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[96th Congress]

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Calendar No.

96TH CONGRESS
1st Session

SENATE

REPORT
No. 96——

UNIVERSITY AND SMALL BUSINESS PATENT PROCEDURES ACT

DECEMBER —, 1979.—Ordered to be printed

Mr. _____ from the Committee on the Judiciary, submitted the following

REPORT

[To accompany S. 414, as amended]

The Committee on the Judiciary, to which was referred the bill (S. 414) to establish a uniform Federal patent procedure for small businesses and nonprofit organizations; to create a consistent policy and procedure concerning potentability of inventions made with Federal assistance; and for other related purposes, having considered the same, reports favorably thereon, with an amendment, and recommends that the bill as amended do pass.

I. PURPOSE

Evidence is mounting that the United States is falling behind its international competition in the development of new products and inventions. There are a number of indications of the seriousness of this trend:

The United States importation of foreign manufactured goods is now second only to the importation of foreign oil (the U.S. suffered a trade deficit in 1978 of $5.8 billion on the importation of manufactured goods);

The number of U.S. patents granted to foreigners has risen since 1973 and now accounts for 35 percent of all patents issued in this country;

Investment in research and development over the past 10 years, in constant dollars, has failed to increase;

American productivity is growing at a much slower rate than that of our free world competitors;

Small businesses, which have compiled a very impressive record in technological innovation, are receiving a distressingly low percentage of Federal research and development money; and

The number of patentable inventions made under federally-supported research has been in a steady decline, even in those years when the actual research appropriation has been increased over previous years.

The Joint Economic Committee issued on August 13, 1979 a summary of the midyear report and staff study entitled "Outlook 1980's" which concluded that the current recession-inflation problem is actually worse than believed, and that if productivity continues to decline there will be a noticeable drop in our standard of living in the 1980's.[1]

While this deterioration probably has multiple causes, an important factor is very likely a slowdown in technological innovation in the United States. The role that technological innovation plays in the economic well being of our Nation is highly significant. The Senate Select Committee on Small Business cited a study which attributed 45 percent of the Nation's economic growth from 1929 to 1969 to technological innovation.[2]

One factor that can be clearly identified as a part of this problem is the inability of the Federal agencies to deliver new inventions and processes from their research and development programs to the marketplace where they can benefit the public. A prime cause of this failure is the existence of ineffective patent policies regarding ownership of potentially important discoveries. In general, the present patent policies require contractors and grantees to allow the funding agency to own any patentable discoveries made under research and development supported by the Federal Government unless the contractor or grantee successfully completes lengthy waiver procedures justifying why patent rights should be left to the inventor. Many times the agencies provide only partial support of a project, but even if the Government has provided a small percentage of the total money involved in the research and development, it can take the patent rights to resulting inventions.

Agencies which acquire these patents generally follow a passive approach of making them available to private businesses for development and possible commercialization through nonexclusive licenses. This has proven to be an ineffective policy as evidenced by the fact that of the more than 28,000 patents in the Government patent portfolio, less than 4 percent are successfully licensed.[3] The private sector simply needs more protection for the time and effort needed to develop and commercialize new products than is afforded by a nonexclusive license. Universities, on the other hand, which can offer exclusive or partially exclusive licenses on their patents if necessary, have been able to successfully license 33 percent of their patent portfolios.[4]

Presently, there are at least 24 different patent policies in effect in the Federal agencies. These are frequently contradictory from agency to agency (and even sometimes within the same agency) and have proven to be formidable barriers to organizations interested in participation in Government work. The mere complexity of these policies

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[1] "Outlook 1980's," Midyear Report and Staff Study of the Joint Economic Committee, Congress of the United States, 96th Congress, 1st session, August 1979, pp. 7–13.

[2] "Small Business and Innovation." Report of the Select Committee on Small Business, United States Senate, on Underutilization of Small Business in the Nation's Efforts to Encourage Industrial Innovation, 96th Congress, 1st session, June 14, 1979, p. 3.

[3] "Government Patent Policy," hearings before the Subcommittee on Domestic and International Scientific Planning and Analysis of the Committee on Science and Technology, U.S. House of Representatives, 94th Congress, 2d session, Sept. 23, 27, 29, Oct. 1, 1976, pp. 896–897.

[4] Ibid., p. 897.

constitutes a very real hurdle to universities, nonprofit organizations, and small businesses who do not have large legal staffs to negotiate through this policy maze. Regardless of how unattractive the Government patent policies are, some of these organizations, particularly universities, will continue to seek research and development contracts and grants for reasons other than the commercialization of resulting inventions. Others, particularly product-oriented small business, refrain from participating in Government research and development because of these policies. The question is how to insure that the public supporting this research is able to use and benefit from important inventions that they are helping to support, and how to encourage performance of Federal research and development by the most innovative and qualified organizations.

S. 414, the University and Small Business Patent Procedures Act, establishes uniform Federal policies with respect to inventions made by nonprofit organizations, universities, and small businesses under Government-supported research and development programs. It also authorizes and establishes procedures for licensing inventions owned by the Federal Government which are not being developed under the present licensing programs.

The bill is designed to promote the utilization and commercialization of inventions made with Government support, to encourage the participation of smaller firms in the Government research and development process, and to promote increased cooperation and collaboration between the nonprofit and commercial sectors. Ultimately, it is believed that these improvements in Government patent policy will lead to greater productivity in the United States, provide new jobs for our citizens, create economic growth, foster increased competition, make Government research and development contracting more competitive, and stimulate a greater return on the billions of dollars spent each year by the Government on its research and development programs.

II. Text of Senate Bill S. 414

The text of S. 414 is as follows:

A BILL To amend title 35 of the United States Code; to establish a uniform Federal patent procedure for small businesses and nonprofit organizations; to create a consistent policy and procedure concerning patentability of inventions made with Federal assistance; and for other related purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "University and Small Business Patent Procedures Act".

Sec. 2. (a) Amendment of Title 35, United States Code, Patents.—Title 35 of the United States Code is amended by adding after chapter 17, a new chapter as follows:

"CHAPTER 18.—PATENT RIGHTS IN INVENTIONS MADE WITH FEDERAL ASSISTANCE

"SEC. 200. POLICY AND OBJECTIVE.—It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise; to promote the commercialization and public availability of inventions made in the United States by United States industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

"SEC. 201. DEFINITIONS.—As used in this chapter—

"(a) The term 'Federal agency' means any executive agency as defined in section 105 of title 5, United States Code, and the military departments as defined by section 102 of title 5, United States Code.

"(b) The term 'funding agreement' means any contract, grant, or cooperative agreement entered into between any Federal agency and any person for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government. Such term includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as herein defined.

"(c) The term 'contractor' means any person that is a party to a funding agreement.

"(d) The term 'invention' means any invention or discovery which is or may be patentable or otherwise protectable under this title.

"(e) The term 'subject invention' means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement.

"(f) The term 'practical application' means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under

such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

"(g) The term 'made' when used in relation to any invention means the conception or first actual reduction to practice of such invention.

"(h) The term 'small business firm' means a small business concern as defined at section 2 of Public Law 85–536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

"(i) The term 'nonprofit organization' means universities and other institutions of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)).

"SEC. 202. DISPOSITION OF RIGHTS.—(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention: *Provided, however*, That a funding agreement may provide otherwise (i) when the funding agreement is for the operation of a Government-owned research or production facility, (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter, or (iii) when it is determined by a Government authority which is authorized by statue or Executive order to conduct foreign intelligence or counterintelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities. The rights of the nonprofit organization or small business firm shall be subject to the provisions of paragraph (c) of this section and the other provisions of this chapter.

"(b)(1) Any determination under (ii) of paragraph (a) of this section shall be in writing and accompanied by a written statement of facts justifying the determination. A copy of each such determination and justification shall be sent to the Comptroller General of the United States within thirty days after the award of the applicable funding agreement. In the case of determinations applicable to funding agreements with small business firms copies shall also be sent to the Chief Counsel for Advocacy of the Small Business Administration.

"(2) If the Comptroller General believes that any pattern of determinations by a Federal agency is contrary to the policy and objectives of this chapter or that an agency's policies or practices are otherwise not in conformance with this chapter, the Comptroller General shall so advise the head of the agency. The head of the agency shall advise the Comptroller General in writing within one hundred twenty days of

what action, if any, the agency has taken or plans to take with respect to the matters raised by the Comptroller General.

"(3) At least once each year, the Comptroller General shall transmit a report to the Committees on Judiciary of the Senate and House of Representatives on the manner in which this chapter is being implemented by the agencies and on such other aspects of Government patent policies and practices with respect to federally funded inventions as the Comptroller General believes appropriate.

"(c) Each funding agreement with a small business firm or nonprofit organization shall contain appropriate provisions to effectuate the following:

"(1) A requirement that the contractor disclose each subject invention to the Federal agency within a reasonable time after it is made and that the Federal Government may receive title to any subject invention not reported to it within such time.

"(2) A requirement that the contractor make an election to retain title to any subject invention within a reasonable time after disclosure and that the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such time.

"(3) A requirement that a contractor electing rights file patent applications within reasonable times and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

"(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world, and may, if provided in the funding agreement, have additional rights to sublicense any foreign government or international organization pursuant to any existing or future treaty or agreement.

"(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: *Provided*, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code.

"(6) An obligation on the part of the contractor, in the event a United States patent application is filed by or on its behalf or by any assignee of the contractor, to include within the specification of such application and any patent issuing thereon, a statement specifying that the invention was made with Government support and that the Government has certain rights in the invention.

