APPENDIX D-2 - Incentives & Awards - Nuclear and Nonnuclear

The Atomic Energy Act of 1946, as to inventions in the atomic energy field [1], revoked existing patents for inventions solely useful in this field; for inventions partially useful in this field, it revoked the patent grant to the extent used in the atomic energy field, and provided for just compensation for the revocations.[2] The Act contained a similar provision as to patents having research uses in atomic energy.[3] This provision was omitted from the 1954 Atomic Energy Act.

The 1946 Act also required any person thereafter making an invention in the atomic energy field to report it to the Commission, either directly or by filing a U. S. patent application, and authorized the Commission to grant an award.[4]

The 1946 Act directed the Commission to declare private patents in the atomic energy field to be affected with the public interest, if necessary to effectuate the purposes of the Act, and authorized the Commission to use. and to license such patents for private use and to determine a reasonable royalty rate for such use.[5] The Act also authorized the acquisition by the Commission of private patents useful in atomic energy and the payment of just compensation therefor.[6]

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1 / These inventions are defined in Section 11(a) of the 1946 Atomic Energy Act as those useful in the production of fissionable material or in the utilization of fissionable material or atomic energy for a military weapon.
2 / Section 11a 1&2 and 11e2B of the 1946 Atomic Energy Act
3 / Section 11b and 11e2B of the 1946 Atomic Energy Act
4 / Section 11a3 and 11e2C of the 1946 Atomic Energy Act
5 / Section 11c and 11e2A of the 1946 Atomic Energy Act
6 / Section 11d and 11e2B of the 1946 Atomic Energy Act

atomic energy field, after consulting with the General Advisory Committee and with the approval of the President.[1] Under this provision, the Commission established the Enrico Fermi Award, granted annually through 1972, in 1954; and the Ernest O. Lawrence Award, granted annually to one or more persons through 1974, in 1959 (these awards constituted the Commission's major effort in the incentive and awards areas).

The Patent Compensation Board came into existence as a part of the first Atomic Energy Act. Between the time when the world was first made aware of atomic energy in August 1945 by the dropping of the atomic bomb at Hiroshima and the enactment of the Atomic Energy Act on August 1, 1946, Congress was extensively engaged in evaluation of this new form of energy, of its great potential for world-wide destruction and for energy for peaceful uses, and the proper legislative enactments to control its harmful potential and to encourage the peaceful uses in a manner to provide the maximum benefit to the United States and to the world.

A major concern of Congress was that the potential for making atomic weapons could fall into hostile hands. This concern was balanced by the determination that peaceful uses of atomic energy should be given maximum encouragement and that the benefits of its development would be available to all. Congress' views on these points were reflected in its treatment of inventions and patents in the 1946 Act. Its concern over control of the bomb resulted in its revocation of existing private patents and withdrawal from future patent rights of inventions useful in atomic weapons. Its concern over the development and spread

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1 / Section 157(b)(3) of the Atomic Energy Act of 1954. These awards however have no relationship to Patent Compensation Board procedures.

Congress, after eight years' experience with the 1946 Atomic Energy Act, enacted the 1954 Atomic Energy Act extensively revising the 1946 Act. The fear of private development of the atomic weapons had abated, and the restriction on patent rights in patents and inventions in the atomic energy field was limited to those "solely useful" in an atomic weapon. Several of the eminent domain rights with respect to patents were removed, and the Court of Claims appellate review of these cases was eliminated. The concern of Congress that harmful monopolies could develop in the use of atomic energy because of the continued (albeit, relaxed) security classification of information and the relatively small number of contractors having access to it, is reflected in the Act's Section 152 requirement of Government ownership of contract inventions, unless waived; in the elaboration of the compulsory licensing provision in Section 153 of the Act; the anti-injunction provision of Section 154; the antitrust provision of Section 158; and the federally financed research provision of Section 159. The Government licensing of atomic energy patents was approved by Section 156. Congress, however, retained the Patent Compensation Board, and its jurisdiction to hear just compensation, award and determination of reasonable royalty applications was substantially unchanged.

The Patent Compensation Board since its inception has docketed 38 cases. The Board has made decisions in 29 cases, and all but 9 of the decisions have been published in the United States Patent Quarterly. In 7 of the cases the Board's decision was appealed to the courts, and in 4 of the appeals, the Board's decision was affirmed. In 2 of the

and In Re Basic Science et al [1] involving basic patents of Dunning and Booth on the gaseous diffusion process for the separation of uranium isotopes. These four claims, which involved procurement of billions of dollars worth of nuclear reactors and enriched uranium were amicably settled at a total cost to the Government of less than $1,000,000. The settlements were made possible by the thorough exploration of the facts and issues permitted by the Board procedure.

The record of the Board in prompt disposal of cases before it, has compared favorably with federal courts handling of patent cases. The median period for disposition of dockets was three years and four months. Only six cases were pending for more than five years with one case, however, pending for 18 years. The reasons for the prolonged delays in these six cases involved appeals to the courts, prolonged settlement negotiations, and illness or death of Board members during the proceedings.

The 30 years since the enactment of the first Atomic Energy Act has produced substantial changes in the Board's situation. Security classification on atomic energy information has been eliminated in all but a few fields. The major claims arising out of the initial discoveries in the atomic energy field and the World War II effort to produce the bomb have been settled. The burden of research on nuclear power reactors, except in the Naval Reactor field and the fast breeder field, has shifted from the Government to private enterprise. The technology has now become well known. The early concerns about the need for compulsory

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1 / PCB Docket No. 24

At the time of the enactment of the Federal Nonnuclear Energy Research and Development Act of 1974 (FNERDA) consideration was given to the establishment in the Act of an Inventions and Contributions Board similar to that established in NASA by Section 305f (42 USC 2457(f)) of the NASA Act.[1/] The Act as finally passed, however, did not establish such Board but authorized the Administrator to utilize

> (6) incentives, including financial awards, to individual inventors, such incentives to be designed to encourage the participation of a large number of such inventors. (FNERDA Section 7(a) 42 USC 5906)

The FNERDA in its Statement of Policy, Section 3(a)(2), did direct that the FNERDA would be applicable to nonnuclear aspects of the program and the policy provisions of the Atomic Energy Act would be applicable to the nuclear part of the program. Congress therefore in its enactment of the FNERDA directed the continuation of the provisions of the Atomic Energy Act as to nuclear inventions made by ERDA, and authorized the Administrator to make awards, but was silent, as to eligibility standards or procedure for the potential awards. The FNERDA did direct, Section 9(n), that a report and recommendations on patent policy be returned to Congress within twelve months of the date of enactment of the Act.

The Patent Compensation Board (PCB) of ERDA and the Inventions and Contributions Board (ICB) of NASA have some similarities and some differences. By statute the PCB considers applications for just compensation, awards and the determination of reasonable royalties.

1/ National Aeronautics and Space Act of 1958

usually involve patents, they are not limited to claims on patents. The standards applied in applications involving both patented and unpatented inventions are similar to those of a patent infringement suit. No limit on the amount of an award is specified in the A.E. Act nor is there any requirement of conveyance to the Government of the subject invention of the claim, but settlements have usually involved the purchase of the subject invention or patent as part of the settlement. Decisions of the Board are in the forms of recommendations to the Administrator but if not appealed or otherwise acted upon by the Administrator, become the final decision of the Agency within a specified period. Decisions of the PCB which become a final decision of the Agency are appealable to the Federal courts of appeal.

The NASA Act does not specify standards and procedures for ICB awards. The Act does require the applicant for an award to waive other claims against the Government for compensation on the invention. The NASA Act also provides for a $100,000 limit on an award except with Congressional approval.

From this review it will be apparent that the Patent Compensation Board has in the past acted more as a substitute court to hear claims involving inventions and patents and has only indirectly been involved in incentive awards. The occasion for such claims against the ERDA and the needs for a Board rather than a court to hear the claims initially, has however been substantially reduced. The Invention and Contributions Board of NASA has acted more as an administrative body to consider incentive awards and not as a quasi judicial body to hear

APPENDIX E

APPENDIX E - COMPULSORY LICENSING

E.1 Legislative History of the Compulsory Licensing Provision of the Clean Air Amendments of 1970

E.2 Legislative History of Section 153 of the Atomic Energy Act and Its Extensions

E.3 Selected Questions and Answers from the 1959 Hearings of the Joint Committee on Atomic Energy on Extending the Section 153 Authority of the Commission

E.4 Selected Questions and Answers from the 1964 Hearings of the Joint Committee on Atomic Energy on Extending the Section 153 Authority of the Commission

E.5 Selected Questions and Answers from the 1969 Hearings of the Joint Committee on Atomic Energy on Extending the Section 153 Authority of the Commission

E.6 Compulsory Patent License Application by Picker Corporation

E.7 Compulsory Patent License Application by Hewlett-Packard Co.

