109TH CONGRESS 1ST SESSION H.R. 250

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 22, 2005

Received; read twice and referred to the Committee on Commerce, Science, and Transportation

AN ACT

To establish an interagency committee to coordinate Federal manufacturing research and development efforts in manufacturing, strengthen existing programs to assist manufacturing innovation and education, and expand outreach programs for small and medium-sized manufacturers, and for other purposes.

1 Be it enacted by the Senate and House of Representa-2 tives of the United States of America in Congress assembled, 3 **SECTION 1. SHORT TITLE.** This Act may be cited as the "Manufacturing Tech-4 5 nology Competitiveness Act of 2005". SEC. 2. INTERAGENCY COMMITTEE AND ADVISORY COM-6 7 MITTEE. 8 (a) INTERAGENCY COMMITTEE.— 9 (1) ESTABLISHMENT.—The President shall es-10 tablish or designate an interagency committee on 11 manufacturing research and development, which 12 shall include representatives from the Office of 13 Science and Technology Policy, the National Insti-14 tute of Standards and Technology, the Science and 15 Technology Directorate of the Department of Home-16 land Security, the National Science Foundation, the 17 Department of Energy, and any other agency that 18 the President may designate. The Chair of the Inter-19 agency Committee shall be designated by the Direc-20 tor of the Office of Science and Technology Policy. 21 (2) FUNCTIONS.—The Interagency Committee 22 shall be responsible for the planning and coordina-

tion of Federal efforts in manufacturing research

24 and development through—

23

3

1

2

3

4

5

6

7

(A) establishing goals and priorities for manufacturing research and development, including the strengthening of United States manufacturing through the support and coordination of Federal manufacturing research, development, technology transfer, standards, and technical training;

8 (B) developing, within 6 months after the 9 date of enactment of this Act, and updating 10 every 3 years for delivery with the President's 11 annual budget request to Congress, a strategic 12 plan, to be transmitted to the Committee on 13 Science of the House of Representatives and 14 the Committee on Commerce, Science, and 15 Transportation of the Senate, for manufac-16 turing research and development that includes 17 an analysis of the research, development, tech-18 nology transfer, standards, technical training, 19 and integration needs of the manufacturing sec-20 tor important to ensuring and maintaining 21 United States competitiveness;

(C) proposing an annual coordinated interagency budget for manufacturing research and
development to the Office of Management and
Budget; and

1 (D) developing and transmitting to Con-2 gress an annual report on the Federal programs 3 involved in manufacturing research, development, technical training, standards, and inte-4 5 gration, their funding levels, and their impacts 6 on United States manufacturing competitiveness, including the identification and analysis of 7 the manufacturing research and development 8 9 problems that require additional attention, and 10 recommendations of how Federal programs 11 should address those problems.

(3) RECOMMENDATIONS AND VIEWS.—In carrying out its functions under paragraph (2), the
Interagency Committee shall consider the recommendations of the Advisory Committee and the
views of academic, State, industry, and other entities
involved in manufacturing research and development.

19 (b) Advisory Committee.—

20 (1) ESTABLISHMENT.—Not later than 6
21 months after the date of enactment of this Act, the
22 President shall establish or designate an advisory
23 committee to provide advice and information to the
24 Interagency Committee.

4

1	(2) Recommendations.—The Advisory Com-
2	mittee shall assist the Interagency Committee by
3	providing it with recommendations on—
4	(A) the goals and priorities for manufac-
5	turing research and development;
6	(B) the strategic plan, including proposals
7	on how to strengthen research and development
8	to help manufacturing; and
9	(C) other issues it considers appropriate.
10	(3) Report.—The Advisory Committee shall
11	provide an annual report to the Interagency Com-
12	mittee and the Congress that shall assess—
13	(A) the progress made in implementing the
14	strategic plan and challenges to this progress;
15	(B) the effectiveness of activities under the
16	strategic plan in improving United States man-
17	ufacturing competitiveness;
18	(C) the need to revise the goals and prior-
19	ities established by the Interagency Committee;
20	and
21	(D) new and emerging problems and op-
22	portunities affecting the manufacturing re-
23	search community, research infrastructure, and
24	the measurement and statistical analysis of