"(7) In the case of a nonprofit organization: (a) a prohibition upon the assignment of rights to a subject invention in the United States without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions and which is not, itself, engaged in or does not hold a substantial interest in other organizations engaged in the manufacture or sale of products or the use of processes that might utilize the invention or be in competition with embodiments of the invention (providing that such assignee shall be subject to the same provisions as the contractor); (b) a prohibition against the granting of exclusive licenses under United States Patents or Patent Applications in a subject invention by the contractor to persons other than small business firms for a period in excess of the earlier of five years from first commercial sale or use of the invention or eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance unless, on a case-by-case basis, the Federal agency approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale or use in one field of use shall not be deemed commercial sale or use as to other fields of use, and a first commercial sale or use with respect to a product of the invention shall not be deemed to end the exclusive period to different subsequent products covered by the invention; (c) a requirement that the contractor share royalties with the inventor; and (d) a requirement that the balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, be utilized for the support of scientific research or education.

"(8) The requirements of sections 203, 204, and 205 of this chapter.

"(d) If a contractor does not elect to retain title to a subject invention in cases subject to this section, the Federal agency may consider and after consultation with the contractor grant requests for retention of rights by the inventor subject to the provisions of this Act and regulations promulgated hereunder.

"(e) In any case when a Federal employee is a coinventor of any invention made under a funding agreement with a nonprofit organization or small business firm, the Federal agency employing such coinventor is authorized to transfer or assign whatever rights it may acquire in the subject invention from its employee to the contractor subject to the conditions set forth in this chapter.

"(f)(1) No funding agreement with a small business firm or nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of

inventions owned by the contractor that are not subject inventions unless such provision has been approved by the head of agency and a written justification has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.

"(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notication of such determination.

"SEC. 203. MARCH-IN RIGHTS.—With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter, the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusively licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such request, to grant such a license itself, if the Federal agency determines that such—

"(a) action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

"(b) action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

"(c) action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

"(d) action is necessary because the agreement required by section 205 has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United Sttaes is in breach of its agreement obtained pursuant to section 205.

"SEC. 204. RETURN OF GOVERNMENT INVESTMENT.—(a) If after the first United States patent application is filed on a subject invention, a nonprofit organization, a small business

firm, or an assignee of a subject invention of such an organization or firm to whom such invention was assigned for licensing purposes, receives $70,000 in gross income for any one calendar year from the licensing of a subject invention or several related subject inventions, the United States shall be entitled to 15 per centum of all income in excess of $70,000 for that year other than any such excess income received under nonexclusive licenses (except where the nonexclusive licensee previously held an exclusive or partially exclusive license).

"(b)(1) Subject to the provisions of paragraph (2), if after the first United States patent application is filed on a subject invention, a nonprofit organization, a small business firm, or an assignee of a subject invention of such an organization or firm, receives gross income of $1,000,000 for any one calendar year on sales of its products embodying or manufactured by a process imploying one or more subject inventions, the United States shall be entitled to a share, the amount of which to be negotiated but not to exceed 5 per centum, of all gross income in excess of $1,000,000 for that year accruing from such sales.

"(2) In no event shall the United States be entitled to an amount greater than that portion of the Federal funding under the funding agreement or agreements under which the subject invention or inventions was or were made expended on activities related to the making of the invention or inventions less any amounts received by the United States under subsection (a) of this section. In any case in which more than one subject invention is involved, no expenditure funded by the United States shall be counted more than once in determining the maximum amount to which the United States is entitled.

"(c) The Director of the Office of Federal Procurement Policy is authorized and directed to revise the dollar amounts in subsections (a) and (b) of this section at least every three years in light of changes to the Consumer Price Index or other indices which the Director considers reasonable to use.

"(d) The entitlement of the United States under subsections (a) and (b) shall cease after (i) the United States Patent and Trademark Office issues a final rejection of the patent application covering the subject invention, (ii) the patent covering the subject invention expires, or (iii) the completion of litigation (including appeals) in which such a patent is finally found to be invalid.

"SEC. 205. PREFERENCE FOR UNITED STATES INDUSTRY.—Notwithstanding any other provision of this chapter, no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured susbtantially in

the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

"SEC. 206. CONFIDENTIALITY.—Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

"SEC. 207. UNIFORM CLAUSES AND REGULATIONS.—The Office of Federal Procurement Policy, after receiving recommendations of the Office of Science and Technology Policy, may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 205 of this chapter and the Office of Federal Procurement Policy shall establish standard funding agreement provisions required under this chapter.

"SEC. 208. DOMESTIC AND FOREIGN PROTECTION OF FEDERALLY OWNED INVENTIONS.—Each Federal agency is authorized to—

"(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title, or interest;

(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents, or other forms of protection obtained, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title as determined appropriate in the public interest;

"(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contract; and

"(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right title, or interest in any federally owned invention.

"SEC. 209. REGULATIONS GOVERNING FEDERAL LICENSING.—The Administrator of General Services is authorized to promulgate regulations specifying the terms and conditions upon

which any federally owned invention may be licensed on a nonexclusive partially exclusive, or exclusive basis.

"SEC. 210. RESTRICTIONS ON LICENSING OF FEDERALLY OWNED INVENTIONS.—(a) No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development and/or marketing of the invention, except that any such plan may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code.

"(b) A Federal agency shall normally grant the right to use or sell any federally owned invention in the United States only to a licensee that agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

"(c)(1) Each Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that—

"(A) the interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

"(B) the desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

"(C) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

"(D) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public.

"(2) A Federal agency shall not grant such exclusive or partially exclusive license under paragraph (1) of this subsection if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.

"(3) First preference in the exclusive or partially exclusive licensing of federally owned inventions shall go to small

the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

"SEC. 206. CONFIDENTIALITY.—Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

"SEC. 207. UNIFORM CLAUSES AND REGULATIONS.—The Office of Federal Procurement Policy, after receiving recommendations of the Office of Science and Technology Policy, may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 205 of this chapter and the Office of Federal Procurement Policy shall establish standard funding agreement provisions required under this chapter.

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"(1) apply for, obtain, and maintain patents or other forms of protection in the United States and in foreign countries on inventions in which the Federal Government owns a right, title, or interest;

(2) grant nonexclusive, exclusive, or partially exclusive licenses under federally owned patent applications, patents, or other forms of protection obtained, royalty-free or for royalties or other consideration, and on such terms and conditions, including the grant to the licensee of the right of enforcement pursuant to the provisions of chapter 29 of this title as determined appropriate in the public interest;

"(3) undertake all other suitable and necessary steps to protect and administer rights to federally owned inventions on behalf of the Federal Government either directly or through contract; and

"(4) transfer custody and administration, in whole or in part, to another Federal agency, of the right title, or interest in any federally owned invention.

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"SEC. 210. RESTRICTIONS ON LICENSING OF FEDERALLY OWNED INVENTIONS.—(a) No Federal agency shall grant any license under a patent or patent application on a federally owned invention unless the person requesting the license has supplied the agency with a plan for development and/or marketing of the invention, except that any such plan may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code.

"(b) A Federal agency shall normally grant the right to use or sell any federally owned invention in the United States only to a licensee that agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

"(c)(1) Each Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a federally owned domestic patent or patent application only if, after public notice and opportunity for filing written objections, it is determined that—

"(A) the interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

"(B) the desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

"(C) exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

"(D) the proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public.

"(2) A Federal agency shall not grant such exclusive or partially exclusive license under paragraph (1) of this subsection if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the country in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with the antitrust laws.

"(3) First preference in the exclusive or partially exclusive licensing of federally owned inventions shall go to small

business firms submitting plans that are determined by the agency to be within the capabilities of the firms and equally likely, if executed, to bring the invention to practical application as any plans submitted by applicants that are not small business firms.

"(d) After consideration of whether the interests of the Federal Government or United States industry in foreign commerce will be enhanced, any Federal agency may grant exclusive or partially exclusive licenses in any invention covered by a foreign patent application or patent, after public notice and opportunity for filing written objections, except that a Federal agency shall not grant such exclusive or partially exclusive license if it determines that the grant of such license will tend substantially to lessen competition or result in undue concentration in any section of the United States in any line of commerce to which the technology to be licensed relates, or to create or maintain other situations inconsistent with antitrust laws.

"(e) The Federal agency shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

"(f) Any grant of a license shall contain such terms and conditions as the Federal agency determines appropriate for the protection of the interests of the Federal Government and the public, including provisions for the following:

"(1) periodic reporting on the utilization or efforts at obtaining utilization that are being made by the licensee with particular reference to the plan submitted: *Provided*, That any such information may be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code;

"(2) the right of the Federal agency to terminate such license in whole or in part if it determines that the licensee is not executing the plan submitted with its request for a license and the licensee cannot otherwise demonstrate to the satisfaction of the Federal Agency that it has taken or can be expected to take within a reasonable time, effective steps to achieve practical application of the invention;

"(3) the right of the Federal agency to terminate such license in whole or in part if the licensee is in breach of an agreement obtained pursuant to paragraph (b) of this section; and

"(4) the right of the Federal agency to terminate the license in whole or in part if the agency determines that such action is necessary to meet requirements for public use specified by Federal regulations issued after the date of the license and such requirements are not reasonably satisfied by the licensee.