E.8 Federal Regulations - AEC Licensing Provisions

E.9 List of Foreign Countries With Some Form of Compulsory Licensing

E.10 Proposed and Deleted Compulsory Licensing Provision in S.622 - The Energy Policy and Conservation Act - 94th Cong. 1st Sess. (1975)

E.11 Outline of a Study on Compulsory Patent Licensing

E.12 Panel for Study on Compulsory Patent Licensing and Various Aspects of the Government Patent Policy Issue

Appendix E.1
Legislative History of Section 308 - Clean Air Amendments

APPENDIX E.1

LEGISLATIVE HISTORY OF THE COMPULSORY LICENSING PROVISION OF THE CLEAN AIR AMENDMENTS OF 1970

The present Clean Air Act (42 USC 1857 et seq.) includes the Clean Air Act of 1963 (P. L. 88-206) and amendments made by the Motor Vehicle Air Pollution Control Act (1965) (P. L. 89-272), the Clean Air Act Amendments of 1966 (P. L. 89-675), the Air Quality Act of 1967 (P. L. 90-148), the Clean Air Amendments of 1970 (P. L. 91-604), plus technical amendments made by P. L. 92-157 (1971).

The original Clean Air Act (P. L. 88-206) and its amendments, up until the year 1970, proved to be ineffectual in solving the air pollution problem. In February of 1970, President Nixon delivered a very comprehensive message on the environment and proposed legislation dealing with the problem of clean air. The Clean Air Amendments of 1970 (P. L. 91-604) contain provisions dealing with fuel emissions, air quality standards, and what is very important, strong enforcement procedures to obtain better air quality. The original Clean Air Act of 1963 made no mention of patents, let alone compulsory licensing of patents.

In a letter dated August 25, 1970, from Senator Hart to the Subcommittee on Air and Water Pollution, Committee on Public Works, U. S. Senate, Senator Hart discussed the tentative proposal to include in the proposed National Air Quality Standards Act of 1970 an antitrust exemption which would authorize the automobile and petroleum industries to meet in a public forum to explore action required by the proposed bill for reducing engine emissions by 1975.

> We recognize that this authority is permissive, and that the report of the Senate Public Works Committee emphasizes that very restrictive use should be made of it. Despite this, we are not convinced of the need for such a basic change in policy in light of its potential adverse effects and in the absence of known abuses. If in the future a situation arises in which a refusal to make technology available threatens to jeopardize the national air pollution control effort, Congress can then legislate to meet the particular problem.

It is noted that the mandatory licensing provisions were very broad in scope, including patents, trade secrets and know-how necessary to any party to achieve compliance with Sections 113, 115, and 202 of the proposed Act. Section 113 deals with new Source Performance Standards, Section 115 deals with Emission Standards for Hazardous Agents, and Section 202 deals with Establishment of Air Pollution Standards.

In this regard, Mr. Cooper delivered the comments of Mr. Baker as follows:

> To the extent that section 309 covers all know-how and trade secrets known to the owner of any patent, know-how or trade secret, it is too broad to be meaningful. It is important that any know-how or trade secrets used in the manufacture of commercially available devices, vehicles or engines be licensed, but it would be unworkable to require all industries to disclose all know-how and trade secrets, whether used commercially or not.
>
> Thus, the section should be limited to know-how or trade secrets used commercially, whether or not the section is limited to the industries covered in title II.
>
> Mr. Muskie. Mr. President, I discussed this amendment with the Senator from Tennessee and the Senator from Kentucky. The American Bar Association patents section raised this question. It is a technical matter. I am perfectly willing to accept the amendment,and also the next amendment which I think the Senator will offer. I think there is no objection on the part of the committee.

The other amendment was read as follows:

under the declaratory judgment statute are well established and adapted to resolve disputes over such things as royalty rates and protection of know-how and trade secrets against disclosure to unauthorized persons.

The purpose of substituting the declaratory judgment route for compulsory arbitration route, is not only to utilize well known, established procedures in the Federal Courts but also to establish legal precedents to aid in the implementation of the legislation.

Utilization of the federal judiciary will also maintain a balance between the Executive Branch and the judiciary in implementation of all of the provisions of the act instead of relegating the determination of legal relationships to lay arbiters outside the framework of our national government.

The provision for awarding or allocating costs, attorney and expert witness fees is substantially the same as that set forth in Section 304(b) with respect to citizen suits and allows for the application of equitable principles in allocating such costs to prevent injustice.

In the Senate Report No. 91-1196, Calendar No. 1214, on S.4358, the mandatory licensing provision was commented on as follows:

SECTION 309. MANDATORY LICENSING

The scope of the Clean Air Act Amendments contained in the bill as reported, would require the development of new devices, techniques, and procedures to meet the obligations placed on those persons whose activities result in the emission of air pollution agents. In particular are the stringent demands which would be made on industry in implementing the standards of performance required of new stationary sources under section 113, the emission control and prohibition requirements for hazardous substances under section 115, and the automobile and other moving source emission controls required by section 202. Only the stringency of these sections justifies the inclusion of the provisions of section 309 in the bill.

The Committee recognizes that there is a great discrepancy in the technical capabilities of the various producing entities in any given industry and that many companies are not large enough or broadly based enough to have their own research facilities to develop the needed controls. In order to prevent the Clean

exercise the greatest amount of care so as not to abuse either property rights or in any way encourage restraint of trade. Consequently, the Committee expects that the Secretary will draw upon, and frequently consult with, the anti-trust division of the Department of Justice as he carries out his responsibilities under this section.

The Committee has received many representations from many companies that they would otherwise be unable to comply with the provisions of the Act because of the lack of technological capability. It should be emphasized that the Committee intends that the authority contained in this section should be exercised very carefully and very strictly by the Secretary. The Committee further expects that the Secretary will develop procedures and regulations for obtaining information and for applying for the benefits of this section and for the evidentiary requirements before the Secretary will require that such patent, trade secret, or know-how will be made available to the applying person.

The mandatory licensing provision under consideration reads as follows:

MANDATORY LICENSING

Sec. 309. (a) Whenever the Secretary determines in accordance with the provisions of section 554 of title 5 of the United States Code that the implementation of the requirements of section 113, 115, or 202 of this Act requires a right or rights under any United States letters patent or any trade secret or know-how not otherwise reasonably available be made available to others to facilitate compliance with such sections, he shall order the owner of such patent, trade secret, or know-how to grant to each applicant making written request therefor a nonexclusive, nontransferrable license under any such patent, patent application, trade secret, or know-how. For the purpose of this subsection, know-how shall include technical information known to the owner thereof relating to control technology, processes, operating methods, or other alternatives, including written manuals, blueprints, drawings, and specifications.

(b) No license granted pursuant to subsection (a) shall include any restriction, except:

(1) reasonable royalties may be charged;

(2) reasonable provisions may be made to prevent the disclosure of know-how or trade secrets to third persons;

specified sections of the Senate amendments required the utilization of such patents, trade secrets or know-how. The House bill did not contain comparable provisions. The conference substitute is limited to patents. It would authorize the Attorney General (rather than the Administrator) to certify to a U. S. District Court that conditions specified in the section (relating to (1) the need for using the patent to achieve emission limitations required by this Act, (2) the absence of alternative methods to achieve such emissions, and (3) resulting lessening of competition or monopolization) exist and may seek a court rule rule requiring licensing on such reasonable terms and conditions as the court may determine.

Congressman Staggers commented as follows:

Many Members of Congress have received communications with regard to a provision dealing with the compulsory licensing of patents. The legislation has modified substantially a provision on this subject contained in the bill as passed by the other body. (Sec. 308). Under the legislation the Attorney General will be authorized to seek compulsory licenses if he determines that the failure to make such licenses available under any patent makes impossible the achievement of air pollution limitations and results in a restraint of trade or a monopoly. In these exceptional cases, the Attorney General would go to court seeking the licenses and requesting the court to establish reasonable terms and conditions for such licenses.

I have touched on the provisions in the legislation which have received the greatest attention and I shall be glad to answer any questions which the Members may have with regard to this important legislation.

I want to say to the Members that this legislation has received the most careful consideration by the committees in the House and in the other body and by the conferees.

In conclusion, let me say that I consider this one of the most important pieces of legislation that this Congress has an opportunity to enact. It will affect every man, woman, and child in this Nation and hopefully it will contribute substantially to improving our environment which unfortunately we have neglected for far too long.

Senator Spong commented as follows on the conference report:

Mr. President, I understand the purpose of that section of the report which establishes a mechanism for

(2) that the unavailability of such right may result in a substantial lessening of competition or tendency to create a monopoly in any line of commerce in any section of the country,

the Attorney General may so certify to a district court of the United States, which may issue an order requiring the person who owns such patent to license it on such reasonable terms and conditions as the court, after hearing, may determine. Such certification may be made to the district court for the district in which the person owning the patent resides, does business, or is found.