	v
1	manufacturing that may need to be considered
2	by the Interagency Committee.
3	(4) Federal advisory committee act ap-
4	PLICATION.—Section 14 of the Federal Advisory
5	Committee Act shall not apply to the Advisory Com-
6	mittee.
7	SEC. 3. COLLABORATIVE MANUFACTURING RESEARCH
8	PILOT GRANTS.
9	The National Institute of Standards and Technology
10	Act is amended—
11	(1) by redesignating the first section 32 (15)
12	U.S.C. 271 note) as section 34 and moving it to the
13	end of the Act; and
14	(2) by inserting before the section moved by
15	paragraph (1) the following new section:
16	"SEC. 33. COLLABORATIVE MANUFACTURING RESEARCH
17	PILOT GRANTS.
18	"(a) AUTHORITY.—
19	"(1) ESTABLISHMENT.—The Director shall es-
20	tablish a pilot program of awards to partnerships
21	among participants described in paragraph (2) for
22	the purposes described in paragraph (3). Awards
23	shall be made on a peer-reviewed, competitive basis.
24	"(2) PARTICIPANTS.—Such partnerships shall
25	include at least—

1 "(A) 1 manufacturing industry partner; 2 and

"(B) 1 nonindustry partner. 3 4 "(3) PURPOSE.—The purpose of the program 5 under this section is to foster cost-shared collabora-6 tions among firms, educational institutions, research 7 institutions, State agencies, and nonprofit organiza-8 tions to encourage the development of innovative, 9 multidisciplinary manufacturing technologies. Part-10 nerships receiving awards under this section shall 11 conduct applied research to develop new manufac-12 turing processes, techniques, or materials that would 13 contribute to improved performance, productivity, 14 and competitiveness of United States manufacturing, 15 and build lasting alliances among collaborators.

16 "(b) PROGRAM CONTRIBUTION.—Awards under this
17 section shall provide for not more than one-third of the
18 costs of a partnership. Not more than an additional one19 third of such costs may be obtained directly or indirectly
20 from other Federal sources.

21 "(c) APPLICATIONS.—Applications for awards under
22 this section shall be submitted in such manner, at such
23 time, and containing such information as the Director
24 shall require. Such applications shall describe at a min25 imum—

7

1 "(1) how each partner will participate in devel-2 oping and carrying out the research agenda of the 3 partnership; 4 "(2) the research that the grant would fund; 5 and 6 "(3) how the research to be funded with the 7 award would contribute to improved performance, 8 productivity, and competitiveness of the United 9 States manufacturing industry. 10 "(d) SELECTION CRITERIA.—In selecting applica-11 tions for awards under this section, the Director shall con-12 sider at a minimum— "(1) the degree to which projects will have a 13 14 broad impact on manufacturing; "(2) the novelty and scientific and technical 15 16 merit of the proposed projects; and 17 "(3) the demonstrated capabilities of the appli-18 cants to successfully carry out the proposed re-19 search. 20 "(e) DISTRIBUTION.—In selecting applications under 21 this section the Director shall ensure, to the extent prac-22 ticable, a distribution of overall awards among a variety 23 of manufacturing industry sectors and a range of firm 24 sizes.

"(f) DURATION.—In carrying out this section, the Di-1 2 rector shall run a single pilot competition to solicit and 3 make awards. Each award shall be for a 3-year period.". 4 SEC. 4. MANUFACTURING FELLOWSHIP PROGRAM. 5 Section 18 of the National Institute of Standards and 6 Technology Act (15 U.S.C. 278g–1) is amended— 7 (1) by inserting "(a) IN GENERAL.—" before "The Director is authorized"; and 8 9 (2) by adding at the end the following new sub-10 section: 11 "(b) MANUFACTURING FELLOWSHIP PROGRAM.— 12 "(1) ESTABLISHMENT.—To promote the devel-13 opment of a robust research community working at 14 the leading edge of manufacturing sciences, the Di-15 rector shall establish a program to award— "(A) postdoctoral research fellowships at 16 17 the Institute for research activities related to 18 manufacturing sciences; and 19 "(B) senior research fellowships to estab-20 lished researchers in industry or at institutions 21 of higher education who wish to pursue studies 22 related to the manufacturing sciences at the In-23 stitute. "(2) APPLICATIONS.—To be eligible for an 24 25 award under this subsection, an individual shall submit an application to the Director at such time, in
 such manner, and containing such information as
 the Director may require.