"SEC. 211. PRECEDENCE OF CHAPTER.—(a) This chapter shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business

firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter, including but not necessarily limited to the following:

"(1) section 10(a) of the Act of June 29, 1935, as added by title 1 of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085);

"(2) section 205(a) of the Act of August 14, 1946 (7 U.S.C. 1624(a); 60 Stat. 1090);

"(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742);

"(4) section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721);

"(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360);

"(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943);

"(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457);

"(8) section 6 of the Coal Research Development Act of 1960 (30 U.S.C. 666; 74 Stat. 337);

"(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920);

"(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634);

"(11) subsection (e) of section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C. App. 302(e); 79 Stat. 5);

"(12) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901; 88 Stat. 1878);

"(13) section 5(d) of the Consumer Product Safety Act (15 U.S.C. 2054(d); 86 Stat. 1211);

"(14) section 3 of the Act of April 5, 1944 (30 U.S.C. 323; 58 Stat. 191);

"(15) section 8001(c)(3) of the Solid Waste Disposal Act (42 U.S.C. 6981(c); 90 Stat. 2829);

"(16) section 219 of the Foreign Assistance Act of 1961 (22 U.S.C. 2179; 83 Stat. 806);

"(17) section 427(b) of the Federal Mine Health and Safety Act of 1977 (30 U.S.C. 937(b)); 86 Stat. 155);

"(18) section 306(d) of the Surface Mining and Reclamation Act of 1977 (30 U.S.C. 1226(d); 91 Stat. 455);

"(19) section 21(d) of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2218(d); 88 Stat. 1548);

"(20) section 6(b) of the Solar Photovoltaic Energy Research Development and Demonstration Act of 1978 (42 U.S.C. 5585(b); 92 Stat. 2516);

"(21) section 12 of the Native Latex Commercialization and Economic Development Act of 1978 (7 U.S.C. 178(j); 92 Stat. 2533); and

"(22) section 408 of the Water Resources and Development Act of 1978 (42 U.S.C. 7879; 92 Stat. 1360).

The Act creating this chapter shall be construed to take precedence over any future Act unless that Act specifically cites this Act and provides that it shall take precedence over this Act.

"(b) Nothing in this chapter is intended to alter the effect of the laws cited in paragraph (a) of this section or any other laws with respect to the disposition of rights in inventions made in the performance of funding agreements with persons other than nonprofit organizations or small business firms.

"(c) Nothing in this chapter is intended to limit the authority of agencies to agree to the distribution of rights in inventions made in the performance of work under funding agreements with persons other than nonprofit organizations or small business firms in accordance with the Statement of Government Patent Policy issued by the President on August 23, 1971 (36 Fed. Reg. 16887), agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to agree to allow such persons to retain ownership of such inventions.

"(d) Nothing in this chapter shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

"SEC. 212. RELATIONSHIP TO ANTITRUST LAWS.—Nothing in this chapter shall be deemed to convey to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust law.".

(b) The table of chapters for title 35, United States Code, is amended by adding immediately after the item relating to chapter 17 the following:

"18. Patent rights in inventions made with Federal assistance.".

SEC. 3. AMENDMENTS TO OTHER ACTS.—The following Acts are amended as follows:

(a) Section 156 of the Atomic Energy Act of 1954 (42 U.S.C. 2186; 68 Stat. 947) is amended by deleting the words "held by the Commission or".

(b) The National Aeronautics and Space Act of 1958 is amended by repealing paragraph (g) of section 305 (42 U.S.C. 2457(g); 72 Stat. 436).

(c) The Federal Nonnuclear Energy Research and Development Act of 1974 is amended by repealing paragraphs (g), (h), and (i) of section 9 (42 U.S.C. 5908 (g), (h), and (i); 88 Stat. 1889–1891).

SEC. 4. EFFECTIVE DATE.—This Act and the amendments made by this Act, shall take effect one hundred and eighty days after the date of its enactment, except that the regulations referred to in section 2, or other implementing regulations, may be issued prior to that time.

III. Legislative History

There have been numerous attempts to formulate a uniform patent policy for the Federal agencies. Dating back to President Kennedy's Memorandum and Statement of Government Patent Policy in 1963, the executive branch has sought to formulate an administrative patent policy to apply to all of the agencies. The recent study of the present patent policies presented to the committee on May 16, 1979 in the testimony of the Comptroller General of the United States, Mr. Elmer B. Staats, found that this goal had not been reached and that legislation to establish a uniform patent policy is sorely needed.

The University and Small Business Patent Procedures Act introduced by Senators Bayh and Dole on February 9, 1979 would create such a patent policy for small businesses, universities, and nonprofit organizations for the first time.

Two days of hearings were held by the Senate Judiciary Committee on May 16, 1979 and on June 6, 1979. The witnesses at the hearing represented a wide range of expertise including university officials, individual inventors, small business presidents, patent organizations, and the Comptroller General of the United States.

IV. Background

In his address to the Congress in March, 1979 on science and technology, President Carter made the following statement:

> As a Nation, we face the problems of inflation, unemployment, foreign competition, and a decline in the growth of national productivity.[5]

Evidence supporting this observation is amply supplied by recent studies indicating that the United States is falling behind its international competition in a number of technological areas. The most recent productivity statistics issued by the Department of Labor have been the source of very real concern in the Congress as our productivity rate continues to slump.

Early in 1977, after extensive study and review by a 10 agency panel, the Office of Federal Procurement Policy of the Office of Management and Budget reached the following conclusion:

> While astonishing achievements have occurred since World War II, there is now considerable evidence that (U.S.) product innovation has either leveled off or declined in many industries.[6]

At a time when many foreign companies are redoubling their basic research efforts to remain in the forefront of innovation in their respective industries, many domestic companies are actually cutting back on their own basic research. This is a particularly disturbing trend because of the evidence that basic research is precisely the area

[5] Federal Government Policy on Science and Technology, Celebrating the Centennial of Birth of Albert Einstein and Thomas Alva Edison, Congressional Record, Mar. 27, 1979, p. H1680.

[6] "Small Firms and Federal Research and Development," Report of the Office of Procurement Policy, Office of Management and Budget, Executive Office of the President, Mar. 10, 1977, Introduction.

where exciting innovations are most likely to be produced. In the United States, universities and nonprofit organizations conducted 67.8 percent of all the basic research performed last year.[7] It is imperative, therefore, that we receive the optimum return on the Federal Government's basic research expenditures since this is becoming by far the largest source of American basic research money.

A. THE COMPTROLLER GENERAL'S SUMMARY OF PREVIOUS ATTEMPTS TO REVISE GOVERNMENT PATENT POLICIES

As mentioned before, previous attempts to generate a uniform patent policy which would guarantee maximum commercialization of the inventions produced each year by the Federal research and development expenditure have failed to achieve their objective. The Comptroller General summarized the previous attempts to reach this goal in his testimony to the committee on May 16, 1979 as follows:

1. Need for uniform patent legislation

There have been a number of attempts to establish a uniform patent policy for the Federal Government. Foremost among them have been the Presidential Memorandum and Statement of Government Patent Policy first issued in 1963 and then revised in 1971. These attempts have been relatively unsuccessful and policy has developed over the years on an agency-by-agency basis. There are wide variances in the way agencies have interpreted the Presidential policy and piecemeal legislation has made uniform implementation by the agencies increasingly difficult. As a result, today there are approximately 20 different patent arrangements employed by the various Executive agencies.

The proposed legislation (S. 414) would, in our opinion, go a long way in overcoming this confusion. It deals explicitly with licensing and sets forth ownership provisions for small business and nonprofit organizations. However, the treatment of other business entities would still be governed by Presidential policy or statute.

2. Commission on Government Procurement

The bipartisan Commission on Government Procurement, which included members from the Senate, House, Executive Branch agencies, and the private sector, was established to recommend improvements in all aspects of procurement policy. A major task group of the Commission reviewed Government patent policy.

The Commission placed considerable importance on the need for Government patent policies to stimulate commercialization of inventions. Its December 1972 report stated that effective patent policy must take advantage of the fact that development will be promoted by those having an exclusive interest; at the same time, the policy must provide for others to exploit the invention if an exclusive interest does not produce the desired result.

[7] Chemical and Engineering News, July 23, 1979, p. 37.

The Commission was skeptical of the Presidential policy because it relied on after-the-fact disposition of patent rights. They saw that policy as causing delayed utilization of discoveries, increased administrative costs, and a lessening in the willingness of some firms to participate in Government research work.

Nevertheless, the Commission recommended prompt and uniform implementation by the executive agencies so that further assessment could be based on actual experience. If such an assessment revealed weaknesses in the policy, the Commission suggested a legislative approach which would permit retention of title by contractors, subject to march-in rights and other safeguards. It also recommended legislation granting all agencies clear-cut authority to issue exclusive licenses.

The Commission considered the Federal Council for Science and Technology's Committee on Government Patent Policy to be in the best position to assess agency progress in implementing the revised policy.

3. Committee on Government Patent Policy

The Committee on Government Patent Policy, which included representatives from most of the R&D agencies, evaluated executive agency experience under the Presidential policy and concluded, in 1975, that it had not been effectively or uniformly implemented. The committee found that patent policy legislation was needed to unify agency practices for allocating rights to contractor inventions and to clarify agency authority to grant exclusive licenses for Government-owned inventions.

The committee's conclusion that legislation was needed appears to have been influenced by two situations. First, there was the enactment of patent legislation applicable to individual agencies, particularly Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974, with title-in-the-Government orientation. The same language has since been incorporated by reference in other acts affecting various agencies' R&D programs, such as the water resources and solid waste disposal acts.

The second situation was the confusion created by two lawsuits brought against the Government, by Public Citizens, Inc., that questioned the authority of Federal agencies to exclusively license inventions and allow Government contractors to retain title to inventions. Because both suits were dismissed for lack of standing to sue, and not on their merit, the issue was not resolved.

4. Executive agencies procedures and practices

GAO reviewed the current patent procedures and practices at selected agencies and found that the Presidential policy had not been implemented uniformly. Agencies, in establishing procedures for determining rights to inventions, are often free to move in almost any direction.