Appendix E.2
Legislative History of Section 153 - Atomic Energy Act

APPENDIX E.2

LEGISLATIVE HISTORY OF SECTION 153 AND ITS EXTENSIONS

President Eisenhower's message to Congress of February 17, 1954, recommended substantial revisions in the 1946 Act to permit widened international collaboration in atomic energy, liberalization in restrictions on dissemination of Restricted Data, and removal of prohibitions against domestic private use and development of atomic energy. In connection with revisions in the patent sections, the message recommended continuance "for a limited period" of compulsory patent licensing for non-military utilization of atomic energy, in order to assure that the limited numbers of companies then in the program could not build a patent monopoly which would exclude others desiring to enter field. Hope was expressed that "participation in the development of atomic power will have broadened sufficiently in the next five years to remove the need for such provisions." Legislative History of the 1954 Act, Vol. I, pp. 45, 51.

As we know, the Administration's proposed amendments were largely disregarded and the Joint Committee wrote its own bill to meet essentially the same objectives. However, the bill that was reported out did contain the compulsory licensing provisions, applicable to patents for which applications were filed before September 1, 1959. Id., 645, 711. The Joint Committee's majority report very briefly mentions the provisions, referring

Mr. Cole introduced an omnibus bill (H.R. 5694) on March 6, 1957, to amend various sections of the 1954 Act. Section 12 of the bill would have repealed Sections 153 and 154. While the Commission approved a draft report referring to its earlier position that compulsory licensing for a limited period might be desirable, and reaffirming that position, the report was never sent. No hearings were held, and the bill died. (Mr. Cole had also introduced another bill (H.R. 600) but no action was taken on it.)

The first five-year extension of the compulsory licensing provisions in 1959 was enacted as part of the appropriation authorization bill for that year. It had been lifted out of a bill AEC had submitted which proposed numerous changes in the Patent Chapter of the 1954 Act, and on which, after hearings, the JCAE deferred further consideration, except for the five-year extension.

AEC's proposed revisions of the Patent Chapter were the outgrowth of industry criticism of the 1954 Act's patent provisions and an AEC industry conference type meeting of April 1958. Most of the oral and written comments elicited from the participants were directed at provisions other than Section 153 - particularly at Section 152 and its implementation. However, as to the continuation of the compulsory licensing provisions, industry representatives and the Patent Bar generally expressed opposition, while the American Public Power Association and the National REA Co-operative Association urged continuation. The Atomic Industrial Forum

the patent provisions of the Act would be taken up again at a later date. Revisions were made in 1961 in Chapter 13 - Patents and Inventions - in the 87th Congress (P.L. 87-206) but no change was made as respects Section 153.

The next five-year extension was proposed in the AEC omnibus bill for 1964, H.R. 11180 and S. 2816, introduced by request on May 7, 1964. In its analysis of the bill, the Commission noted that

> "The restrictive conditions and procedures surrounding the exercise of the authority are such that it would only be used in comparatively rare and compelling cases, e.g., when the patent owner refused to license a Commission-authorized private activity . . .
>
> "While the industrial base is broader than in 1954 it is still limited and the state of the art is still in its formative period. Under these conditions and even though this authority has never been exercised there is no way of demonstrating that the king of patents at which section 153 is directed may not be applied for and issued or that the public interest no longer requires the protection afforded by section 153. The very existence of the authority may have a salutary effect and prevent abusive and unhealthy situations in the atomic energy industry."

Hearings before the Subcommittee on Legislation, JCAE, 88th Cong., 1st and 2nd Sess., on AEC Omnibus Bills for 1963 and 1964 (hereinafter 1963-64 Hearings), p. 168.

In testimony at the Joint Committee Hearing on the bills, Commissioner Ramey stated that, in the opinion of the Commission, the reasons which compelled the Congress to enact this legislation in 1954 and to extend its operation in 1959 still obtained, and that because of

letter, consistent with earlier expressions, asserted that the authority of Section 153 "discourages private enterprise and is in derogation of the fundamental patent incentive system" and that removal of this authority would "encourage, to the maximum extend, the private investment of money in research and development in the atomic energy field." None of the private witnesses who appeared at the hearings discussed the extension of Section 153.

The JCAE's report on S. 2963 (S. Rept. No. 1128, 88th Cong., 2nd Sess.), in commenting on the extension, follows very closely the AEC's draft analysis and Commissioner Ramey's testimony. It does state, however, that -

> "The committee believes that this authority should be evaluated periodically to assure that its continuation is required by the existing conditions in the industry." (Page 5.)

Presumably, the five-year extension provides this opportunity.

No disagreement with the extension was expressed during the short floor debates on the bills. Both Representative Holifield and Representative Hosmer supported the extension. (Cong. Rec., July 21, 1964, p. 15936) In the House debate, however, Representative Gonzalez did protest the inclusion of the Section 153 extension and the other items within a single bill. In his view the extension -

> ". . . is weighty enough for Congress to consider separate and apart from other issues." (Cong. Rec., July 21, 1964, p. 15938.)

greater importance than it has been in prior years and particularly in regard to new developments in atomic energy as developments of the fast breeder reactor which are only now emerging from the research phase into the development phase.

Chairman Holifield explained the reason for this section 153 that 1) the Government was spending practically all the money in research and development and therefore had not the legislation similar to this be enacted, discriminatory advantages would be given to the corporation which had a contract for research and development with the Atomic Energy Commission, and 2) the Government desired to maintain a number of competitive bidders for Government contracts and to ensure that they had all the known technology to compute their bids on and to utilize if they were successful bidders. Mr. Holifield further expressed his belief that Section 153 has worked out very well. (The 1969 Hearings, p. 14.)

The bills were passed in the fall of 1969 in the Senate and House and signed in law on December 24, 1969 by the President, Public Law 81-161.

The most recent five-year extension of Section 153 was enacted in Public Law 93-377 (S. 3669) on August 1974. Mr. Price stated before the House Floor on May 23, 1974, that

> This provision insures the U. S. Government and the American public that they will reap the benefits of major advances in the field of atomic energy. With the urgent needs of this Nation for improved and new sources of energy, this assurance remains of vital importance.

The Commission in response to Mr. Price's remarks on May 28, 1975, proposed the extension of Section 153 to those patent applications filed before September 1, 1979. Public Law 93-377 enacted the Commission's recommendations on August 17, 1974.

Appendix E.3
Excerpts from 1959 JCAE Hearings

ATOMIC ENERGY PATENTS

HEARINGS

BEFORE THE

SUBCOMMITTEE ON LEGISLATION

OF THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-SIXTH CONGRESS

FIRST SESSION

ON

ATOMIC ENERGY PATENTS

APRIL 21, 22, AND 23, 1959

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Mr. ROLAND ANDERSON. No.

Representative HOSMER. Nor would it be advisable to have two sources from which this information is flowing?

Mr. ROLAND ANDERSON. I think that is correct.

Representative HOLIFIELD. Proceed, Mr. Olson.

COMMISSION LICENSING POLICY

Mr. OLSON. The Commission, under section 156 and 161g has authority to grant licenses on terms and conditions as deemed appropriate. Under these sections, the Commission has pursued the policy of granting nonexclusive, revocable, royalty-free licenses on its United States patents to all, and to United States industry on its foreign-owned patents—10 CFR 81. The Commission has not determined the terms and conditions under which it will accord foreign industry licenses on Commission-owned foreign patents.

The Commission, pursuant to section 153, has authority to declare patents affected with the public interest and to grant licenses on private patents of "primary importance" to the production or utilization of special nuclear material or atomic energy where the licensing is of "primary importance" to implement the policies and purposes of the Act.

This power, as the Commission has expressed to this committee on several occasions, is considered a "reserve power." It has not been employed to date by the Commission, nor has any person authorized by the Act to employ the compulsory licensing procedures initiated any action to invoke the section.

Representative HOLIFIELD. Is this because there has not been anything of primary basic importance such as the Fermi patent rights established in the last few years?

When we wrote this into the Act, we wrote it into it for the express purpose of preserving to all the American industry a complete right to utilize any technology which has been developed by tax moneys.

Mr. OLSON. That is right.

Representative HOLIFIELD. And to prevent a monopoly occurring in any field in the reactor art, and yet this section has never been used. It either is a section which is impractical or there has not been anything invented which would come under that classification.

Mr. OLSON. I think our feeling at the present time is that the Commission owns very many substantial patents, as you know.

Representative HOLIFIELD. Yes.

Mr. OLSON. I think it is fair to say that up to this date that neither we or anyone who is eligible to use these procedures has been of the opinion that such a patent exists on the outside. Of course, there is no time limit on our using this authority. It may be that at a later date that such a patent now in existence will become of primary importance, but we have lost no rights with respect to that matter.

Mr. RAMEY. We asked the Commission for a supplementary statement on what procedure you use on reviewing private patents to see whether or not you should declare them affected with the public interest and so on, and received an answer to that.