4 "(3) STIPEND LEVELS.—Under this section, the 5 Director shall provide stipends for postdoctoral re-6 search fellowships at a level consistent with the Na-7 tional Institute of Standards and Technology 8 Postdoctoral Research Fellowship Program, and sen-9 ior research fellowships at levels consistent with sup-10 port for a faculty member in a sabbatical position.".

11 SEC. 5. MANUFACTURING EXTENSION.

12 (a) MANUFACTURING CENTER EVALUATION.—Section 25(c)(5) of the National Institute of Standards and 13 Technology Act (15 U.S.C. 278k(c)(5)) is amended by in-14 15 serting "A Center that has not received a positive evaluation by the evaluation panel shall be notified by the panel 16 17 of the deficiencies in its performance and may be placed on probation for one year, after which time the panel may 18 reevaluate the Center. If the Center has not addressed the 19 deficiencies identified by the panel, or shown a significant 20 21 improvement in its performance, the Director may conduct 22 a new competition to select an operator for the Center or 23 may close the Center." after "sixth year at declining levels.". 24

(b) FEDERAL SHARE.—Strike section 25(d) of the
 National Institute of Standards and Technology Act (15
 U.S.C. 278k(d)) and insert the following:

4 "(d) ACCEPTANCE OF FUNDS.—In addition to such 5 sums as may be appropriated to the Secretary and Director to operate the Centers program, the Secretary and Di-6 7 rector also may accept funds from other Federal depart-8 ments and agencies and under section 2(c)(7) from the 9 private sector for the purpose of strengthening United 10 States manufacturing. Such funds, if allocated to a Center or Centers, shall not be considered in the calculation of 11 12 the Federal share of capital and annual operating and 13 maintenance costs under subsection (c).".

(c) MANUFACTURING EXTENSION CENTER COMPETITIVE GRANT PROGRAM.—Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k)
is amended by adding at the end the following new subsections:

19 "(e) Competitive Grant Program.—

20 "(1) ESTABLISHMENT.—The Director shall es21 tablish, within the Manufacturing Extension Part22 nership program under this section and section 26
23 of this Act, a program of competitive awards among
24 participants described in paragraph (2) for the pur25 poses described in paragraph (3).

"(2) PARTICIPANTS.—Participants receiving
 awards under this subsection shall be the Centers, or
 a consortium of such Centers.

"(3) PURPOSE.—The purpose of the program 4 5 under this subsection is to develop projects to solve 6 new or emerging manufacturing problems as deter-7 mined by the Director, in consultation with the Di-8 rector of the Manufacturing Extension Partnership 9 program, the Manufacturing Extension Partnership 10 National Advisory Board, and small and medium-11 sized manufacturers. One or more themes for the 12 competition may be identified, which may vary from 13 year to year, depending on the needs of manufactur-14 ers and the success of previous competitions. These 15 themes shall be related to projects associated with 16 manufacturing extension activities, including supply 17 chain integration and quality management, or extend 18 beyond these traditional areas.

"(4) APPLICATIONS.—Applications for awards
under this subsection shall be submitted in such
manner, at such time, and containing such information as the Director shall require, in consultation
with the Manufacturing Extension Partnership National Advisory Board.

1	"(5) SELECTION.—Awards under this sub-
2	section shall be peer reviewed and competitively
3	awarded. The Director shall select proposals to re-
4	ceive awards—
5	"(A) that utilize innovative or collaborative
6	approaches to solving the problem described in
7	the competition;
8	"(B) that will improve the competitiveness
9	of industries in the region in which the Center
10	or Centers are located; and
11	"(C) that will contribute to the long-term
12	economic stability of that region.
13	"(6) Program contribution.—Recipients of
14	awards under this subsection shall not be required
15	to provide a matching contribution.
16	"(f) AUDITS.—A center that receives assistance
17	under this section shall submit annual audits to the Sec-
18	retary in accordance with Office of Management and
19	Budget Circular A–133 and shall make such audits avail-
20	able to the public on request.".
21	(d) Programmatic and Operational Plan.—Not
22	later than 120 days after the date of enactment of this
23	Act, the Director of the National Institute of Standards
24	and Technology shall transmit to the Committee on
25	Science of the House of Representatives and the Com-

mittee on Commerce, Science, and Transportation of the 1 2 Senate a 3-year programmatic and operational plan for 3 the Manufacturing Extension Partnership program under 4 sections 25 and 26 of the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l). The plan 5 6 shall include comments on the plan from the Manufac-7 turing Extension Partnership State partners and the Man-8 ufacturing Extension Partnership National Advisory Board. 9

