) develop criteria for operational prototype testing within the Department of Defense.

(Pub. L. 100-697, § 8, Nov. 19, 1988, 102 Stat. 4615.)

**§ 5208. International cooperation**

The President, as part of the Superconductivity Action Plan, shall establish a program of international cooperation in the conduct of fundamental and basic research on superconducting materials. Such program of international cooperation shall include the exchange of basic information and data, as well as the development of international standards for the use and application of superconducting materials.

(Pub. L. 100-697, § 9, Nov. 19, 1988, 102 Stat. 4616.)

**§ 5209. Technology transfer**

**(a) Promotion**

In pursuance of the goals of this chapter, all Federal departments and agencies shall conduct technology transfer activities as appropriate to the overall mission of each department or agency to—

- (1) complement basic superconductivity research by promoting the rapid development of manufacturing and processing technologies necessary for the commercialization of high-temperature superconductors; and
- (2) promote collaborative arrangements and consortia of industry (which shall include small business) in order to lower the barriers to deployment of advanced high-temperature superconductor technology; such consortia to also include, as appropriate, universities and independent research organizations.

**(b) Impediments to commercialization**

The Director of the Office of Science and Technology Policy, in collaboration with the Secretary of Commerce and the Secretary of Energy, shall identify those Federal policies and regulations which impede the ability of the private sector to undertake long-term investment programs to commercialize superconductivity applications.

(Pub. L. 100-697, § 10, Nov. 19, 1988, 102 Stat. 4616.)

**CHAPTER 79—METAL CASTING  
COMPETITIVENESS RESEARCH PROGRAM**

Sec.	
5301.	Findings.
5302.	Definitions.
5303.	Establishment of program.
5304.	Operation of program.
5305.	Review.
5306.	Industrial Advisory Board.
5307.	Authorization of appropriations.
5308.	Protection of proprietary rights.
5309.	Omitted.

**§ 5301. Findings**

The Congress finds that—

(1) metal casting is an important process for manufacturing many items imported into or exported from the United States;

(2) the encouragement and maintenance of a technically advanced United States metal casting industry is essential to the competitiveness of many American industries;

(3) maintaining a viable metal casting industry is vital to the national security and economic well being of the United States;

(4) the promotion of technology competitiveness and energy efficiency in the United States metal casting industry by the Federal Government is necessary to maintain a viable metal casting industry;

(5) many metal casting companies lack the resources to conduct metal casting research alone, placing them at a serious competitive disadvantage;

(6) the support of university-based research in metal casting is important in promoting technology development and providing industry with qualified engineers; and

(7) by combining the resources of the Federal Government, universities, industry, and private organizations, to conduct research and development activities, substantial technological benefits will result to the metal casting industry.

(Pub. L. 101-425, § 2, Oct. 15, 1990, 104 Stat. 915.)

SHORT TITLE

Pub. L. 101-425, § 1, Oct. 15, 1990, 104 Stat. 915, provided that: "This Act [enacting this chapter] may be cited as the 'Department of Energy Metal Casting Competitiveness Research Act of 1990'."

**§ 5302. Definitions**

As used in this chapter, the term—

- (1) "applicant" means:
  - (A) an educational institution;
  - (B) a consortium of educational institutions;
  - (C) a consortium of an educational institution or educational institutions with one or more of the following: Government-owned laboratories, private research organizations, nonprofit institutions, or private firms;

that is located in a region where the metal casting industry is concentrated;

(2) "census region" means one of the four census regions (Northeast, South, Midwest, and West) that are designated as census regions by the Bureau of the Census as of October 15, 1990;

(3) "Department" means the Department of Energy;

(4) "educational institution" means a degree granting institution of at least a baccalaureate level;

(5) "non-Federal source" means the United States metal casting industry, related industries, industry-related associations, individuals, organizations, universities, State agencies, or other entities supporting the metal casting industry;

(6) "metal casting industry" or "industry" means the industries identified by codes numbered 3321, 3322, 3324, 3325, 3363, 3364, 3365, 3366, and 3369, in the Standard Industrial Classifica-

tion manual<sup>1</sup> published by the Office of Management and Budget in 1987;

(7) "Secretary" means the Secretary of Energy.