(The information referred to appears on p. 79.)

made a determination according the contractor rights in the field of his own business. Where he can show extensive use in the field of the invention he may have exclusive rights in "outfields," as we call it.

Representative HOLIFIELD. Let us proceed now to section 153, Mr. Olson.

Mr. OLSON. Section 153. One of the primary purposes for the review of the patent sections of the Atomic Energy Act, as expressed by the Chairman of the Joint Committee at the March 11, 1959, regional meeting of the American Bar Association, was whether the "compulsory licensing" provisions of section 153 should be extended.

Section 153 provides that the Commission may, after giving the patent owner an opportunity for a hearing grant a license on any privately owned patent, if (1) the invention is of "primary importance" in the production or utilization of special nuclear material or atomic energy and (2) the licensing is of "primary importance" to effectuate the policies and purposes of the act.

The Commission has not exercised the power to date. The very existence of the authority may have a salutary effect and prevent abusive and unhealthy situations. The restrictive conditions and procedures surrounding the exercise of the authority are such that it could only be used in comparatively rare and compelling cases where the patent owner refused to license a Commission-authorized private activity.

Section 153 is not necessary for the Government because it may use any patented invention and the owner's sole remedy is to sue for reasonable royalty or just compensation in the Court of Claims pursuant to section 1498 of title 28 of the United States Code.

One of the situations that could arise for employing this section involves the private atomic power industry. A private company operating a power reactor generating electricity for some local community could find itself subject to a patent infringement charge on a fuel element covered by a patent which was issued subsequent to the construction and startup of the reactor. In such an instance, if the owner refused to license the company, the authority of the Commission under subsection 153(a) could be invoked or the company could initiate proceedings under subsection 153(c). If the company initiated a proceeding and the Commission found that the company's activities met the tests of "primary importance" under subsection 153(e), the Commission could grant a license and if the patent owner and the company could not agree on a reasonable royalty the Commission could, after hearing, fix the reasonable royalties. The only benefit of the normal patent system that the owner of such a patent is denied by section 153 is the injunctive relief. Where the activities are of "primary importance" the need to deny such relief in the public interest does not permit of serious questioning.

It is felt that, at least for the present, the policy set forth in section 153 is sound, and the Commission therefore has suggested a 5-year extension. As expressed in the transmittal letter:

> The Commission feels as it did in 1954, that patent incentives are a necessary and desirable stimulus to the development of peacetime uses of atomic energy. At the same time the Commission believes that the desirability of patent incentives must be balanced against the possibility of enlarging the preferred position of the necessarily limited number of companies, many of whom have developed their experience substantially at public expense. The Commission believes that

Mr. OLSON. Yes, sir.

Mr. RAMEY. What is the practical situation at the present time with private applications that are pending for patents that might be subject to the compulsory licensing? It might be an important patent when matured. What is the practical situation of an outfit that would want to go ahead in using this type of invention? For example, a safety device for a reactor that an equipment company that has developed privately and is using on its reactors, and has made no secret that it has a patent application on it, and someone else would like to go ahead and utilize that safety invention on its reactor?

Mr. ROLAND ANDERSON. Of course, Mr. Ramey, at the present time, until a patent issues, you can use anything you are aware of, or are knowledgeable about. The situation that you are considering would develop if a patent issues on one of the pending applications of a private party, what the situation would be then? Is that your question?

Mr. RAMEY. No. I just meant from the standpoint of an equipment company where there is an application by somebody else on an important invention, and whether or not they would go ahead and try to use this particular invention or would they try to negotiate with the other outfit, or what would be the normal practice? In other words, would this inhibit them from using a device, waiting until the patent issues, which might be several years, and thereby holding back this type of development?

Mr. ROLAND ANDERSON. Not in my opinion would it hold back. In other words, the same policies and practices that industry applies in other situations is available in the atomic energy area.

Mr. RAMEY. And what are those practices?

Mr. ROLAND ANDERSON. Generally speaking, if a company becomes aware of a pending application through some means or other, generally by contract negotiations, because they see advertisements where companies are interested in certain fields, the company that may have the application pending might communicate with such equipment manufacturer or through some attorney or some other way, and indicate that they have a patent application pending which they hope to go to issue and secure strong claims and would such company desire to take a license so that they can start manufacture at the present time and continue to manufacture after the patent issues. This is normal procedure in the patent profession. Many agreements are negotiated where royalties are paid prior to the issue of the patent in the hope that the patent that is issued will be a strong and forceful patent.

This same situation can exist and does exist in the atomic energy art as in any other art.

(For statement by Mr. Bennett Boskey concerning possibility of extending section 153 to cover applications as well as patents, see p. 160.)

Representative HOLIFIELD. We will go to section 155.

Section 155

Mr. OLSON. Until the enactment of section 155 prior knowledge or use in order to bar a patent application or to invalidate a patent was required to be available to the public in the form of a publication or some other public demonstration. Secret or other nonpublic records

Appendix E.4
Excerpts from 1964 JCAE Hearings

AEC OMNIBUS BILLS FOR 1963 AND 1964

HEARINGS

BEFORE THE

SUBCOMMITTEE ON LEGISLATION

OF THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-EIGHTH CONGRESS

FIRST AND SECOND SESSIONS

ON

AEC OMNIBUS BILLS FOR 1963 AND 1964

JULY 17, 1963, AND MAY 19, 1964

Printed for the use of the
Joint Committee on Atomic Energy

U.S. GOVERNMENT PRINTING OFFICE
21-510 WASHINGTON : 1964

Mr. RAMEY. The Commissioners have been concerned about some of the delays that have occurred in the handling of some patent cases, particularly through our Patent Compensation Board. Unfortunately, we lost the services of a couple of the members of the Board at times when cases were before them which delayed the case. For example, Mr. Casper Ooms, an outstanding patent lawyer, who served on the Board, died 2 or 3 years ago, and this did affect the time schedule on some cases.

Representative HOSMER. Is it not a fact, though, that some cases that commenced years ago are still pending?

Mr. RAMEY. Yes, sir.

Representative HOSMER. How many are there of that nature? Just roughly, in magnitude?

Mr. ANDERSON. There are four cases still pending.

Representative HOSMER. What has been the average length of time a case has been pending before settlement?

Mr. ANDERSON. I think the average time is about 4 years.

Representative HOSMER. And in all cases have the applicants specified some amount that they claimed for their compensation?

Mr. ANDERSON. No, sir. Unfortunately in many of these cases they specify a percentage of a fabulous figure that has to be estimated. And may I say in the cases that are still pending they are very significant cases, and the Board, as well as the Commission staff, has attempted to move these along. In several instances it has been the case that counsel for the applicant wanted to defer. In fact, in one case right now, we have tried to move it along to prehearing conference state, and I was just advised that the attorney for the applicants has resigned, which means there will be a new attorney appointed and further delay.

Representative HOSMER. Is that not, however, an unfair picture of the general course of events? And would it not be more fair to say that the Patent Compensation Board has consistently tried to beat these inventors down and harass them and delay to the point that they would accept unreasonably meager figures in order to get anything before they pass on to their reward in the Great Beyond?

Mr. ANDERSON. I would not think that is a fair representation of the Board's functions in connection with the hearings.

Representative HOSMER. I am not talking about functions; I am talking about the practices and what has happened.

Mr. ANDERSON. I do not think this is fair either. I think that the Board has considered all of the facts in each case after full testimony has been presented to them, and the big difficulty, or one of the big difficulties, has been to get the applicants to go to hearing and present their witnesses to the Board, because the Board has not negotiated and does not get into the negotiation of settlements.

Representative HOSMER. What bothers me, sir, is that you, as counsel for the Commission, just a moment ago characterized these claims as some percentage of some fabulous, or was it fantastic, figure, which indicates to me a predisposition on the part of the Commission to regard anybody's statement of what they are entitled to as fantastic, and therefore that it must be slashed to ribbons to bring it down to what you regard as reality.

Mr. RAMEY. Speaking of patent royalty fees, in the original negotiations with Enrico Fermi on his patent claim, he exhibited a certain sense of humor in discussions with Frank Test and Roland Anderson. I was on the fringes of the negotiations. Anyhow, Frank asked him how much royalty it was worth for the basic patent on the nuclear reactor. Fermi thought a little bit and said, "How about a penny a neutron?"

Representative HOLIFIELD. Our conversation has been on the awarding of claims up to this point. You have not used this power, as you say here, since it was conferred upon you. What real justification do you have for coming before us and asking for an extension of the authority under section 153?

Mr. RAMEY. We think this power, as I said, is a kind of reserve power that could be useful in the future in the event of a rather important patent that the owner might not wish to get on the market, and would be useful, for example, on our advance converter reactors in the next 10 or 15 years.

There have been some concepts of fuel element configuration that have been proposed by private companies that now are not exactly in the middle of the industry. They might want to hold back on these things, and the authority might be very useful.

