U.S. HOUSE OF REPRESENTATIVES

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

SUITE 2321 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-6371

July 18, 1988

Mr. Joseph P. Allen, Director
Office of Federal Technology Management
U.S. Department of Commerce
Room 4837
Washington, D.C. 20230

Dear Mr. Allen:

I am enclosing a draft copy of the "National Competitiveness Act of 1988".

I would appreciate it if you would provide written comments on Title I of the draft bill by July 25, 1988.

Thank you in advance for your kind cooperation.

Sincerely,

MARILYN LLOYD, Chairman
Subcommittee on Energy
Research and Development

ML:Dkh

July 18, 1988 9:00

100th CONGRESS
2D Session

H.R. _____

IN THE HOUSE OF REPRESENTATIVES

Mrs. Lloyd introduced the following bill; which was referred to the Committee on _____

A BILL

To amend the Federal Nonnuclear Energy Research and Development Act of 1974 to improve the transfer of technology or devices developed by the Department of Energy National Laboratories, improve interagency cooperation between the Department of Energy and the other agencies with respect to technology transfer, and to authorize a multiagency program in superconductivity research and development.

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 "National Laboratory Competitiveness Act of 1988."

TITLE I. TECHNOLOGICAL COMPETITIVENESS MEASURES

SECTION 101. FINDINGS.

Section 2 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901) is amended by inserting at the end the following:

"(f) Domestic competitiveness can be greatly improved through scientific collaboration with the Department of Energy National Laboratories.

"(g) The Department of Energy National Laboratories must be perceived as easily accessible in order for industry to seriously consider the laboratories as partners for collaborative research and development ventures.

"(h) The Secretary of Energy must delegate increased management authority for technology transfer to the Managers of the Department of Energy Operations Office or other field office managers if the government is to ensure timely consideration of proposed cooperative research and development agreements.

"(i) The present Department of Energy policy of

disseminating computer software generated in its research programs through the National Energy Software Center, despite its commercialization potential, has at times benefited foreign companies more than domestic companies.

"(j) There should be a simple, timely review procedure concerning proposed agreements to utilize or further develop software and other technology generated under a Department of Energy research and development contract, or developed with Department of Energy funding.

"(k) The National Laboratories have demonstrated successes in technology transfer, but the effort can be significantly enhanced if--

"(1) industry becomes more aware of the National Laboratories' research and development projects and capabilities;

"(2) technology transfer is considered a significant part of the National Laboratories' mission;

"(3) the National Laboratories develop a better understanding of the potential needs of industry; and

"(4) industry collaborates with the National Laboratories' early enough in the research and development process to detect the potential of the products of research and development.

"(1) The National Laboratories should examine and implement new and innovative methods of communicating with private industry regarding the availability of laboratory user facilities and laboratory research and development projects.

SEC. 102. DEFINITIONS.

Subsection 9(m) of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908(m)) is amended--

(a) by striking "and" at the end of paragraph (4);

(b) by striking the period at the end of paragraph (5) and inserting in lieu thereof a semicolon; and

(c) by inserting at the end thereof the following:

"(6) the term 'collaborative party' means a person who has entered into a cooperative research and development agreement with a National Laboratory as described in this section;

"(7) the term 'computer software' means recorded information, regardless of the form or the media in which it may be recorded, comprising computer programs or documentation thereof; and

"(8) the term 'cooperative research and development agreement,' or 'agreement' shall have the meaning given to "cooperative research and development agreement" in subsection 11(d) of the Stevenson-Wydler Technology Innovation Act of 1986,

as amended (15 U.S.C. 3710a(d));

"(9) the term 'laboratory' shall have the meaning given to it in subsection 11(d) of the Stevenson-Wydler Technology Innovation Act of 1986, as amended (15 U.S.C. 3710a(d)), except that the performance of research, development, or engineering may also be by non-government employees of a contractor of the Department of Energy;

"(10) the term 'National Laboratory' means the contractor or other person managing or operating any Department of Energy "laboratory", as such term is defined in subsection 11(d) of the Stevenson-Wydler Technology Innovation Act of 1986, as amended (15 U.S.C. 3710a(d)), except that the performance of research, development, or engineering at such 'laboratory' may also be by non-government employees of such contractor or other person;

"(10) the term 'property' is to be construed liberally to mean any invention, improvement, computer software, technical data, or innovation made as a result of the research and development activities conducted by a National Laboratory, but does not include real property; and

"(11) the term 'technical data' means recorded information of an engineering or scientific nature regardless of the form or the media in which it may be recorded."