(Pub. L. 101-425, § 3, Oct. 15, 1990, 104 Stat. 915.)

### § 5303. Establishment of program

The Secretary, acting in accordance with authority provided in the Federal Non-Nuclear Research and Development Act of 1974 (42 U.S.C. 5901 et seq.), except as otherwise provided in this chapter, shall establish a Metal Casting Competitiveness Research Program (hereafter in this chapter referred to as the "Program") for the purpose of performing and promoting the performance of research and development on issues related to the technology competitiveness and energy efficiency of the United States metal casting industry.

(Pub. L. 101-425, § 4, Oct. 15, 1990, 104 Stat. 916.)

#### REFERENCES IN TEXT

The Federal Non-Nuclear Research and Development Act of 1974, referred to in text, probably means the Federal Nonnuclear Energy Research and Development Act of 1974, Pub. L. 93-577, Dec. 31, 1974, 88 Stat. 1878, as amended, which is classified generally to chapter 74 (§ 5901 et seq.) of Title 42, The Public Health and Welfare. For complete classification of this Act to the Code, see Short Title note set out under section 5901 of Title 42 and Tables.

### § 5304. Operation of program

#### (a) Solicitation of proposals

Within one year after October 15, 1990, the Secretary shall solicit and, subject to available appropriations, select proposals on a competitive basis from applicants to carry out the program under section 5303 of this title. In order for a proposal to be considered by the Secretary, the applicant shall have in existence at the time the proposal is submitted the following qualifications:

- (1) the technical capability to enable it to make use of existing research support and facilities in carrying out its research objectives;
- (2) a multidisciplinary research staff experienced in metal casting or other directly related technologies; and
- (3) the facilities and equipment capable of conducting at least laboratory scale testing or demonstration of metal casting or related processes.

#### (b) Proposal criteria

Each proposal shall—

- (1) demonstrate the support of the metal casting industry by describing—
  - (A) how industry has participated in deciding what research activities will be undertaken;
  - (B) how industry will participate in the evaluation of the applicant's progress in research and development activities; and
  - (C) the extent to which industry funds are committed to the applicant's proposal;
- (2) have a commitment for matching funds from non-Federal sources, which shall consist of:

- (A) cash, or
- (B) as determined by the Secretary, the fair market value of equipment, services, materials, appropriate technology transfer activities, and other assets directly related to the proposal's cost;

(3) include a single or multiyear management plan that outlines how the research and development activities will be administered and carried out;

(4) state the annual cost of the proposal and a breakdown of those costs; and

(5) describe the technology transfer mechanisms the applicant will use to make available research results to industry and to other researchers.

#### (c) Content of management plan

The management plan set forth in subsection (b)(3) shall—

(1) outline the basic research and development activities expected to be performed;

(2) outline who will conduct those research activities;

(3) establish the time frame over which the research activities will take place; and

(4) define the overall program management and direction by—

(A) identifying managerial, organizational and administrative procedures and responsibilities;

(B) outlining how the coordination of research and development between the individuals and organizations involved will be achieved;

(C) demonstrating how implementation and monitoring of the progress of research projects after receipt of funding from the Secretary will be achieved;

(D) demonstrating how recommendations and implementations on modifications to the plan will be achieved; and

(E) providing sufficient rationale to support the plan's costs.

#### (d) Selection of proposals

From the proposals submitted, the Secretary shall select proposals for funding. The Secretary shall attempt to select at least four proposals. The Secretary shall select the proposals that—

(1) will best result in carrying out needed metal casting research and development in one or more of the following general areas—

(A) solidification and casting technologies;

(B) computational modeling and design;

(C) processing technologies and design for energy efficiency, material conservation, environmental protection, or industrial productivity; and

(D) other areas of research, which in the judgment of the Secretary, after consulting with the Board established in section 5306 of this title, further the purposes of this chapter;

(2) represent research and development in specific areas identified in the "Metal Casting Research Priorities" developed annually by the Board pursuant to section 5306(b)(1) of this title;

(3) to the greatest extent possible and subject to available appropriations, ensure that

<sup>1</sup> So in original. Probably should be capitalized.