Representative HOLIFIELD. Has there been a wide exchange of information so far between the people making atomic machinery of different kinds?

Mr. RAMEY. Yes; in terms of the unclassified information and in terms of the patents that the Commission has licensed; Mr. Anderson could comment on the technology developed under private patents.

Representative HOLIFIELD. First, how many patents has the Commission claimed?

Mr. ANDERSON. The Commission has a portfolio of approximately 3,300 patents as of today.

Representative HOLIFIELD. And made them available to all of industry?

Mr. ANDERSON. Has made available to all of the industry. In fact, we have issued over some thousand licenses to various industries, and the bulk of the licenses, I should say, have been issued to small industry.

Representative HOLIFIELD. So this has, in effect, made this technology available to a wide base of manufacturers?

Mr. ANDERSON. It certainly has.

Representative HOLIFIELD. And, in your opinion, has this accelerated the growth of the art or impeded the growth of the art?

Mr. ANDERSON. I would say the wide dissemination of information has accelerated the dissemination of information and technology in the art.

Representative HOLIFIELD. Has there been any instance where anyone has obtained a patent in this field and refused to license another manufacturer?

Mr. ANDERSON. So far as I know, they have not refused to license. Of course, we are not necessarily familiar with what private industry has attempted to do among itself.

Representative HOLIFIELD. In other words, in those areas of patents which they have obtained—and we would suppose that this is all in the secondary or tertiary field, and not of "primary importance," as the

has resulted in the formation, as specified in that statement, of a patent advisory panel under the Federal Office of Science and Technology, which panel is reviewing the entire program of the Government.

It is hoped that the statistics and analytical surveys that this panel and its subcommittees make will result in more consistency throughout the Government in the handling of inventions under Government contracts. If this program is successful, this may form a basis for, as you indicate, some general legislation which would make for more uniformity in Government across the board for Government-sponsored research.

(The President's statement referred to above follows:)

[From the Federal Register, Oct. 12, 1963]

MEMORANDUM OF OCTOBER 10, 1963

[GOVERNMENT PATENT POLICY]

Memorandum for the Heads of Executive Departments and Agencies

Over the years, through Executive and Legislative actions, a variety of practices has developed within the Executive Branch affecting the disposition of rights to inventions made under contracts with outside organizations. It is not feasible to have complete uniformity of practice throughout the Government in view of the differing missions and statutory responsibilities of the several departments and agencies engaged in research and development. Nevertheless, there is need for greater consistency in agency practices in order to further the governmental and public interests in promoting the utilization of federally financed inventions and to avoid difficulties caused by different approaches by the agencies when dealing with the same class of organizations in comparable patent situations.

From the extensive and fruitful national discussions of government patent practices, significant common ground has come into view. First, a single presumption of ownership does not provide a satisfactory basis for government-wide policy on the allocation of rights to inventions. Another common ground of understanding is that the Government has a responsibility to foster the fullest exploitation of the inventions for the public benefit.

Attached for your guidance is a statement of government patent policy, which I have approved, identifying common objectives and criteria and setting forth the minimum rights that government agencies should acquire with regard to inventions made under their grants and contracts. This statement of policy seeks to protect the public interest by encouraging the Government to acquire the principal rights to inventions in situations where the nature of the work to be undertaken or the Government's past investment in the field of work favors full public access to resulting inventions. On the other hand, the policy recognizes that the public interest might also be served by according exclusive commercial rights to the contractor in situations where the contractor has an established non-governmental commercial position and where there is greater likelihood that the invention would be worked and put into civilian use than would be the case if the invention were made more freely available.

Wherever the contractor retains more than a non-exclusive license, the policy would guard against failure to practice the invention by requiring that the contractor take effective steps within three years after the patent issues to bring the invention to the point of practical application or to make it available for licensing on reasonable terms. The Government would also have the right to insist on the granting of a license to others to the extent that the invention is required for public use by governmental regulations or to fulfill a health need, irrespective of the purpose of the contract.

The attached statement of policy will be reviewed after a reasonable period of trial in the light of the facts and experience accumulated. Accordingly, there should be continuing efforts to monitor, record, and evaluate the practices of the agencies pursuant to the policy guidelines.

This memorandum and the statement of policy shall be published in the Federal Register.

JOHN F. KENNEDY.

directly related to an area in which the contractor has an established nongovernmental commercial position, the contractor shall normally acquire the prinicpal or exclusive rights throughout the world in and to any resulting inventions, subject to the government acquiring at least an irrevocable non-exclusive royalty free license throughout the world for governmental pruposes.

(c) Where the commercial interests of the contractor are not sufficiently established to be covered by the criteria specified in Section 1(b), above, the determination of rights shall be made by the agency after the invention has been identified, in a manner deemed most likely to serve the public interest as expressed in this policy statement, taking particularly into account the intentions of the contractor to bring the invention to the point of commercial application and the guidelines of Section 1(a) hereof, *provided* that the agency may prescribe by regulation special situations where the public interest in the availability of the inventions would best be served by permitting the contractor to acquire at the time of contracting greater rights than a non-exclusive license. In any case the government shall acquire at least a nonexclusive royalty free license throughout the world for governmental purposes.

(d) In the situation specified in Sections 1(b) and 1(c), when two or more potential contractors are judged to have presented proposals of equivalent merit, willingness to grant the government principal or exclusive rights in resulting inventions will be an additional factor in the evaluation of the proposals.

(e) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, he should agree to provide written reports at reasonable intervals, when requested by the government, on the commercial use that is being made or is intended to be made of inventions made under government contracts.

(f) Where the principal or exclusive (except as against the government) rights in an invention remain in the contractor, unless the contractor, his licensee, or his assignee has taken effective steps within three years after a patent issues on the invention to bring the invention to the point of practical application or has made the invention available for licensing royalty free or on terms that are reasonable in the circumstances, or can show cause why he should retain the principal or exclusive rights for a further period of time, the government shall have the right to require the granting of a license to an applicant on a non-exclusive royalty free basis.

(g) Where the principal or exclusive (except as against the government) rights to an invention are acquired by the contractor, the government shall have the right to require the granting of a license to an applicant royalty free or on terms that are reasonable in the circumstances to the extent that the invention is required for public use by governmental regulations or as may be necessary to fulfill health needs, or for other public purposes stipulated in the contract.

(h) Where the government may acquire the principal rights and does not elect to secure a patent in a foreign country, the contractor may file and retain the principal or exclusive foreign rights subject to retention by the government of at least a royalty free license for governmental purposes and on behalf of any foreign government pursuant to any existing or future treaty or agreement with the United States.

SEC. 2. Government-owned patents shall be made available and the technological advances covered thereby brought into being in the shortest time possible through dedication or licensing and shall be listed in official government publications or otherwise.

SEC. 3. The Federal Council for Science and Technology in consultation with the Department of Justice shall prepare at least annually a report concerning the effectiveness of this policy, including recommendations for revision or modification as necessary in light of the practices and determinations of the agencies in the disposition of patent rights under their contracts. A patent advisory panel is to be established under the Federal Council for Science and Technology to

(a) develop by mutual consultation and coordination with the agencies common guidelines for the implementation of this policy, consistent with existing statutes, and to provide over-all guidance as to disposition of inventions and patents in which the government has any right or interest; and

(b) encourage the acquisition of data by government agencies on the disposition of patent rights to inventions resulting from federally-financed research and development and on the use and practice of such inventions, to serve as basis for policy review and development; and

(c) make recommendations for advancing the use and exploitation of government-owned domestic and foreign patents.

Representative BATES. The question that was posed to me was this: That an individual firm was given a contract because they were leaders in the field, and they were the leaders in the field because of money that they invested, the time and knowledge and their latent talent. Of course, once they got the contract they went far ahead of anyone else in the field. But, nevertheless, they thought, because of that basic advantage that they had, that they should be able to retain that advantage.

Mr. RAMEY. If they had a patent position, of course, at the time of the contract, under AEC policy they are protected.

Representative BATES. We are talking about knowledge.

Mr. RAMEY. Yes.

Representative BATES. Rather than something like actually getting a piece of hardware. And they thought, although they may not have developed something, there was this know-how that contributed to this product, and, therefore, they should have certain rights. I just wanted you to comment on that if you would.

Mr. ANDERSON. I think, here again, if we are talking about technical information and know-how that the contractor brings to the program, I think both in AEC and in the Government generally there is an attempt to respect as "proprietary" what the contractor brings to the program. It is not intended, generally speaking, that this kind of information be broadcast by the agency that receives it. There are generally some limitations placed upon that kind of knowledge. I think this is true in all of the Government departments and agencies.

Now that knowledge which they acquire as the result of contract work which adds to their knowledge is knowledge we suppose we would say has been generated by the expenditure of public funds. As to that type of knowledge, we in AEC, and I think many of the other Government agencies, have said that that knowledge should be taken and made available to everyone for use, the contractor as well as outsiders.