SEC. 103. COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS.

Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908) is further amended by adding at the end the following new subsections:

"(o)(1) GENERAL AUTHORITY. The Secretary of Energy shall promulgate through regulation, order, or written field directive--

"(A) generic cooperative research and development agreements which are not subject to further approval under paragraph (2); and

"(B) generic terms and conditions, which when included in negotiated (nongeneric) cooperative research and development agreements are not subject to further approval under paragraph (2).

"(2) The Secretary shall--

"(A) delegate to each field office manager, or Manager of a Department of Energy Operations Office, authority to approve negotiated (nongeneric) terms and conditions of cooperative research and development agreements recommended by a National Laboratory under such manager's oversight.

"(B) require each National Laboratory to delegate all authorities and responsibilities under this section to the employee who directly manages the Department of Energy laboratory.

"(3) Each National Laboratory may enter into generic agreements promulgated by the Secretary under paragraph (1) after consultation regarding the suitability of the collaborating party with the

Department of Energy field office manager or Manager of the Operations Office; or such laboratory may negotiate such agreements subject to approval pursuant to paragraph (1). Such agreements may include the disposition or use of property assigned or licensed to the National Laboratory by third parties or any property voluntarily assigned by National Laboratory employees. Such agreements may be with any other person, or combination of persons, including, but not limited to--

"(A) Federal agencies other than the Department of Energy;

"(B) units of State or local government;

"(C) industrial organizations, such as corporations, partnerships, limited partnerships, consortia, or industrial development organizations;

"(D) public and private foundations;

"(E) nonprofit organizations, such as universities; and

"(F) licensees of inventions, technical data, or computer software owned by the National Laboratory.

"(4) Any directive, order or regulation covering National Laboratory cooperative research and development agreements shall be guided by the findings in subsections 2(f) through 2(l) of this Act.

"(p) SPECIFIC AUTHORITY. Each National Laboratory may under the terms of any cooperative research and development agreement entered into pursuant to this section--

"(1) accept, retain, and use funds, personnel, services, and

property from collaborating parties, and provide personnel, services, and property to collaborating parties;

"(2) grant or agree to grant in advance to a collaborating party licenses or assignments, or options to property made in whole or in part by a National Laboratory employee under the cooperative research and development agreement; and

"(3) to the extent consistent with the Department of Energy requirements and standards of conduct, permit employees or former employees of the National Laboratory to participate in efforts to transfer to the private sector any property such employees or former employees developed or made while in the service of the National Laboratory.

"(q) APPROVAL OF AGREEMENTS. The field office manager or the Manager of the Operations Office may disapprove or require the modification of any cooperative research and development agreement submitted to him pursuant to this section within 60 days of receipt of such agreement and recommendation by the National Laboratory. Such agreement shall be deemed approved and binding on all parties upon modification consistent with the comments of such manager, or, if such manager does not disapprove such agreement, upon the expiration of the 60 day period after the first receipt by such manager of such agreement and recommendation.

"(r) LIMIT ON AGGREGATE AMOUNT OF AGREEMENTS. The cumulative

total of the Department of Energy funding of all cooperative research and development agreements entered into by each National Laboratory under this section may not exceed 20 percent of the National Laboratory's annual budget.

"(s) RECORDS OF AGREEMENTS. The Department of Energy headquarters, and each field office, Operations Office and National Laboratory shall maintain a record of all agreements entered into under this section.