10 SEC. 6. SCIENTIFIC AND TECHNICAL RESEARCH AND SERV 11 ICES.

(a) LABORATORY ACTIVITIES.—There are authorized
to be appropriated to the Secretary of Commerce for the
scientific and technical research and services laboratory
activities of the National Institute of Standards and Technology—

17	(1)	\$426,267,000	for	fiscal	year	2006,	of
18	which—						

19 (A) \$50,833,000 shall be for Electronics
20 and Electrical Engineering;

21 (B) \$28,023,000 shall be for Manufac22 turing Engineering;

23 (C) \$52,433,000 shall be for Chemical
24 Science and Technology;

25 (D) \$46,706,000 shall be for Physics;

1	(E) $$33,500,000$ shall be for Material
2	Science and Engineering;
3	(F) \$24,321,000 shall be for Building and
4	Fire Research;
5	(G) $$68,423,000$ shall be for Computer
6	Science and Applied Mathematics;
7	(H) $$20,134,000$ shall be for Technical As-
8	sistance;
9	(I) \$48,326,000 shall be for Research Sup-
10	port Activities;
11	(J) \$29,369,000 shall be for the National
12	Institute of Standards and Technology Center
13	for Neutron Research; and
14	(K) $$18,543,000$ shall be for the National
15	Nanomanufacturing and Nanometrology Facil-
16	ity;
17	(2) \$447,580,000 for fiscal year 2007; and
18	(3) \$456,979,000 for fiscal year 2008.
19	(b) Malcolm Baldrige National Quality
20	AWARD PROGRAM.—There are authorized to be appro-
21	priated to the Secretary of Commerce for the Malcolm
22	Baldrige National Quality Award program under section
23	17 of the Stevenson-Wydler Technology Innovation Act of
24	1980 (15 U.S.C. 3711a)—
25	(1) \$5,654,000 for fiscal year 2006;

1	(2) \$5,795,000 for fiscal year 2007; and
2	(3) \$5,939,000 for fiscal year 2008.
3	(c) Construction and Maintenance.—There are
4	authorized to be appropriated to the Secretary of Com-
5	merce for construction and maintenance of facilities of the
6	National Institute of Standards and Technology—
7	(1) \$58,898,000 for fiscal year 2006;
8	(2) \$61,843,000 for fiscal year 2007; and
9	(3) \$63,389,000 for fiscal year 2008.
10	(d) Advanced Technology Program Elimi-
11	NATION REPORT.—Not later than 3 months after the date
12	of enactment of this Act, the Secretary shall provide to
13	the Congress a report detailing the impacts of the possible
14	elimination of the Advanced Technology Program on the
15	laboratory programs at the National Institute of Stand-

16 ards Technology.

17 (e) LOSS OF FUNDING.—At the time of the Presi-18 dent's budget request for fiscal year 2007, the Secretary 19 shall provide the Congress a report on how the Depart-20 ment of Commerce plans to absorb the loss of Advanced Technology Program funds to the laboratory programs at 21 22 the National Institute of Standards and Technology, or otherwise mitigate the effects of this loss on its programs 23 and personnel. 24

17

1 SEC. 7. STANDARDS EDUCATION PROGRAM.

2	(a) Program Authorized.—(1) As part of the
3	Teacher Science and Technology Enhancement Institute
4	Program, the Director of the National Institute of Stand-
5	ards and Technology shall carry out a Standards Edu-
6	cation program to award grants to institutions of higher
7	education to support efforts by such institutions to develop
8	curricula on the role of standards in the fields of engineer-
9	ing, business, science, and economics. The curricula
10	should address topics such as—
11	(A) development of technical standards;
12	(B) demonstrating conformity to standards;
13	(C) intellectual property and antitrust issues;
14	(D) standardization as a key element of busi-
15	ness strategy;
16	(E) survey of organizations that develop stand-
17	ards;
18	(F) the standards life cycle;
19	(G) case studies in effective standardization;
20	(H) managing standardization activities; and
21	(I) managing organizations that develop stand-
22	ards.
23	(2) Grants shall be awarded under this section on a
24	competitive, merit-reviewed basis and shall require cost-
25	sharing from non-Federal sources.