Mr. RAMEY. He was paid for his contribution from Government funds in terms of a fee, or whatever compensatory arrangements the Government makes with him under the contract.

Representative BATES. His feeling was this: You finally come out with a composite, something emanates from this contract, a portion of which was prior knowledge, a portion of which is accumulated knowledge as a consequence of the contract. How do you divide it up? Should he have entitlement or should the Government have entitlement?

This particular individual felt that, because he was the leader in the field, he should have the patent rights.

Representative HOLIFIELD. I think it might be well to draw a little more definitive line on this particular matter.

Let's take an example. Let's take a company that has a prior patent and know-how position in making a pump. They accept a contract for a million dollars with the Government because they have had this prior knowledge in pumps and may have patents on pumps. But the Government needs a superior pump. The Government is willing to pay them a million dollars to use their knowledge, their know-how, their patent position, and so forth, to improve the pump to where it will be twice as efficient, let us say.

Mr. ANDERSON. Makes the information available to everybody, if the end product embodies that which he has patented already plus the new.

Representative BATES. Not patented.

Mr. ANDERSON. If it is not patented and the product does not necessarily reveal the process for making it, he still has the know-how that he had when he got the contract.

Representative HOLIFIELD. And thereby has the advantage over a competitor who did not take the contract.

Mr. ANDERSON. Has the advantage over a competitor in that he has advance knowledge.

Representative BATES. The others have a product they would not have had without his know-how.

Mr. ANDERSON. It is true that the Government may get a product in the end which it would not have had except for the expenditure of funds.

Representative BATES. So does the competitor.

Representative HOLIFIELD. But the Government paid; indeed, the competitor paid tax money in order to get that knowledge. His competitor has contributed tax money that has been used to pay the developer or the improver of the device.

Representative BATES. Dewey Short used to say it is a mighty thin pancake that does not have two sides. That is what I am trying to raise here.

Mr. ANDERSON. This is that area in which there has constantly been a question as to what the Government does expend money for, and when the Government does expend money what are the differences in rights? Where the contractor may have a little bit, and the Government is spending a lot, should the Government get greater rights than if it is only spending a little bit?

I suppose the views differ—one is way over to the left and one is way over to the right, and right in the middle is where any Government contracting agency will always have a dispute as to what rights the contractor should or should not retain. As I said, I think the President's statement of October 1963 sets forth a very excellent position so far as most Government agencies are concerned, and I hope as a result of that that there will be some uniformity or consistency in the overall Government program.

Representative HOLIFIELD. I agree with you. I hope there will be a consistency, because there is a very sharp dissimilarity between the way the Atomic Energy Commission has protected the Government's investment and the way the other agencies have allowed patents worth untold millions to go to the fortunate contractor who happened to get the contract and who has spent the taxpayers' money, and has then converted to his own gain and to the detriment of his competitors the benefits of the expenditure of tax moneys.

It is a little bit difficult, of course, for these great corporations, who protect themselves with their own employees, to abide by the same rules regarding patents when they are dealing with the Government. But they have no hesitancy in requiring it of the people they hire to work for them.

Are there any questions further on this section?

Representative WESTLAND. Just two questions.

Representative HOLIFIELD. In case it was an invention of primary importance.

Mr. RAMEY. It would have to be a very important invention, and it would have to be a situation where the user in the future had made application to GE for a license and had not been able to get one, and then the Commission would have had to make a finding that the use of this invention by the other party was of primary importance to carry out the purposes of the act. So it is not that under section 153 these private patents would be freely made available, but that you would go through your normal business practice of applying to the patent owner for a license, and you offer to pay a royalty, and then that would have to be denied, and it would have to be an important thing. And following that would have to be a hearing by AEC and a determination of a reasonable royalty, in the event the two Commission findings were made as to the importance of the development to the atomic energy program.

Representative WESTLAND. You are saying then, if it was of importance to the atomic energy program, that under this section it must be available to whoever wants it?

Representative HOLIFIELD. On a reasonable royalty basis.

Mr. RAMEY. On a reasonable royalty basis.

Representative WESTLAND. Suppose he does not want to put it out on a royalty basis. Has he got to do it?

Mr. RAMEY. Ultimately, yes, sir, where the Commission declares it to be in the public interest.

Representative WESTLAND. When do you think that the atomic energy program will have developed to the stage where this would not be necessary, because this certainly is not the case, I do not believe, in aviation or steel or chemicals? Somewhere along the line I think we have got to cut this off.

Mr. RAMEY. We are hopeful that the atomic energy program will get to the stage where private equipment companies and developers are in a freely competitive situation where they will be putting their own money into it.

Representative WESTLAND. They are.

Mr. RAMEY. In greater amounts.

Representative WESTLAND. This is what we are talking about. I can understand Mr. Holifield's argument. I may disagree with him in some respects, but I can understand it all right. But his argument fails, it seems to me, when you have a completely private operation and where you do not have the Federal Government in the picture.

Mr. RAMEY. We have a situation now, though, Mr. Westland, where we do have an emerging private industry, but only about two companies are really doing real well. There are seven equipment companies, and, as you know, I personally and the Commission have been concerned about maintaining real competition in the atomic field.

Representative WESTLAND. General Motors sells more cars than Ford, but Chrysler came along, too, and did something without having patents made available to them.

Representative HOLIFIELD. I think the element of equity, as I see it—and there is ground for disagreement here—the element of equity is that this has been an industrial development, let us say, a scientific, technological, and industrial development which has depended almost

Representative HOLIFIELD. One of the purposes of the Atomic Energy Act set forth in section 3(a) is:

A program of conducting, assisting, and fostering research and development in order to encourage maximum scientific and industrial progress.

Representative BATES. If you are going to foster it, you are not fostering it when you are going to give somebody the cake that somebody else made. That is my judgment.

Representative HOLIFIELD. Section 3(d) says:

A program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public.

So the Atomic Energy Act sets forth the purposes of the program, and we have used those purposes to justify the expenditures in this program to date.

Are there any further questions on section 1?

If not, we will go to sections 2 and 3.

Mr. RAMEY. Sections 2 and 3:

Sections 2 and 3 of the bills are proposed clarifying amendments to the Price-Anderson Indemnity Act They are designed only to remove a possible ambiguity, and not to make any change in substance.

The Price-Anderson Act, adopted in 1957, provides a comprehensive plan to protect the public by providing indemnity arrangements for payment of public liability claims over and above required insurance that might result from nuclear activities, and to protect the nuclear industry against unlimited liability for the consequences of a nuclear accident.

The plan encompasses requirements for insurance or other forms of financial protection and has Government indemnification in the amount of $500 million over and above the required amount of financial protection; and has provisions limiting the liability of persons legally liable for a nuclear incident to the aggregate amount of financial protection and Government indemnification.

Subsection 170(c) of the act directs the Commission to enter into indemnity agreements with respect to licenses for production or utilization facilities, including nuclear reactors. Subsection 170(k) directs the Commission to enter into indemnity agreements with respect to licenses for facilities to be used in the conduct of educational activities by universities and other nonprofit educational institutions.

The bills would add a single, identical sentence at the end of subsection 170(c) and 170(k) as follows:

With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 1967, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 1967.

The proposed amendments would make it clear that a production or utilization facility for which the Commission issues a construction permit prior to August 1, 1967, will be afforded Price-Anderson indemnity coverage for operation of the facility without regard to whether the operating license for the facility is issued before or after August 1, 1967.

The clarifying legislation has been proposed at this time because of some industry concern regarding the scope of the Commission's au-

Appendix E.5
Excerpts From 1969 JCAE Hearings

AEC OMNIBUS LEGISLATION—1969

HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

NINETY-FIRST CONGRESS

FIRST SESSION

ON

AEC OMNIBUS LEGISLATION—1969

SEPTEMBER 12, 1969

Printed for the use of the Joint Committee on Atomic Energy



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34-522 WASHINGTON : 1969

energy are only now emerging from the research phase. The very existence of the authority may have a salutary effect.

We shall be pleased to provide any additional information you may desire on the subject.

The Bureau of the Budget has advised that enactment of the proposed legislation would be in accord with the Administration's program.

Cordially,

GLENN T. SEABORG,
Chairman.

Chairman HOLIFIELD. When the compulsory patent licensing provision was enacted, it was considered to be temporary to cover the transitional period until atomic energy acquired a broader industrial base.

In your opinion, is the industry still in its formative stage, or has it achieved a sufficiently broad industrial base to permit the expiration of this unusual authority except for patent applications filed before September 1, 1969?

I think you have answered that in your statement.

Mr. HENNESSEY. I will be glad to develop that further if the Chairman wishes.

Chairman HOLIFIELD All right.