"(t) AGREEMENT CONSIDERATIONS. A National Laboratory, in deciding what cooperative research and development agreements to negotiate, and a field office manager or Manager of the Operations Office, in deciding whether to approve such negotiated agreements, shall comply with paragraph 11(c)(4) of the Stevenson-Wydler Technology Innovation Act of 1980, as amended (15 U.S.C. 3710a(c)(4)).

"(u) DISPOSITION OF TITLE. (1) The Secretary of Energy shall dispose of the title to all property developed or made by a National Laboratory in the same manner as inventions are disposed of to small business and nonprofit contractors under chapter 18 of title 35, United States Code.

"(2) Whenever a National Laboratory develops or makes property to which the Department of Energy has determined (at the time of contracting for the management and operation of the Department of Energy laboratory) to retain title pursuant to paragraph (1), the

title to such property shall be retained by the government unless--

"(A) the laboratory at which the property is developed or made requests title to such property, and

"(B) the Secretary of Energy does not notify the National Laboratory within 90 days of such request that the property is covered by an exceptional circumstances determination, is classified or has been designated sensitive technical information in accordance with existing provisions of law, other than those provisions of law involving export control.

"(3) Other than for exceptional circumstances as authorized pursuant to paragraph (1), the Secretary may not retain title to property without first determining that the property has been classified or has been designated sensitive technical information in accordance with applicable statutes other than those involving export control. The Secretary may not use export control statutes or regulations as a basis for refusing a request for title. If the Secretary does not notify the requesting National Laboratory, such Laboratory shall be deemed to have elected and received title to the property under the Government-wide contractor provisions as specified in paragraph (1). The Secretary may recover title to any property given to a contractor should such property be subsequently classified or designated sensitive technical information in accordance with applicable statutes other than those involving export control.

"(4) Notwithstanding any other provision of law, when the Secretary of Energy permits a National Laboratory to elect and receive ownership rights under this section, such ownership rights shall be subject to a royalty free license on the part of the United States to use and reproduce such property for United States governmental purposes.

"(5) The Secretary of Energy shall promulgate appropriate regulations, directives or orders precluding any National Laboratory, which has received title to property under this section, from receiving money or other direct benefit from the use or licensing of such property for the personal benefit of the contractor managing or operating the Department of Energy laboratory. This paragraph shall not be construed to preclude such National Laboratory from using such money or direct benefit for research and development associated with activities at the laboratory or to promote technology transfer as is authorized by law.

"(v) PROTECTION OF PROPERTY. (1) Computer software and reports containing data (associated with applied research and not basic research) obtained or generated by a National Laboratory shall be held confidential and exempt from any law otherwise requiring their public disclosure for a period of up to two years as determined by the Secretary--

"(A) the technical data or computer software is commercially

valuable; and

"(B) there is a reasonable expectation that disclosure of the technical data or computer software could cause substantial harm to the commercial application of such information.

"(2) A cooperative research and development agreement may provide that technical data or computer software, which meets the conditions of paragraph (1), be held confidential and exempt from any law otherwise requiring their public disclosure for a period specified in such collaborative agreement, not to exceed 7 years, if such data or software is obtained or generated--

"(A) by the Department of Energy or the National Laboratory pursuant to such cooperative research and development agreement; or

"(B) under a National Laboratory cooperative research and development agreement.

"(C) this section shall not be construed so as to restrict or limit the ability of any National Laboratory to build upon research and data produced by another National Laboratory, whether produced under a cooperative research and development agreement or otherwise.

"(3) Documentation disclosing technical data or computer software subject to nondisclosure under paragraphs (1) and (2) shall not be considered as agency records under any federal statute during the term of nondisclosure to the public.

"(w)(1) NATIONAL LABORATORY CONTRACTS. All Department of Energy

contracts to operate a laboratory shall provide terms and conditions consistent with this section.

"(2) IMPLEMENTATION. The Secretary of Energy shall immediately enter into negotiations with the National Laboratories to amend all existing contracts for the management or operation of the Department of Energy laboratories, in accordance with this section. Pending such amendment, this section shall govern the disposition of all property developed or made by the National Laboratories."