1 (b) SELECTION PROCESS.—(1) An institution of 2 higher education seeking funding under this section shall 3 submit an application to the Director at such time, in such 4 manner, and containing such information as the Director 5 may require. The application shall include at a min-6 imum—

7 (A) a description of the content and schedule
8 for adoption of the proposed curricula in the courses
9 of study offered by the applicant; and

(B) a description of the source and amount ofcost-sharing to be provided.

(2) In evaluating the applications submitted under
paragraph (1) the Director shall consider, at a minimum—

(A) the level of commitment demonstrated by
the applicant in carrying out and sustaining lasting
curricula changes in accordance with subsection
(a)(1); and

(B) the amount of cost-sharing provided.

(c) AUTHORIZATION OF APPROPRIATIONS.—There
are authorized to be appropriated to the Secretary of Commerce for the Teacher Science and Technology Enhancement Institute program of the National Institute of Standards and Technology—

(1) \$773,000 for fiscal year 2006;

(2) \$796,000 for fiscal year 2007; and
 (3) \$820,000 for fiscal year 2008.

3 SEC. 8. AUTHORIZATION OF APPROPRIATIONS.

4 (a) MANUFACTURING EXTENSION PARTNERSHIP 5 PROGRAM.—There are authorized to be appropriated to 6 the Secretary of Commerce, or other appropriate Federal 7 agencies, for the Manufacturing Extension Partnership 8 program under sections 25 and 26 of the National Insti-9 tute of Standards and Technology Act (15 U.S.C. 278k 10 and 278l)—

(1) \$110,000,000 for fiscal year 2006, of which
not more than \$1,000,000 shall be for the competitive grant program under section 25(e) of such Act
(15 U.S.C. 278k(e));

(2) \$115,000,000 for fiscal year 2007, of which
not more than \$4,000,000 shall be for the competitive grant program under section 25(e) of such Act
(15 U.S.C. 278k(e)); and

(3) \$120,000,000 for fiscal year 2008, of which
not more than \$4,100,000 shall be for the competitive grant program under section 25(e) of such Act
(15 U.S.C. 278k(e)).

(b) COLLABORATIVE MANUFACTURING RESEARCH
PILOT GRANTS PROGRAM.—There are authorized to be
appropriated to the Secretary of Commerce for the Col-

laborative Manufacturing Research Pilot Grants program
 under section 33 of the National Institute of Standards
 and Technology Act—

- 4 (1) \$10,000,000 for fiscal year 2006; 5 (2) \$10,000,000 for fiscal year 2007; and 6 (3) \$10,000,000 for fiscal year 2008. 7 (c) FELLOWSHIPS.—There are authorized to be ap-8 propriated to the Secretary of Commerce for Manufac-9 turing Fellowships at the National Institute of Standards 10 and Technology under section 18(b) of the National Institute of Standards and Technology Act, as added by section 11 12 4 of this Act—
- 13 (1) \$1,500,000 for fiscal year 2006;
- 14 (2) \$1,750,000 for fiscal year 2007; and
- 15 (3) \$2,000,000 for fiscal year 2008.

16 SEC. 9. TECHNICAL WORKFORCE EDUCATION AND DEVEL-

17 **OPMENT.**

(a) AUTHORIZATION OF APPROPRIATIONS.—There
are authorized to be appropriated to the Director of the
National Science Foundation, from sums otherwise authorized to be appropriated, for the Advanced Technological Education Program established under section 3 of
the Scientific and Advanced-Technology Act of 1992 (42
U.S.C. 1862i)—

(1) \$55,000,000 for fiscal year 2006,
 \$5,000,000 of which may be used to support the
 education and preparation of manufacturing techni cians for certification;

5 (2) \$57,750,000 for fiscal year 2007,
6 \$5,000,000 of which may be used to support the
7 education and preparation of manufacturing techni8 cians for certification; and

9 (3) \$60,600,000 for fiscal year 2008,
10 \$5,000,000 of which may be used to support the
11 education and preparation of manufacturing techni12 cians for certification.