Mr. HENNESSEY. It is true, I think, that, in some aspects of the atomic energy manufacturing industry there has been developing a broadening base of industrial competition, but in other areas, as indicated by the recent report of Arthur D. Little Co., there continues to be a very narrow field of competition.

I think perhaps more important, looking toward the future and the important programs that are only now beginning to develop, notably the fast breeder reactor program, that we can have no assurance, certainly at this time, of any very broad base of competition.

I think the same thing is probably true of the Plowshare program at the present stage.

Unlike the situation in 1954 and 1959, there is a broader development of private industrial positions and the filing of a very large number of private patents which would indicate the necessity for retaining the compulsory licensing provision to insure that an adequate competitive situation will endure.

Chairman HOLIFIELD. Will you give us some of the details surrounding the recent application by the Picker Corp. for a compulsory patent licensing proceeding?

Mr. HENNESSEY. I believe Mr. Anderson has the facts on that application.

Chairman HOLIFIELD. Mr. Anderson, will you give us some information on that?

Mr. ANDERSON. The application for compulsory licensing has two requests: The first contention is that the specific release accorded the inventor by the AEC in 1958–59 period was without consideration and therefore requests the Government to cancel the release and accord the applicant a free license in accordance with inventions owned by the Government.

The second part of the petition pertains to section 153, which is, the compulsory licensing section and specifically requests that the Commission undertake findings to determine if that invention should be compulsory licensed.

ment of Government Patent Policy was issued with respect to an attempt to get an overall uniform policy. Today, I would presume that if we were releasing it under the terms and conditions now present there would be requirements, possibly, for according licenses to third parties on a contractual basis, as we are doing in connection with certain of our reactor development program background patents, rather than rely on the compulsory licensing section.

Mr. HENNESSEY. I think as the chairman suggested it is, of course, true that due to the existence of the provisions of the act he is on notice of the compulsory licensing sections of the act.

Chairman HOLIFIELD. Did this so-called uniform patent application in Government departments in any way weaken the basic Atomic Energy Act?

Mr. ANDERSON. No, sir. It was specifically provided for in that policy statement, that that statement was subject to any existing statutory requirements. It was specifically recognized in that policy statement that if there were statutes the statutes prevailed.

Chairman HOLIFIELD. One final question.

In 1964, it was pointed out that one of the reasons for extending the compulsory patent licensing authority was that more patents were being issued to private parties.

Your statement—page 4—points out the continuation of that trend.

You also allude to the importance of such authority relative to breeder reactor technology on page 3.

Is it not reasonable to assume a continuation of this trend toward private patent holders, say, for the next 25 years, and won't it be at least 10 years before breeders are introduced?

Mr. HENNESSEY. I think in response to the first part of the question it is quite clear that as industrial development independent of Government financial assistance becomes more normal, more the normal way of life, that there will be a continually increasing number of private patents in the field.

On the other hand, with respect to the fast breeder reactor program, for instance, we anticipate a continuing very large financial contribution to the development of the fast breeder reactor, and the same basis, it seems to me, exists here as did in the initial enactment of this measure, that where such large sums of Government money have been devoted to the development that there is a sound and reasonable basis for the requirement that the public generally have access to the patents that result from that combined work by Government and industry.

Chairman HOLIFIELD. What is the logic behind extending this for 5 years rather than a longer period in view of your statement as to the future?

Mr. HENNESSEY. In the first place, we have simply followed the existing pattern of 5-year extensions which has gone on now for 20 years. But the reason for 5 years is that I suppose 5 years is a logical period for the reexamination of the situation. It has changed, as we noted it has changed quite a bit in the last 5 years, so that it does afford a periodic opportunity to look at the industry, what the private patent situation is, to what extent the Government is continuing to make a contribution, and I suppose most importantly what policies are being used by industry in licensing other competitive elements of the industry.

34-522—69——2

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., October 9, 1969.

HON. CHET HOLIFIELD,
Chairman, Joint Committee on Atomic Energy,
Congress of the United States.

DEAR MR. HOLIFIELD: At the hearing before the Joint Committee on Atomic Energy September 12, 1969 on the 1969 Omnibus legislation you requested my opinion as to whether enactment of H.R. 12697 after, rather than before September 1, 1969, would affect Section 153's applicability to patent applications filed in the interim between September 1 and the enactment of H.R. 12697.

Section 153(h) of the Atomic Energy Act of 1954, as amended, presently provides that the provisions of Section 153, the so-called compulsory patent licensing section of the Act, "shall apply to any patent the application for which shall have been filed before September 1, 1969." H.R. 12697, now before the Congress, would extend the applicability of Section 153 for five additional years by substituting "September 1, 1974" for September 1, 1969.

When amended by H.R. 12697, Section 153(h) would read: "The provisions of this section [section 153] shall apply to any patent the application for which shall have been filed before September 1, 1974." This language is clear and unambiguous; there is no exception for patents for which applications may be filed between September 1, 1969 and the enactment of H.R. 12697. In my opinion, if H.R. 12697 is adopted after September 1, it will effectively cover patent applications filed during the interim. *DeFerranti* v. *Lindmark*, 30 App. D.C. 417, 1908 C.D. 353; *In Re Howard*, 122 U.S. Patent Quarterly, p. 21 (1957). Since practical considerations prevent the issuance of patents before about 6 months, and a two to three year period usually elapses between filing of an application and issuance of a patent, it is unlikely that a patent would issue, with respect to a patent application filed subsequent to September 1, 1969, prior to enactment of H.R. 12697 unless that enactment is long delayed. If such a situation were to occur, it is conceivable that a question could be raised as to the effect of the legislation on patent rights that had become vested prior to its enactment. It should be noted that this same situation was present with the enactment of the Atomic Energy Act of 1946 which extended compulsory licensing provisions to patents previously issued. In my view, it is clear that, in this instance as well as in the enactment of the basic Acts, the Congress would be properly exercising its constitutional powers to legislate with respect to patents, and to the extent that the property rights of an inventor may be entitled to protection under Constitutional safeguards, such protection is adequately afforded by the due process and reasonable royalty provisions of Section 153.

Sincerely yours,

JOSEPH F. HENNESSEY,
General Counsel.

Chairman HOLIFIELD. Mr. Hosmer.

Representtive HOSMER. No questions, Mr. Chairman.

Chairman HOLIFIELD. Mr. Aspinall?

Mr. ASPINALL. I have no questions.

Chairman HOLIFIELD. Mrs. May?

Representative MAY. I have no questions.

Mr. ASPINALL. Mr. Chairman, I have one question after glancing over the statement by Mr. Hennessey.

Have you gone into this question where they recommend that the maximum penalty be life imprisonment?

Chairman HOLIFIELD. We are going into that next. The patent item is the first item in the omnibus bill.[1] Now we are going into the criminal penalty provisions under the act.

Will you proceed on that, Mr. Hennessey? And that refers to what bills?

[1] Additional information concerning proposed extension of the compulsory patent licensing provision is set forth in AEC answers to written JCAE questions, p. 36.

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., October 9, 1969.

MR. EDWARD J. BAUSER,
Executive Director, Joint Committee on Atomic Energy,
Congress of the United States.

DEAR MR. BAUSER: This is in response to your letter of September 18, 1969, forwarding additional questions concerning the 1969 Omnibus Bill.

The questions with our answers are enclosed.

Sincerely yours,

JOSEPH F. HENNESSEY,
General Counsel.

Enclosure: Questions and answers re compulsory licensing and civil penalties.

A. COMPULSORY PATENT LICENSING

Q. 1. The Arthur D. Little Report of December 1968, indicates at page 157 that patent licensing on an inexpensive basis is available in the industry. If this is true, why is there any need for an extension of Section 153?

A. The statement at page 157 of the Arthur D. Little Report of December 1968, has reference to the "heavy electrical industry" and that industry's policy of according "inexpensive cross-licensing" of developments. It should be noted that the Arthur D. Little Report refers to cross-licensing of the respective developments. The report does not address the practice followed when a company has no patents to license.

Furthermore, the statement was made in respect of the "heavy electrical industry". Section 153 is to apply to the atomic energy field across the board. We have no evidence that inexpensive cross-licensing is the general practice in the mechanical, chemical or even general electrical industry.

It is, of course, recognized that some of the larger corporations in the U.S. have a policy of according nonexclusive licenses for royalties to responsible private parties. However, neither such policy nor the policy of the heavy electrical industry discussed by Arthur D. Little, Inc., can be stated to be the general rule in the manufacturing, electrical, or chemical industries.

Q. 2. Is there anything analogous to this compulsory patent licensing authority in other fields? Why should we continue to single out atomic energy for special treatment?

A. We are not aware that there is anything analogous to the compulsory patent licensing authority in other fields in the United States. Compulsory patent licensing is common in foreign countries. In the field of pharmaceuticals, Representative Halpern introduced H.R. 7984 in the 91st Congress to amend the patent laws to provide for compulsory licensing of prescription drug patents under certain circumstances.