"(3) COMPENSATION. Compensation to the United States government paid by a National Laboratory in return for retaining title to any property rights shall be subject to terms negotiated in the operating contract for any Department of Energy laboratory.

"(4) MARCH-IN RIGHTS. Each funding agreement for the operation of a Department of Energy laboratory shall contain a provision allowing the Department of Energy to require the licensing to third parties of property owned by the contractor that is subject to the provisions of this Act. Such provision shall ensure that the property is licensed and commercialized by affording similar Federal march-in rights provided for property under section 203 of title 35, United States Code, but will be applicable to all property for which title was acquired by the National Laboratories under this Act.

"(5) REGULATIONS. The Department of Energy in cooperation with other interested federal agencies, shall issue within 180 days after

the date of enactment of this Act, including 30 days for public comment, regulations--

"(A) establishing a standard contract clause to implement this section in the Department of Energy contract for the management or operation of any Department of Energy laboratory; and

"(B) implementing the march-in rights under this subsection.

"(6) DEFINITION. For purposes of this subsection, "third parties" and "third party applicants" are domestic entities located in the United States whose research, development, and other activities occur substantially in the United States. Domestic entities include industrial organizations, corporations, partnerships, limited partnerships, industrial development organizations, public and private foundations, and nonprofit organizations such as universities and consortia."

SEC. 104. INTERAGENCY COOPERATION.

The Department of Energy, in implementing its authorities under the amendments made by this title, shall explore innovative ways to cooperate with other government agencies or as appropriate, and in particular, with the National Bureau of Standards, which is charged with competitiveness responsibilities under the authorities of its newly established Advanced Technology Program. The Department of Energy, in cooperating with any other Federal agency, should seek to minimize unnecessary duplication of programs, projects, and research

facilities.

TITLE II. NATIONAL SUPERCONDUCTIVITY PROGRAM

SEC. 201. FINDINGS AND PURPOSES.

(a) FINDINGS. The Congress finds that--

(1) recent discoveries of high-temperature superconducting materials could result in significant new applications of these materials in such areas as microelectronics, computers, power systems, transportation, medical imaging, and nuclear fusion, among others; and, as is often the case with revolutionary scientific advances, most potential applications lie beyond our ability to predict them;

(2) full application of the new superconductors is expected to require long-term commitments by the public and private sector to support appropriate research and development programs;

(3) the Nation's economic competitiveness and strategic well-being depends substantially on the development and application of critical advanced technologies such as those anticipated to evolve from the new superconducting materials;

(4) the United States manufacturing industries confront strong competition in both domestic and world markets; leading foreign industrial countries, as well as developing nations, are increasingly taking advantage of modern technology and production techniques, innovative management focused on quality, less expensive labor, and favorable government support to produce manufactured products which

are competitive and often less expensive than products manufactured in the United States;

(5) whereas we have as a Nation been highly successful in the conduct of basic research in a variety of scientific areas, including superconductivity, other nations have been highly successful in the commercial and military application of the results of such fundamental research;

(6) if the United States is to regain its competitive advantage, it must commit sufficient, long-term resources toward solving processing and manufacturing problems in parallel with basic research and development;

(7) Federal agencies have responded aggressively to this exciting challenge by reprogramming funds into basic superconductivity science and research while informally coordinating their efforts to avoid unnecessary duplication and further commitment of Federal research moneys and efforts directed to manufacturing, materials processing, and fabrication technologies is essential so that their activities may be conducted in parallel with the basic science research;

(8) successful development and application of the new superconducting materials will require close collaboration among the Federal Government and the industrial and academic components of the private sector, as well as coherent coordination among the departments

and agencies of the Federal Government involved in research and development on superconductors;

(9) a committed Federal program effort with appropriate long-term goals, priorities, and provided with adequate resources is necessary for the rapid development and application of the new superconducting materials; and

(10) a national program should serve as a test of new agency authorities directed at technological competitiveness such as those provided to the Department of Energy.

(b) PURPOSES. The purposes of this title are--

(1) to establish a 5-year national program effort to research and develop new high-temperature superconducting materials with appropriate goals and priorities; and to establish a program for the technology transfer initiatives provided in title I of this Act.