B. PRESIDENT CARTER'S DOMESTIC POLICY REVIEW

The Draft Report on Patent Policy issued by the Advisory Subcommittee on Patent and Information Policy of the Advisory Committee on Industrial Innovation established as a part of President Carter's Domestic Policy Review also considered the effects of Government patent policy and concluded in its December 20, 1978 report:

> Experience has shown that the Government, as a purchaser or consumer of goods and services, is not in a position to take advantage of its ownership of patents to promote enterprise. Private companies, on the other hand, who are in a position to utilize the patent grant are ordinarily unwilling to take a nonexclusive license under a Government-owned patent and commit the necessary funds to develop the invention, since it has no protection from competition. This is a major reason that over 90 percent of all Government patents are not used. Another important reason is that the Government obtains patents on technology which, in the opinion of the private sector, does not provide an attractive business opportunity.
>
> Several years ago, the Federal Council for Science and Technology supported the most thorough study ever conducted on the issue of Government patents, commonly referred to as the Harbridge House Report. The following findings were included in the report:
>
> Government ownership of patents with an offer of free public use does not alone result in commercialization of research results.
>
> A low, overall commercial utilization rate of Government-generated inventions has been achieved; that rate doubled, however when contractors with commercial background positions were allowed to keep exclusive commercial rights to the inventions.
>
> "Windfall profits" do not result from contractors retaining title to such inventions.
>
> Little or no anti-competitive effect resulted from contractor ownership of inventions because contractors normally licensed such technology, and where they did not, alternative technologies were available.[8]

The Draft Report concluded:

> Therefore, all members of this subcommittee recommend transferring the patent rights on the results of Government-sponsored research to the private sector for commercialization. In the case of university or private contractor work sponsored by the Government, the members of this subcommittee recommend that title to the patents would go to the university or private contractor, but some members feel the Government should have "march-in rights" (i.e. when the invention is not being used and it appears that there is a public need to use the invention, the Government would have the right to transfer

[8] Draft Report on Patent Policy, Advisory Committee on Patent and Information Policy of the Advisory Committee on Industrial Innovation, presented to Assistant Secretary for Science and Technology Jordan J. Baruch, Department of Commerce, Dec. 20, 1978, pp. 1–2, Proposal V.

patent rights to those in the private sector willing to use the invention). . . . In all cases, the Government would retain a nonexclusive license to use and have made for its use inventions founded in whole or in part by governmental expense.

. . . Our information indicates that the United States Government has been filing in excess of 3,000 United States patent applications a year, which amounts to approximately 3% of the total workload in the United States Patent and Trademark Office. A decision not to file patent applications on behalf of the Government would result in the PTO having available 3 percent of its total capability that could be directed to reducing the backlog in the PTO and re-issue program and the anticipated re-examination procedures. In addition, this decision would save the time of Government patent attorneys who normally prepare and prosecute the patent applications and the cost of having patent applications prepared by attorneys in private practice. Time and money thus saved could be utilized to provide needed services in other areas of Government.[9]

It has been well demonstrated over a number of years that Federal agencies are not as successful in delivering new products and inventions to the marketplace as the private sector. The result is that the public is not receiving the full benefits of the research and development efforts that it is supporting. It is in the public interest to see that new discoveries are commercialized as quickly as possible without the artificial restraints caused by the unnecessary delays and uncertainties of the present Government patent policies which only serve to make an already risky attempt to develop new products more of a burden on interested companies.

C. HOW CURRENT PATENT POLICIES AFFECT UNIVERSITY RESEARCH AND DEVELOPMENT

In 1977 the Federal Government provided $3.35 billion in support of research at universities, hospitals, and nonprofit organizations. Much of this money is spent in basic research. Basic research is not specifically geared to producing new inventions, but seeks to expand the frontiers of knowledge. Patentable inventions often arise as unexpected by-products of this research effort. The funding agency is rarely in a position to develop these reported inventions. It has been estimated by many experts that the cost of taking a new invention from basic research through development and commercialization costs 10 times as much as did the basic research itself. Quite clearly this is an enormous investment without any guarantee that the invention will be successful in the marketplace. Additionally, a medical discovery faces lengthy, expensive regulatory procedures before any new medicine can be marketed. Mr. Howard Bremer, the president of the Society of University Patent Administrators, told the committee when questioned by Senator Bayh of a drug developed at the University of Wisconsin which cost a private licensee $10 million and took 10 years to complete the developmental and regulatory stages. It should be remembered that all of this time and expense was undertaken without any financial

[9] Ibid., pp. 3–4, Proposal V.

returns on this investment of time and money. This example is typical of the types of risks encountered in developing and marketing new drugs which are so important for the health and welfare of the American public and of the world at large. When agencies insist on retaining patent rights to medical discoveries and try to have them developed through nonexclusive licensing there are rarely any takers. The experiences of the National Institutes of Health, which conducts the medical research for HEW, bears this out. A GAO study conducted in 1968 found that HEW's policy of retaining patent rights to inventions arising from its suported research programs resulted in an inability to obtain the cooperation of industry in developing potential important new drugs.[10]

The GAO study concluded:

> We believe it is important to note that, in a meeting with agency officials in June 1966, the President of the United States expressed specific interest in medicinal research and in achieving increased practical results from drug research in the form of treatment of diseases. Agency officials have advised the President that a major impediment to these goals has been the patent policy which has made it extremely difficult to make use of the resources and services of the pharmaceutical industry.
>
> Following this meeting, the President referred to the substantial amount of funds being spent annually by NIH on biochemical research and, after mentioning the role of medical research in control of polio and tuberculosis and in psychiatric treatment, stated:[11]
>
> "These examples provide dramatic proof of what can be achieved if we apply the lessons of research to detect, to deter and to cure disease. The Nation faces a heavy demand on its hospitals and health manpower. Medical research, effectively applied, can help reduce the load by preventing disease before it occurs, and by curing disease when it does strike.
>
> "But the greater reward is in the well-being of our citizens. We must make sure that no life-giving discovery is locked up in the laboratory."
>
> It is apparent that HEW officials have, for some time, recognized the problems discussed in this report, and we have since been informed that remedial measures are under way or under consideration, including changes in the patent agreement for screening and testing purposes, increased use of institutional agreements, and more expeditious assignment of invention rights at the time of grant award. However, until such time as the contemplated actions have been fully implemented, it is not practicable for us to assess the effectiveness of those various measures and to determine whether they will enable investigators to obtain adequate screening and testing services in connection with their HEW-supported research activities.[12]

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[10] "Problem Areas Affecting Usefulness of Results of Government Sponsored Research in Medicinal Chemistry." General Accounting Office. B-164031(2), 1968.
[11] Weekly compilation of Presidential Documents, July 4, 1966, p. 837.
[12] *Ibid.*, pp. 31–32.

Following this report, HEW instituted the Institutional Patent Agreements (or I.P.A.'s) to cope with this problem and other means of expeditiously disposing of inventions not covered by an I.P.A. The I.P.A. program provides a first option to qualified universities and nonprofit organizations to inventions that they make under HEW-supported research efforts.

Since instituting the I.P.A. program a number of potentially important new drugs initially funded under HEW research have been delivered to the public through the involvement of private industry in developing, testing, and marketing these discoveries. Prior to the I.P.A. program, however, *not one drug* had been developed and marketed from HEW research because of a lack of incentives to the private sector to commit the time and money needed to commercialize these discoveries.[13]

This program has been so successful that it has been copied by other agencies such as the National Science Foundation and was approved by the General Services Administration in 1978 and made available to all interested agencies under Federal Procurement Regulation Amendment 187 adopted on January 27, 1978.

Ironically, HEW now seems to be returning to its pre-1968 patent polices with the result that Senator Dole in late 1978 compiled a list of 29 important medical discoveries that had been delayed from 9 months to well over a year before HEW was able to determine whether or not the agency would retain patent rights. During the delays, the development of the invention is in limbo because potential licensees are afraid that the agency will insist on retaining title to the patent rights. Follow-up review has shown no improvement in HEW's performance. (The GAO patent policy study presented to the Committee on May 16, 1979, also found that the Department of Energy frequently takes up to 15 months to process these patent ownership requests from its contractors).

HEW has also shown a reluctance in recent years to admit new participants to the I.P.A. program despite the fact that universities and nonprofit organizations have a much better record at licensing out their patents than the agency.

There is no justification for new inventions made under university, nonprofit organization, or small business research having to undergo these long delays to determine patent ownership. Such delays serve to seriously jeopardize the ability of new inventions to be commercialized. Passage of S. 414 will end this uncertainty and prevent these promising inventions from being suffocated under reams of unnecessary, bureaucratic redtape.

It should be noted that the agencies can retain title to inventions arising from research which only received a small percentage of its funding from the Government. Mr. Bremer pointed out that universities receive their funding from a number of sources both private and public. Even the receipt of a small percentage of Federal money however, can throw the whole issue of patent ownership into considerable confusion. Many small companies have told the committee that they are reluctant to use university research facilities because they fear

[13] Testimony of Mr. Norman Latker, patent counsel, Dept. of Health, Education, and Welfare, House Subcommittee on Science, Research and Technology, May 26, 1977, 95th Congress, 1st session, p. 8.

that any resulting patent rights might be "tainted" if the university is also receiving Federal support in related research. This serves to close off a potentially important avenue of product development to the small businessman and places small business at a further disadvantage to the large corporation which can afford to pursue its own research or can buy up promising patents from smaller companies.