13 Funds shall be made available under this subsection, to14 the maximum extent practicable, to diverse institutions,15 including Historically Black Colleges and Universities and16 other minority serving institutions.

17 (b) AMENDMENT.—Section 3 of the Scientific and
18 Advanced-Technology Act of 1992 (42 U.S.C. 1862i) is
19 amended—

20 (1) by inserting ", including manufacturing"
21 after "advanced-technology fields" each place it appears other than in subsection (c)(2); and

23 (2) by inserting ", including manufacturing,"
24 after "advanced-technology fields" in subsection
25 (c)(2).

22

1 SEC. 10. KATRINA ASSISTANCE PROGRAM.

2 (a) PROGRAM ESTABLISHMENT.— Not later than 30 3 days after the date of enactment of this Act, the Director of the National Institute of Standards and Technology 4 5 shall establish within the Manufacturing Extension Partnership program established under sections 25 and 26 of 6 7 the National Institute of Standards and Technology Act (15 U.S.C. 278k and 278l) a Katrina Assistance Program, 8 9 to provide assistance to impacted small and medium-sized 10 manufacturers in the areas affected by Hurricane Katrina.

11 (b) PURPOSES.—The Katrina Assistance Program12 shall—

(1) establish triage teams, consisting of personnel from within the national network of Manufacturing Extension Partnership Centers established
under section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k) and local
experts, the purpose of which shall be to assist impacted manufacturers;

20 (2) develop virtual assistance centers, consisting
21 of databases incorporating the results and rec22 ommendations of the triage team assessments;

(3) assess the potential disruption on national
manufacturing supply chains as a result of Hurricane Katrina, and develop recommendations of how
to minimize such disruption; and

(4) provide assistance to small and medium sized manufacturers in the areas affected by Hurri cane Katrina, consistent with the authorities of the
 Manufacturing Extension Partnership program es tablished under section 25 and 26 of the National
 Institute of Standards and Technology Act (15
 U.S.C. 278k and 278l).

8 (c) NO MATCHING FUND REQUIREMENT.—Assist-9 ance under the Program established under this section 10 shall be exempt from matching requirements for the Man-11 ufacturing Extension Partnership program under the Na-12 tional Institute of Standards and Technology Act.

(d) AUTHORIZATION OF APPROPRIATIONS.—There
are authorized to be appropriated to the Secretary of Commerce such sums as may be necessary for the Katrina Assistance Program established under this section.

17 SEC. 11. BUILT ENVIRONMENT INVESTIGATION FOR HURRI-

18 CANE KATRINA.

(a) IN GENERAL.—The Director of the National Institute of Standards and Technology shall carry out an
engineering performance study of the effects of Hurricane
Katrina in the areas of Louisiana, Alabama, and Mississippi covered by the President's major disaster declarations of August 29, 2005. The study shall be based on

1	an examination of physical structures damaged due to ex-
2	cessive wind, storm surge, and flooding, including—
3	(1) key physical infrastructures such as ports,
4	utilities, lifelines associated with infrastructure fa-
5	cilities, and transportation systems; and
6	(2) engineered and nonengineered buildings.
7	(b) PURPOSE.—The purpose of the study shall be
8	to—
9	(1) develop new knowledge concerning practices
10	related to building standards and codes; and
11	(2) review the adequacy of current building
12	codes and standards for excessive wind, storm surge,
13	and flooding.
14	(c) MEETINGS AND CONFERENCES.—The Director of
15	the National Institute of Standards and Technology may
15 16	the National Institute of Standards and Technology may convene public meetings and conferences to inform the
16	convene public meetings and conferences to inform the
16 17	convene public meetings and conferences to inform the public, government authorities, and relevant professional

are authorized to be appropriated to the Director of the

National Institute of Standards and Technology
 \$3,000,000 for carrying out this section.

Passed the House of Representatives September 21, 2005.

Attest: JEFF TRANDAHL, Clerk.