(2) to designate the appropriate roles, mechanisms and responsibilities of various Federal departments and agencies in implementing such a national research and development program effort.

SEC. 202. RESPONSIBILITIES OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY; NATIONAL FEDERAL PROGRAM ON SUPERCONDUCTIVITY RESEARCH AND DEVELOPMENT.

(a) ESTABLISHMENT OF PROGRAM. (1) The Director of the Office of Science and Technology Policy, working through the Federal Coordinating Council for Science, Engineering and Technology, shall

establish a 5-year National Federal Program on Advanced Superconductivity Research and Development (hereafter in this Act referred to as the "Superconductivity Program").

(2) The Director of the Office of Science and Technology Policy shall draw upon the recommendations and advice of the National Commission on Superconductivity and shall work in close collaboration with the Office of Management and Budget in developing the Superconductivity Program.

(b) CONTENT AND SCOPE OF PROGRAM. The Director of the Office of Science and Technology Policy shall include in the Superconductivity Program--

(1) goals and priorities for advanced superconductivity research and development to be carried out by individual departments and agencies and organizational elements therein;

(2) the guidance for responsibility in the conduct of advanced superconductivity research and development among the departments, agencies, and organizational program elements of the departments and agencies;

(3) estimates of current and proposed funding levels for such activities for the 5 years following the enactment of this Act for each of the participating departments, agencies, and organizational elements therein; and

(4) proposals for the participation by industry and academia

in the planning and implementation of the program.

(c) PROGRAM PLAN. The Director of the Office of Science and Technology Policy shall submit a written Superconductivity Program plan to the Committee on Science, Space, and Technology of the House of Representatives, and to the Committees on Energy and Natural Resources, and Commerce, Science, and Transportation of the Senate, within 9 months after the date of the enactment of this Act.

(d) REPORTS. (1) The Federal Coordinating Council on Science, Engineering, and Technology shall annually report to the Director of the Office of Science and Technology Policy on its findings as to the progress of the Superconductivity Program.

(2) The Director of the Office of Science and Technology Policy shall prepare an annual written report setting forth and evaluating the findings of the Federal Coordinating Council on Science, Engineering, and Technology received by the Office pursuant to paragraph (1). This report shall be submitted with the President's proposed budget for the government to the Committees on Science, Space, and Technology of the House of Representatives, and to the Committees on Energy and Natural Resources, and Commerce, Science, and Transportation of the Senate.

SEC. 203. DEPARTMENT OF ENERGY.

The Secretary of Energy shall conduct a program in superconductivity research and development utilizing the authorities

provided pursuant to Title I of this Act. Within 180 days of the date of enactment of this Act, and for the two succeeding years thereafter, the Secretary shall submit annual reports in writing on the implementation of these authorities with respect to Superconductivity research and development to the House Committee on Science, Space, and Technology and to the Senate Committee on Energy and Natural Resources. Such report shall include recommendations for improvements in the technology transfer between government and industry and management of property developed or made at the National Laboratories.

SEC. 204. NATIONAL BUREAU OF STANDARDS.

In achieving the purposes of this title, the Director of the National Bureau of Standards shall conduct a program of fundamental research and to establish materials standards to accelerate the use and application of the new superconducting materials, and continue to establish and operate a Superconductivity Center Focusing on Electronic Applications at the National Bureau of Standards in Boulder, Colorado.

SEC. 205. NATIONAL SCIENCE FOUNDATION.

The Director of the National Science Foundation shall conduct a program of fundamental research to achieve the purposes of this title.

SEC. 206. NATIONAL AERONAUTICS AND SPACE ADMINISTRATION.

The Administrator of the National Aeronautics and Space Administration shall conduct programs to promote the commercial

applications of high temperature superconductors, including, but not limited to, applications relating to thin film technology, communications technology, sensors, space power and propulsion to achieve the purposes of this title.

SEC. 207. INTERNATIONAL COOPERATION.

The President, as part of the Superconductivity Program, 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.