President Carter has stated that the creation of a "partnership" between universities and industry is a goal of Federal science and technology policy.[14] This is a laudable objective. In one recent year industrial support of university research amounted to only $123 million versus $3.7 billion by the Federal Government. However, without fundamental changes in Government patent policies regarding university research, any substantial improvement is doubtful.

A number of witnesses also pointed out to the committee that when Government agencies retain title to inventions made by nonprofit organizations or small business contractors there is no incentive for the inventor to remain involved in the possible development of the patentable discovery. Virtually all experts in the innovation process stress very strongly that such involvement by the inventor is absolutely essential, especially when the invention was made under basic research where it is invariably in the embryonic stage of development.

D. HOW CURRENT POLICIES AFFECT SMALL BUSINESS RESEARCH AND DEVELOPMENT

An important ingredient missing in Federal research and development programs is the large scale participation of the small business community. A distressingly low percentage of Federal research and development contracts are awarded to small companies (about 3.4% according to the Office of Management and Budget's Study "Small Business Firms and Federal Research and Development," published on March 10, 1977). The Senate Select Committee on Small Business and the House Small Business Committee have concluded that based on the impressive record of small companies as sources of bold, new innovations, it is in the public interest to secure greater small business participation in the Federal research and development effort.[15]

The committee heard from a number of presidents and representatives of small businesses who said that one of the greatest discouragements to such companies interested in participating in this research effort are the present Federal patent policies. These policies not only can require that small companies give up patent rights to resulting inventions, but can also require small business to license their "background rights" (which can consist of privately financed patents or other materials relating to the invention made under Federal contract) to competitors who later work under Federal research or development programs. This threat of having to license out privately acquired technologies or information is a very serious one to the innovative small company which is trying to compete in the marketplace

[14] Federal Government Policy on Science and Technology Celebrating The Centennial of Birth of Albert Einstein and Thomas Alva Edison, Cong. Record, Mar. 27, 1979, p. H1686.

[15] "Small Business and Innovation," a Report of the Select Committee on Small Business, U.S. Senate, on Underutilization of Small Business in the Nation's Efforts to Encourage Industrial Innovation, 96th Congress, 1st session, June 14, 1979, pp. 45–48.

against large corporations. Technological edges are the one advantage that such small companies have, and when they are forced to license this out to competitors their ability to successfully compete can be jeopardized or even ruined.

The small business attitude toward Federal patent policy was summarized very well by Dr. Arthur S. Obermayer, President of Moleculon Research Corporation of Cambridge, Massachusetts who also represented the American Association of Small Research Companies in his testimony to the committee on May 16, 1979:

> Starting with fundamentals, the goal of a company is to make profits . . . to maximize return on investment. The small, high technology company that has a product to sell usually finds itself competing with large companies that have much greater financial muscle and marketing clout. If the small company is to succeed it must have a superior product and a means for protecting its product's superiority. If the small company's new product shows market acceptance, big companies will try to jump in with similar products and overwhelm the small company with massive advertising, well-developed channels of distribution, and sophisticated marketing approaches. The small, high technology company's principle protection in the commercial market is its proprietary "know-how" and patent protection. This is the way my company evaluates its position. We will not enter a new market unless we have some protected technological advantage; and our reaction is typical.
>
> When the Government is looking for a company to do research and development in a field where we have experience, we are very cautious about submitting a proposal. Even though we may be as well qualified as any bidder, we become concerned that we may compromise our patent rights by accepting a contract. Many Government agencies require that small businesses who accept contracts with them not only give the Government title to any patents coming out of the work, but also give the Government background patent rights; that is, the right to use patents already obtained and paid for by the company. As further affront, the Government usually takes a rather cavalier attitude toward protection of any of the company's proprietary information or "know-how" which is submitted with a proposal. All too often, proprietary information supplied by one company later appears in another company's proposal. It is no wonder that many companies which have important new technologies with significant patent implications, carefully avoid becoming entangled with the Government.

While there is no shortage of small companies interested in participating in Federal research and development efforts, these businesses are not necessarily the most innovative companies and many times represent firms whose sole aim is the acquisition of Government grants and contracts. S. 414 will be a guarantee to the truly innovative small company that in almost all cases it will be allowed to retain pat-

ent rights on resulting inventions made under Government grants or contracts.

The loss of small business participation under the present policies is also a serious loss to the general public. An international panel of experts studying the most important innovations made between 1953–1973 in this country found that of the 319 major innovations introduced, fully 24 percent were made by companies having less than 100 employees.[16] An additional 24 percent were made by companies having less than 1,000 employees.[17]

The present 24 patent policies in effect in the Federal agencies are a much greater burden for the small business than for the large corporation which can afford to retain large legal staffs. Moreover, when small businesses are afraid to involve themselves in Government research and development programs because of fears of losing rights to important patents, it can be very difficult to find alternative means of financing their research and development efforts.

It is very difficult for these companies to raise risk capital privately for developing new ideas. All too often, the only alternative open to a small business is to license out their promising technologies to larger companies who can afford to conduct expensive research and development programs. The ultimate effect of the present patent policies (which were formulated in the hope of discouraging economic concentration by making federally-supported patents available to everyone) has been a de facto contribution toward greater economic concentration by discouraging the innovative small businesses and cutting them off from the use of Government research and development money.

The importance of patent rights to small companies was underscored by Deputy Attorney General, Antitrust Division, Mr. Ky P. Ewing who said:

> It is often small competitors and potential entrants who benefit most from the patent grant. Such firms may have little or no ability otherwise to gain entry into an established market. Patent rights for these firms provide a competitive edge that can counter the larger, existing competitor's popular trade name, access to investment capital, or reliable marketing organization.[18]

S. 414 would remove a large roadblock to full participation in Government research and development programs, and will open the door to greater small business participation in this effort while delivering new products to the American public.

E. BACKGROUND INVENTIONS

Because of the concerns so often expressed by witnesses about Government treatment of "background inventions" of small business contractors the Committee has broadened S. 414 to address this issue. As amended S. 414 establishes certain procedural requirements for agency acquisition of rights in background inventions.

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[16] Ibid. p. 42.
[17] Ibid.
[18] Address to the San Francisco Patent Law Association, as reprinted in BNA Patent, Trademark and Copyright Journal, No. 429, May 17, 1979, p. D–2.

The background invention issue is particularly acute when the Government acquires small business' background rights for the purposes of requiring them to license competitors. Where the Government seeks background rights for its own use the considerations are different. Accordingly, Section 202(f) addresses only situations in which background rights are sought for use by competitors. The section would not effect, for example, NASA's or DOD's authority to obtain licenses in patents that might cover space or military systems they were procuring. It would apply, however, to DOE or EPA contracts to develop technology intended for use in civilian markets.

This section attempts to curb what the Committee believes to be inappropriate use of "background" provisions by the executive agencies, while still leaving the agencies sufficient authority to obtain and exercise background rights in those special circumstances when this is justified. However, the head of the agency is required to approve the use of background rights provisions in each instance when they are employed. This approval authority may not be delegated. The obtaining of such rights carries with it important policy ramifications and vitally affects the ability of smaller companies to compete for Government funds. This section simply elevates the decision to use such a provision to the proper level and should require more careful and limited use of such provisions.

F. RETURN OF GOVERNMENT INVESTMENT

Probably the most commented upon feature of S. 414 is its provision calling for a return to the Government of a portion of income generated by inventions. Most witnesses, including small businessmen, felt that the inclusion of such a provision was reasonable and did not object, in principle, to sharing income with the Government. However, a number of witnesses and commentators, including the Comptroller General, expressed concern with the specifics of the language as found in the original bill. The committee has made a number of changes to section 204 in response to these comments.

One significant change has been to convert the threshhold figures from an "after tax profits" basis to a "gross income" basis. This will eliminate difficult accounting problems that would have resulted from the original bill.

A number of witnesses at the hearings were concerned that the determination of the sharing ratio under the original bill would be the source of considerable administrative redtape. Many persons, particularly from the university sector, suggested the establishment of a set formula. These suggestions were adopted with respect to subsection (a). The 15-percent figure was chosen as being comparable to the normal share provided to the individual inventor or inventors by most universities. This subsection has also been revised to make clear that the sharing would be either with the contractor, if the contractor licenses directly, or with the contractor's patent management organization, if the invention was assigned or licensed to another organization for licensing purposes.

A distinction was drawn between income from exclusive or nonexclusive licenses to act as a further incentive towards nonexclusive licensing. However, this distinction would not apply in the case when

an exclusive license was originally granted and later converts to a non-exclusive license after the 5- or 8-year periods described in Section 202(c)(7).

Similarly, the original bill included no specific limit on the Government's share of income from sales, but the amended bill sets a 5% ceiling. This is comparable to typical royalty rates. However, the factors that would go into establishing the specific ratio are too diverse to establish a set percentage. Thus 5 percent is set as an outside limit and is not intended as the standard ratio. Negotiations would presumably be influenced by factors such as the contractor's profit margin, royalty rates charged to others or "typical" in the industry, the ratio of Government investment to total investment, whether the invention constitutes a major aspect of the product or is merely a minor improvement on a previously existing product line, and others.

Language concerning the maximum amount of the Government's return (which is still found in subsection (b)) has been eliminated from subsection (a). This was closely related to the decision, discussed above, to establish a set formula in lieu of negotiating shares on a case-by-case basis.

While it is recognized that negotiation of the limit on the amount of the Government's recovery could prove difficult, the number of inventions actually resulting in major commercial returns is likely to be relatively small. Negotiations can be minimized by delaying them until such times as it is clear that a given invention will be the source of substantial income. Thus it is assumed that the implementing regulations and clauses will not require the development and negotiation of such figures prior to the time an invention proves commercially viable. Furthermore the exact amount to which the Government is entitled is not critical. Section 204 is not intended to turn Government support of R&D into a strictly business proposition.

Finally, as revised section 204 remedies two other related shortcomings of the original bill. The Government's right has now been tied to the filing of patent applications, whereas the original bill had a ten year period running from disclosure of the subjeect invention. The ten year period is eliminated and the Government's rights now are based on yearly income after a patent application is filed. Subsection (d) has also been added in response to criticism that it would be unfair for the Government to share in royalties on inventions that turned out not be patentable and which competitors could thus use free of any obligation to the Government or the "inventing" contractor.

G. UNIFORMITY

As noted above one of the major difficulties facing small businesses and universities that deal or wish to deal with the Government is the multiplicity of statutes and regulations that impact on patent policy. S. 414 deals with this problem by establishing a uniform legislative policy that will override conflicting statutes. The bill also requires the Office of Federal Procurement Policy to develope uniform regulations and clauses in order to ensure that there is not a new proliferation of inconsistent implementing clauses and regulations. The bill also requires the General Accounting Office to monitor implementation.

Before issuing regulations and clauses, the Office of Federal Procurement Policy (OFPP) is required to consult with the Office of Science

and Technology Policy. The Committee included this requirement to ensure that, as in the past, the main drafting efforts will be carried out by the (FCCSET) Committee on Intellectual Property and Information or its subcommittees. Indeed, those aspects of S. 414 dealing with nonprofit organizations build very heavily upon the work of the Subcommittee on University Patent Policy which drafted the 1975 Report on University Patent Policy and the subsequent implementing amendments to the Federal Procurement Regulations. These efforts were, in their turn, built upon the existing programs and regulations developed at National Institutes of Health (NIH) National Science Foundation (NSF) in 1968 and in 1973. We trust that those individuals responsible for the development of these earlier programs and the more recent Report and Federal Procurement Regulations amendment, if available within the executive branch, will be assigned a major role in the task of developing implementing regulations and clauses.

It is also expected, that executive branch drafting efforts will be coordinated with comments requested from the public, particularly representatives of the university and small business communities.

In developing clauses the agencies and OFPP should give recognition to the fact that while the Committee believes the traditional approach of attaching Government rights (be they title or license) to "conception" or "actual reduction to practice" should continue, it does not necessarily follow that the times for reporting, electing, and filing must be tied directly to "making" by set time periods. Particularly, when Government rights arise because of "conception" care must be taken not to force contractors or grantees to make premature decisions on election of rights or filing of inventions if the invention is at such an early stage that it is unreasonable to proceed with filing or licensing efforts.

The Committee is concerned that standard Federal Procurement Regulations and Defense Acquisition Regulations provisions may force premature decisions, and may literally require the reporting of inventions within times that are not consistent with normal operational practices and capabilities. For example, current requirements to report inventions within six months after they are "made" could lead to forfeiture of rights in numerous inventions if literally applied. Many inventions are not actually recognized as useful inventions for long periods after their technical "conception." The Committee believes that language contained in some of the NSF Institutional Patent Agreements gearing reporting requirements to the time cognizant University officials receive notice of inventions may be a more realistic and reasonable approach (perhaps in combination with some rather lengthy overall outside limit). In any case, we urge that the agencies and OFPP give this aspect of the standard clauses special attention, and that changes be made to the current standard language.

H. LICENSING GOVERNMENT-OWNED PATENTS

S. 414 will also allow the agencies to have greater flexibility in finding licensees for the patents that are now in the Government's patent portfolio. Dr. Betsy Ancker-Johnson, Vice-President for Environmental Affairs of General Motors and former Assistant Secretary of Commerce for Science and Technology, told the committee that

the agencies are now licensing less than 4 percent of the 28,000 patents that the Government now owns to private industry for development. The central problem seems to be that the agencies seek to issue nonexclusive licenses for these patents which are available to all interested parties. Nonexclusive licenses are generally viewed in the business community as no patent protection at all, and the response to such licenses has been lackluster.

The University and Small Business Patent Procedures Act would allow the agencies to license out these patents nonexclusively, partially exclusively, or exclusively depending upon which avenue seems to be the most effective means for achieving commercialization. It eliminates current uncertainty over the authority of many agencies to grant such licenses. The bill would require that all interested parties include in their application for Government licenses a plan for commercialization of the patent and agree to submit periodic reports to the agency on their progress. The bill requires public notice and other procedures before the issuance of exclusive licenses, but is not meant to discourage the granting of such licenses when the plans proposed by prospective exclusive licensees show a greater commitment to commercialization than those proposed by persons seeking non-exclusive licenses. A first preference in such licensing would be given to small businesses in order to encourage increased competition.

It is essentially a waste of public money to have good inventions gathering dust on agencies' shelves because of unattractiveness of nonexclusive licenses. The presence of "march-in-rights" in the licensing program (where the agency could issue additional licenses to competitors if such licensing were required to meet a public need) should be a sufficient safeguard to protect public welfare requirements and prevent any undesirable economic concentration.

S. 414, however, does not actually mandate more extensive Government licensing programs. However, the bill will put agencies in a position to more adequately respond to requests for exclusive licenses, to more effectively utilize the resources now rather unsuccessively devoted to licensing and technology utilization efforts, and to devise licensing programs that might be effective at relatively low cost to the taxpayer. The successful licensing of Government-owned patents represents a very real gain to the agencies since it will not only encourage commercialization of the patents, but will also bring in revenues to the Government through licensing fees.

During the hearings on S. 414 concerns were voiced with certain aspects of the licensing provisions of the original bill. The original bill included a section specifically authorizing the Department of Commerce to undertake certain promotional activities. Section 208 also included language specifically authorizing certain promotional activities by the agencies. This language has been deleted from the bill for several reasons.

The Comptroller General suggested striking language that authorized the Department of Commerce to establish a revolving fund for a licensing program based on royalties received. The Comptroller General also expressed concern that agencies might use licensing programs as an excuse not to allow other contractors to retain rights to their inventions.

The Committee has also been made aware of criticism raised by the Subcommittee on Patents and Information of the Advisory Committee on Industrial Innovation as part of the Administration's recently completed Domestic Policy Review on innovation. In particular, they felt that the Government agencies were filing on too many inventions and thus diverting the resources of the Patent, Trademark, and Copyright Office.

I. CONCLUSION

Passage of S. 414 will be an important first step in turning around the undesirable productivity and innovation slumps that the United States is now experiencing. While Government patent policies are not the sole cause of this trend by any means, they do represent a serious impediment to the effective transferral of new technologies and discoveries from the multi-billion dollar Federal research and development efforts to the commercial sector where they can serve the public supporting this expenditure. The Federal Government is expected to spend $25.9 billion in 1979 on research programs. This expenditure constitutes approximately 50 percent of the total research budget spent in the United States this year. It is important, and will become more so, if the private industry cutback on basic research continues, that inventions and processes arising from this Government effort be delivered to the marketplace as efficiently as possible. The current patent policy confusion serves as an artificial barrier discouraging the commercialization of many of these inventions.

The Federal Government is now and will continue to be the most important source of basic research money for the development of new drugs and medical processes which are essential to the well-being of the public. If the benefits of this research are being held up or denied because of artificial barriers such as long periods of review by the funding agencies before patent ownership can be determined it can be detrimental to the public well-being. It has been clearly demonstrated that the universities and nonprofit organizations who are conducting this research effort are much more efficient in delivering these important discoveries to the marketplace than are the agencies. S. 414 will allow such contractors to retain patent rights on these discoveries while allowing the funding agencies to have free access to them.

Enactment of S. 414 will also remove one of the most serious obstacles to full participation in the national research and development programs by our small businesses. These companies have demonstrated their willingness to take risks that many larger companies are not willing to take in the pursuit of new technologies and products. They also possess an impressive record as one of the leading sources of technological breakthroughs since World War II; but small business receives a pathetic share of our research and development expenditure each year.

The present patent policies work a much greater hardship on the small business than they do on the large corporation that can afford to walk away from unfavorable Government contracts with little or no damage to their research efforts. Because small businesses do not comprise an antitrust threat there seems to be little justification in

forcing them to undergo the same kinds of case-by-case reviews of patent ownership petitions that large companies must complete before Federal agencies will award patent rights. It is feared that the present Government policies have actually served to cause more economic concentration by their discouragement of small business participation in Government research and development programs. When access to these programs is not open for fear of losing patent and background rights, small companies may be forced to license promising new technologies to larger companies who can afford to conduct their own research and development.

Thus, S. 414 will be the vehicle that will insure that universities, nonprofit organizations, and small businesses will be able to fully participate in Government research and development, and will give resulting inventions a maximum chance of achieving their full commercial potentials. The bill will also adequately protect the legitimate rights of the funding agencies to use patentable inventions made under their research and development programs without any royalties or other payments. The agencies will have the power to exercise march-in-rights to insure that no adverse effects result from retention of patent rights by these contractors. The existence of section 204 of the bill, the Government pay back provision, will guarantee that inventions which are successful in the marketplace reimburse the Federal agencies for the help which led to their discovery. Although there is no evidence of "windfall profits" having been made from any inventions that arose from federally-supported programs, the existence of the pay back provision reassures the public that their support in developing new products and technologies is taken into consideration when these patentable discoveries are successful commercially.

S. 414 also provides that any revenues received by universities or nonprofit organizations beyond their legitimate expenses be used to fund more research. This additional money will assist not only the university or nonprofit organization, but will be a very real benefit to the public.

Additionally, the provisions in the bill giving the agencies full authority to license out the inventions already owned by the Government will increase the likelihood that useful inventions held in agency portfolios will be developed and commercialized rather than lying unused because of lack of necessary patent protection for interested developers. These unused patents now represent a partial waste of our vast research and development programs and their development will insure that the public is receiving the full benefits of this taxpayer-supported effort.

The bill should substantially reduce the amount of time and paperwork now being devoted to the processing of patent waiver petitions by the agencies and will enable the agency patent staffs to put this time into other areas of responsibility. It will also remove from the shoulders of the Government patent attorneys the onerous burden of trying to determine the ownership of patents arising from the agencies' research and development grants and contracts. Many times these attorneys are forced by agency patent policies to retain title to inventions that the agency simply is not able to develop. S. 414 will serve to make sure that the maximum return is received from the multi-billion dollar Government research and development effort.

V. Section-by-Section Analysis

Outlined below are the most important features of the bill:

Section 1 provides that the Act may be cited as the "University and Small Business Patent Procedures Act."

Section 2 adds a new chapter 18 of Title 35 of the United States Code.

Section 3 amends certain other acts to eliminate inconsistencies with S. 414's provisions on licensing of Government-owned inventions.

Section 4 establishes the effective date of the Act.

An analysis of section 2, the most significant portion of the Act, follows:

SECTION 200. POLICY AND OBJECTIVES

Section 200 sets forth the policies and objectives of Chapter 18.

SECTION 201. DEFINITIONS

Definitions used throughout the chapter are set forth in Section 201. Most are similar to those now applied to Government contracts. It should be noted that small business and nonprofit organization subcontractors and assignees could retain patent rights under this chapter.

The term "invention" is meant to encompass the same scope as "invention" as defined at Section 100 and also to include design and plant patents. The reference to Title 35, USC, is intended to limit the scope of reportable inventions to those protectable under the patent laws of the United States and does not include subject matter that might be patentable under a foreign patent system but not under Title 35.

SECTION 202. DISPOSITION OF RIGHTS

Section 202 establishes the basic framework for the disposition of rights in inventions made by small business firms and nonprofit organizations under funding agreements with the Federal Government and for the negotiation for rights in background inventions of such firms and organizations.

SECTION 202(a)

Section 202(a) provides that as a normal rule small business firms and nonprofit organizations are to have the right to elect to retain worldwide ownership of their inventions by making an election within a reasonable time after they disclose the invention. Federal agencies are permitted to use different provisions in three categories of situations. First, contracts for the operation of Government-owned facilities may contain other provisions, although agencies are not precluded from also allowing such contractors to retain rights to inventions. Second, agencies are given authority to use other provisions in "exceptional circumstances" if they determine this will "better promote the policies and objectives" set forth in Section 200. Third, an exception may be used to avoid compromising foreign intelligence or counterintelligence activities. Rights left with small businesses and nonprofit organizations are conditioned on the provisions of Section 202(c) and other provisions of the chapter.

It is expected that the "exceptional circumstances" exception will be used sparingly. An example of a situation in which it might be used is when the funding agreement calls for a specific product that will be required to be used by regulation. In such a case, it is presumed that patent incentives will not be required to bring the product to the market.

Similarly, if the funding agreement calls for developmental work on a product or process that the agency plans to fully fund and promote to the market place, then use of this exception might be justified. In such cases, however, it would be within the spirit of the Act for the agency to either define specific fields of use to which it will obtain rights in any inventions at the time of contracting or to carefully structure any deferred determinations so that the agency does not destroy the incentives for further development of any inventions in fields of use not of interest to the agency.

SECTION 202(b)

Section 202(b) establishes a framework for General Accounting Office oversight agency implementation of the chapter and the use of the exceptional circumstances authority of section 202(a)(ii).

SECTION 202(c)(1)–(3)

Section 202(c)(1)–(3) establishes general requirements for reporting inventions, electing rights, and filing patent applications. Reporting of inventions is to be accomplished with a "reasonable time" after they are made.

Election of rights is to be made within a reasonable time after disclosure. Failure to report, elect, or file within the prescribed times could result in a contractor losing all or part of its rights to an invention. For example, section 202 contemplates that contractors will have the right to elect worldwide rights without the necessity, as is often the case now, of listing each country in which patents will be sought. However, if a contractor should fail to file in a country in which, for some reason, the Federal agency wishes to secure patent rights, it is expected that the implementing provisions will allow the agency to obtain an assignment of rights in the invention as respects that particular country.

SECTION 202(c)(4)–(8)

Section 202(c)(4) requires the agencies to acquire a paid-up, nonexclusive license for Government use, and authorizes the retention of the right to sublicense foreign governments and international organizations in appropriate circumstances.

Section 202(c)(5) provides that agencies should have the right to receive periodic reports on the contractor's efforts at obtaining utilization of investions to which it elects title.

Section 202(c)(6) requires contractors to include a statement in any patent applications and patents indicating that the invention was supported by the Government.

Section 202(c)(7) contains a series of limitations applicable to nonprofit organizations but not to small business firms. Section 202(c)(7)(a) bars the assignment of U.S. rights to subject inventions without

agency approval except to patent management organizations. The description of patent management organizations eligible to receive an assignment of a particular invention is designed to avoid possible conflicts-of-interest. Thus to be eligible to receive an assignment of a subject invention, the patent management organization must not be engaged in the manufacture or use of products or processes that might embody or compete with products embodying the invention. It is not intended, though, that ownership of minor fractions of a corporation in a given field would bar a patent management organization from receiving an assignment of an invention in that field.

Section 202(c)(7)(b) places a limit on the duration of any exclusive licenses under United States patents or patent applications, except when such licenses are granted to small business firms. Exclusive licenses are limited to the earlier of 5 years from first commercial sale or use or 8 years from the date of the license. Language is included to avoid the problem that the same patent may support multiple licenses for different products or processes each of which may require different development and marketing efforts. However, this language is not intended to authorize field of use licenses that would violate antitrust laws.

Section 202(c)(7)(c) gives special recognition to the equity of inventors, and requires that nonprofit organizations share royalties with them. It is not intended that Federal agencies establish sharing ratios.

Section 202(c)(7)(d) requires nonprofit organizations to use the net proceeds of their licensing efforts to further scientific research and education.

Section 202(c)(8) requires that standard contract provisions also incorporate the march-in, recoupment, and U.S. preference requirements of sections 203, 204, and 205.

SECTION 202(d)

Section 202(d) provides agencies with the authority to leave rights with individual inventors in cases when contractors do not elect rights.

SECTION 202(e)

Section 202(e) authorizes an agency to transfer rights in an invention made by an agency employee to a small business firm or nonprofit organization in cases when the invention was a joint invention of the agency employee and a contractor employee.

SECTION 202(f)

Section 202(f) requires the head of the agency to approve the use of provisions allowing the agency to require that a small business or nonprofit contractor license third parties to practice background inventions owned by the contractor.

35 USC 203. MARCH-IN RIGHTS

Section 203 establishes situations in which the funding agencies may require small business firms or nonprofit organizations, or their assignees or licensees, to license subject inventions to which the contractor has retained title. The Government may "march-in" if reasonable

efforts are not being made to achieve practical application, for alleviation of health and safety needs, and in situations when use of the invention is required by Federal regulations. Finally, a march-in is included that ties into the U.S. manufacture requirement of section 205.

"March-in" is intended as a remedy to be invoked by the Government and a private cause of action is not created in competitors or other outside parties, although it is expected that in most cases complaints from third-parties will be the basis for the initiation of agency action.

Adherence to Administrative Procedures Act procedures is not required because of concerns that this could frustrate the effectuation of the march-in remedy. On the otherhand, arbitrary exercise of such rights must also be avoided. The agencies and Office of Federal Procurement Policy (OFPP) should give this question careful and thorough consideration and develop a procedure that carefully balances the considerations on both sides.

No specific provision has been included for judicial review of agency decisions under section 203, because it is assumed that such review will be available under Chapter 7 of Title 5 of the United States Code.

SECTION 204. RETURN OF GOVERNMENT INVESTMENT

Subsection (a) of section 200 provides that if over $70,000 in licensing income is made in any one calendar year after a patent application is filed, the Government will receive 15 percent of the excess above $70,000 that year. Subsection (b) establishes a similar right when in any 1 calendar year a contractor has gross sales of over $1 million of a product or process embodying a subject invention. In such cases, however, the Government's share of the excess is to be negotiated, but may not exceed 5 percent of the gross sales in excess of $1 million. In addition, the Government's share is limited to its actual contribution.

Subsection (c) authorizes and directs the Office of Federal Procurement Policy to regularly revise the threshold figures in light of price changes.

Subsection (d) cancels the Government's right to a share in situations when no patent finally issues or when the patent expires or is held invalid.

SECTION 205. PREFERENCE FOR UNITED STATES INDUSTRY

Section 205 provides that persons receiving exclusive licenses to use or sell a subject invention in the United States must agree to manufacture any products embodying the invention substantially in the United States. Agency approval is required to dispense with this requirement. This section is designed to maximize the probability that the jobs created through the commercialization of new products and technologies based on Government supported inventions will benefit American workers.

SECTION 206. CONFIDENTIALITY

Section 206 allows agencies to hold invention disclosures in confidence until patent applications are filed to prevent the inadvertent creation of statutory bars to patenting because of the possibility that

otherwise such disclosures might be available under the Freedom of Information Act. This section applies to disclosures from all Government employees and contractors. It also allows agencies to withhold copies of Government and contractor patent applications after filing. Release of applications could undermine the spirit of section 122 and related patent office interference procedures.

SECTION 207. UNIFORM CLAUSES AND REGULATIONS

Section 207 requires the Office of Federal Procurement Policy, after receiving recommendations from the Office of Science and Technology Policy, to issue regulations and standard funding agreement provisions implementing sections 202–205.

SECTION 208. DOMESTIC AND FOREIGN PROTECTION OF FEDERALLY OWNED INVENTIONS

Section 208 authorizes agencies to apply for patents, to grant nonexclusive, partially exclusive, or exclusive licenses, to undertake other suitable and necessary steps to protect and administer rights to federally owned inventions, including the right to contract with private parties for the management of Government-owned inventions; and to transfer control of inventions to other Federal agencies.

SECTION 209. REGULATIONS GOVERNING FEDERAL LICENSING

Section 209 authorizes the General Services Administration to establish regulations governing the terms and conditions upon which any Federally-owned invention may be licensed. It is expected that, as in the past, GSA will work closely with the appropriate Federal Coordinating Council for Science, Engineering and Technology (FCCSET) committees.

SECTION 210. RESTRICTIONS ON LICENSING OF FEDERALLY OWNED INVENTIONS

Section 210 establishes procedures to be followed before licenses are granted by agencies. It also establishes minimal conditions to be included in licenses issued by the Government.

SECTION 211. PRECEDENCE OF CHAPTER

Section 211(a) and (b) makes clear that the provisions of Chapter 18 pertaining to small business firms or nonprofit organizations take precedence over a number of statutory provisions that currently control to varying degrees the patent policies of some agencies.

Section 211(c) states that nothing in this chapter is intended to affect the policies of agencies with respect to the disposition of rights in inventions made by contractors that are not small business firms or nonprofit organizations. This chapter should not affect the discretion of agencies to adopt policies favoring Government obtaining title or contractor retention of title as is most appropriate to their needs and the public interest, subject to existing statutes.

Section 211(d) is intended, as is Section 202(a) (iii), to ensure that this chapter is not interpreted in a manner that would compromise foreign intelligence operations of the United States.

SECTION 212. RELATIONSHIP TO ANTITRUST LAWS

Section 212 provides that nothing in the Act is meant to convey immunity under or create defenses to actions under the antitrust laws.

VI. Budgetary Impact Statement

At the request of Senator Kennedy the Congressional Budget Office studied the budgetary impact of S. 414 on the Federal Government, and submitted the following letter of their findings:

CONGRESSIONAL BUDGET OFFICE,
U.S. CONGRESS,
Washington, D.C., December 4, 1979.

Hon. EDWARD M. KENNEDY,
Chairman, Committee on the Judiciary, U.S. Senate, Dirksen Senate Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: Pursuant to Section 403 of the Congressional Budget Act of 1974, the Congressional Budget Office has reviewed S. 414, the University and Small Business Patent Procedures Act, as ordered reported by the Senate Committee on the Judiciary on November 20, 1979.

At the present time approximately 20 different patent policies exist within the executive agencies, S. 414 would establish a uniform, Government-wide patent procedure for small businesses and nonprofit organizations performing Government-supported research and development. The bill would automatically grant small businesses and nonprofits title to inventions arising from Government-supported research unless the contracting agency could justify, through specified procedures, holding title to the invention. (Currently, title is routinely retained by the Government.) The small business or nonprofit organization would be required to commercialize the results, and return a percentage of profits to the Government. In addition, S. 414 provides authority and procedures for the licensing of all Government-owned inventions. Agencies retaining title to inventions could issue exclusive, nonexclusive or partially-exclusive licenses to qualified firms, with preference to small and American-owned businesses.

It appears that no significant cost would be incurred by the Government as a result of enactment of this legislation. It is estimated that approximately 15 percent of Federal research and development funds are awarded to small businesses and nonprofit organizations. Under S. 414, Federal agencies would be required to set up separate procedures for these kinds of firms. Some additional paperwork may be required initially in order to issue and implement those regulations applying specifically to small businesses and nonprofit organizations. In time, however, fewer petitions, negotiations or waivers would probably be required, because the agencies would retain title to inventions developed as a result of Federal funding only by exception, and not automatically. The Comptroller General would also be required to re-

view and issue comments on all cases where the agency retains title, and prepare an annual report to the Congress, although this is not expected to require a substantial effort. Additionally, it is possible that if Government contracts become more attractive because of S. 414, bidding may become more price competitive, resulting in a savings to the Government.

Section 204 requires that a small business or nonprofit organization return a portion of income received from sales or licensing of inventions funded by Government research. It is not clear at this time how agencies would administer this section. It would be necessary for agencies to develop procedures for monitoring and reviewing firms' accounting records as well as a mechanism for collecting and transferring receipts to the Treasury. However, any additional administrative costs would likely be more than offset by receipts.

Should the Committee so desire, we would be pleased to provide further details on this estimate.

Sincerely,

ALICE M. RIVLIN,
Director.

VII. ECONOMIC, PAPERWORK, AND PERSONAL PRIVACY IMPACT STATEMENT

At the request of Senator Kennedy, the General Accounting Office studied the economic, paperwork, and personal privacy impacts of S. 414 and submitted the following letter of their findings:

COMPTROLLER GENERAL OF THE UNITED STATES,
Washington, D.C., October 9, 1979.

B-158552.

Hon. EDWARD M. KENNEDY,
Chairman, Committee on the Judiciary,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Your letter of August 28, 1979, asked that we prepare the analyses required by Senate Rule 29.5 for Senate bill 414, the "University and Small Business Patent Procedures Act." The proposed act would establish a Government-wide patent policy for Federal agencies to follow in dealing with small businesses and nonprofit organizations performing Government supported research and development. It would also establish a framework for the licensing of Government-owned inventions.

We appreciate the opportunity to assist you and the Committee in evaluating this bill as required by Senate Rule 29.5. As discussed with the Committee staff, we agreed to provide comments on the bill, addressing the rule's various elements. Senate Rule 29.5 calls for an assessment of a bill's economic, paperwork, and personal privacy impacts. Based on a limited review of Senate bill 414, we believe it will produce no adverse impacts in any of these areas.

As I stated in my May 16, 1979, testimony on the bill before your Committee, we believe the bill represents a positive step toward achieving a uniform patent policy for the Federal Government which should lead to lessening the administrative burdens on the agencies as well as on universities and small businesses.

The following paragraphs briefly address each element of Senate Rule 29.5.

ECONOMIC IMPACT

Based on the scenarios described by experts on the issue of granting patent rights on inventions resulting from federally-financed research to universities and small businesses, the potential economic impacts of Senate bill 414, though not measurable at present, appear to be, on the whole, more positive than otherwise.

The Committee may wish to consider directing the agencies to prepare evaluation plans for assessing the impacts of the legislation after it has been implemented. These plans would serve to aid the Congress in conducting oversight hearings and would provide the basis for evaluating the results of a uniform patent policy for small businesses and nonprofit organizations. Such evaluations could also aid the Congress in considering whether to legislate a Government-wide patent policy applicable to all contractors.

Some of the issues which should be addressed include whether or not:

The benefits from the potential increase in utilization of discoveries would be better than that derived from the now delayed utilization, especially for the health and medical-related discoveries;

The administrative costs of present patent policies would be reduced for public and private sectors;

More inventions would be disclosed;

More private investments in research and development would occur;

Increased commercialization would occur and provide more benefits and less cost to our economy;

The Government will receive reimbursements and recover some of its research investments from the private sector under section 204 of the bill;

Senate bill 414 will encourage free competition and enterprise and not stifle competition in the private sector whenever competition could bring the fruits of research to the public faster and more economically; and

Senate bill 414 would stimulate industrial innovation and lead to health and energy benefits, an improved technology base, and economic growth.

ADDITIONAL PAPERWORK BURDENS

We believe that with one possible exception, Senate bill 414 should create no additional reporting or recordkeeping requirements which are excessive or unduly burdensome. Overall, we believe the bill could result in reduced paperwork burdens and associated administrative burdens for the Government and small businesses and nonprofit organizations.

As discussed in my testimony on Senate bill 414, under current policies and procedures, substantial administrative and paperwork burdens can result from the process of petitioning, negotiating, and determining rights in inventions developed under federally supported re-

search efforts. By granting small businesses and nonprofit organizations the option to take title to such inventions, these burdens should be reduced.

One section of the bill—section 204, Return of Government Investment—does have the potential for creating recordkeeping problems for some small businesses and nonprofit organizations. This section requires small businesses and nonprofit organizations, which receive $250,000 in after tax profits from licensing or in excess of $2,000,000 from sales, to return a negotiated share of such amounts to the United States up to the amount of the Federal funding. This provision is tied to two separate 10-year periods: one commencing with disclosure of the invention; and the other commencing with commercial exploitation of the invention.

Maintaining the accounting records necessary for compliance with these requirements could tax the capabilities of some small businesses and nonprofit organizations. Also, they would be required to maintain records for a long period of time, even though the thresholds might not be met. Although these requirements seem likely to affect only a small number of businesses and nonprofit organizations, the Committee may wish to consider simplifying the provisions for return of Government investment.

IMPACT ON PERSONAL PRIVACY

We believe that Senate bill 414 will create no adverse impact on personal privacy. Further, confidential business information appears to be adequately protected by providing for nondisclosure under the Freedom of Information Act.

We would like to reiterate our reservations about section 202(b) of the proposed legislation. As I stated in my May 16, 1979, testimony on the proposed legislation, we would prefer not to monitor patent policy implementation as currently provided in the bill. We would prefer to consider this aspect of an agency's operations as part of our overall reviews of procurement, contracting, and research and development programs. Our evaluation of the agencies' implementation of the legislation would be included in our normal oversight reviews.

We trust these comments will assist the Committee in its deliberations on the bill.

Sincerely yours,

ELMER B. STAATS,
Comptroller General of the United States.

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