The initial basis for singling out the atomic energy industry was to have a broad industrial base for atomic energy subject matter, and, as stated in the testimony presented on September 12, certain areas of atomic energy technology are just emerging and could produce a narrow or very limited industrial base. Examples are Fast Breeder Reactors, peaceful uses of nuclear explosives, controlled thermonuclear devices, medical uses of atomic energy, and space nuclear systems. Therefore, in order to preserve a truly broad industrial base in these areas, as well as other areas of atomic energy activity, the continuance of compulsory licensing would appear justifiable.

Q. 3. Is there any legislation now pending in Congress which, if enacted, would tend to defeat the action of the Joint Committee in extending Section 153?

A. There is no legislation pending in this Session of Congress that has been referred to the AEC for comment or of which AEC is aware which would tend to defeat the action of the Joint Committee in extending Section 153.

B. CIVIL PENALTIES

Q. 1. The AEC's civil penalties bill (H.R. 9648) covers fewer sections of the Atomic Energy Act than Senator Pastore's bill (S. 1878) and appears to be limited to violations of licensing requirements concerning the use of source, byproduct or special nuclear material. Senator Pastore's bill, on the other hand, includes other matters as well, such as violations of regulations for the safeguarding of Restricted Data. Which bill do you prefer in this regard, and why?

A. As stated in our testimony at the hearing on September 12, 1969, our preference is for the bill as set forth in H.R. 9648 (S. 1882). The basis for our position

Appendix E.6
Compulsory License Application by Picker Corporation

BEFORE THE ATOMIC ENERGY COMMISSION

IN THE MATTER OF :
:
Application by :
PICKER CORPORATION :

APPLICATION BY PICKER CORPORATION FOR
PATENT LICENSE UNDER PATENT NO. 3,011,057

1. Pursuant to Sections 153 and 156 of the Atomic Energy Act (41 U.S.C. §§2183 and 2186) and Part 81 of the Atomic Energy Commission's regulations and the Commission's policies in relation thereto, Picker Corporation (hereinafter "Picker") hereby applies to the Atomic Energy Commission for a patent license under United States Patent No. 3,011,057 (hereinafter the "patent"), issued to Hal O. Anger (hereinafter "Anger") on November 28, 1961. A copy of the patent, which is entitled "Radiation Image Device", is attached as Exhibit A hereto.

2. Picker requests the Commission to grant it a royalty-free non-exclusive license under the patent, if the United States Government has sufficient rights in the invention to enable the Commission to issue such a license. If the United States Government does not have sufficient rights for the Commission to grant such a license, then Picker requests, in the alternative, that the Commission grant a

that Picker requests the Commission to grant the patent license hereby being applied for.

4. Consistent with the purpose of the Atomic Energy Act to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes, Picker has become one of the major licensees of the Commission for the private development and utilization of atomic energy. Picker's Nuclear Division is directly responsible for developing and perfecting to the point of practical feasibility equipment for use in the utilization of atomic energy. The development of the Dyna Camera is an outstanding example. This instrument satisfies a general health need of the public for a diagnostic tool capable of a variety of gamma ray imaging studies enabling the physician to locate and determine the extent of certain physical ailments with speed and reliability. The Commission's refusal to grant this application would do grave injury not only to Picker but also to its customers and to the American public at large.

5. Picker meets the eligibility tests prescribed by Section 153(c) of the Atomic Energy Act and by Section 81.30 of the Commission's regulations. Picker's operations are covered by licenses issued by the Commission pursuant to Sections 62, 63 and 81 of the Atomic Energy Act (42 U.S.C. §§2092, 2093 and 2111). Picker and its subsidiaries have

Anger describing that camera is attached hereto as Exhibit E. Available correspondence indicates that, initially, Atomic Energy Commission patent officials took the position that the Commission should file a patent application on this invention, and the Government should retain the rights under it, but that shortly thereafter, after certain representations had been made by University of California officials (Exhibit F), they apparently were of the view that it would be sufficient if the Government were to retain only a non-exclusive royalty-free license for governmental purposes (Exhibit G). In any event, in the transaction formally concluded with Anger, the rights actually retained by the Government were considerably broader than a non-exclusive royalty-free license for governmental purposes only. These rights were incorporated in a formal license, dated April 29, 1959 (a copy of which is attached hereto as Exhibit H) whereby Anger granted to the Government "an exclusive, irrevocable, royalty-free license, with the sole right to grant sublicenses . . . for use in the production or utilization of special nuclear material or atomic energy, and a non-exclusive, irrevocable, royalty-free license . . . for governmental purposes". On January 2, 1958, more than a year before he executed this formal license to the Government, Anger filed a patent application which resulted in

with the Commission, which in substance stated that Nuclear-Chicago would take a license if, but only if, it could obtain an exclusive license; and subsequent letters attest to the effectiveness of this effort (Exhibits K-1 through K-4 attached hereto).

9. On March 19, 1962, Anger executed a new license to the Government (Exhibit L hereto). In the license Anger recites that the license of April 29, 1959 "not only had accorded the Government a non-exclusive License as requested, but through mutual error . . . had accorded the Government . . . certain additional exclusive rights"; that the Government recognizes that a mistake was made and has indicated a willingness to accept a corrected non-exclusive license for governmental purposes; that the license dated April 29, 1959 is, with the Government's consent, being cancelled and revoked, and that Anger grants to the Government a non-exclusive, irrevocable royalty-free license for governmental purposes. On this instrument an official of the Commission stated concurrence in the revocation of the April 29, 1959 license to the Government and acceptance of the new license from Anger "in lieu and in place thereof".

10. After the purported enlargement of Anger's rights as described in paragraph 9 above, Anger concluded negotiations with Nuclear-Chicago, entering into an exclusive license agreement (subject to the Government's license

copy of that complaint is attached as Exhibit O. The complaint asks for a permanent injunction and an accounting for damages allegedly sustained because of the defendants' manufacture and sale of the Dyna Camera. The answer and counterclaim filed by Intertech, Inc. and Picker (copy attached as Exhibit P hereto) denied that the patent is valid, denied that it is being infringed, alleged certain misuses of the patent, and counterclaimed for a declaratory judgment that the patent is void, invalid, unenforceable, and not infringed. Anger and Nuclear-Chicago filed a reply (copy attached as Exhibit Q hereto). Various pre-trial discovery has taken place but the pre-trial proceedings in the case have not been completed. In the normal course of events it is to be expected that a substantial period of time will elapse before the case goes to trial, and substantially longer before court proceedings in the case, including appellate stages of the litigation, will be completed.

13. Picker and Nuclear-Chicago are vigorous competitors in the development of effective devices for medical diagnosis and treatment, which development has been and continues to be one of the truly great accomplishments in the peaceful uses of atomic energy. Nuclear-Chicago's Pho/Gamma Camera and Picker's Dyna Camera both use an array of phototubes, each of which is responsive to scintillations occurring in a large sodium-iodide crystal. Output

benefits of the work of Picker and other manufacturers and inventors. Thus the suppression of competition in this important area would shut off the American public from the benefits of the work and improvements made by Picker, as well as of the work and improvements made by others, notably by persons in Canada, Europe and Japan. This suppression would occur if the broad assertions of Anger and Nuclear-Chicago (which Picker, of course, disputes) concerning the validity and scope of Patent No. 3,011,057 were ultimately to be sustained. The infringement action in Connecticut involves heavy expense to Picker, as well as diversion of management time and effort, and inevitably tends to force up the price of Picker's Dyna Camera. It also involves long periods of risk and uncertainty for Picker, as well as infringement threats hanging over Picker's customers. Picker's development effort and sales programs are impeded. The pendency of the infringement controversy in the courts thus tends to have a destructive effect on competition. The extensive period of time which must be expected to elapse before a final appellate adjudication of the patent infringement case now pending in the District of Connecticut underscores the necessity of the Commission's taking prompt action at the present time to grant a license to Picker. This is indeed the most appropriate way for the Commission to protect the public interest by assuring that

work, they would nevertheless be placed at a serious disadvantage compared to users throughout the rest of the world. Moreover, depending on the interpretation given to the term "governmental purposes", it is estimated that in the United States the nongovernmental uses--and hence the scope of Nuclear-Chicago's asserted monopoly--might run as high as about 80 per cent of all the uses. This important area of medical technology vitally affects the public health and welfare. It is an area where exclusive control of technological improvement would be plainly inimical to the purposes and policies of the Atomic Energy Act. In this are not inhibited and restricted to a pace set by a single licensee claiming an exclusive license. The introduction of competition has already demonstrated that competition in this area can help substantially to bring better products to the market. Furthermore, if competitive conditions prevail, as the Commission should permit them to, then it is to be expected that many improvements as yet undiscovered or as yet not reduced to practice will be greatly accelerated.

16. In further support of the fact that the granting of a license is of primary importance to the conduct of the activities of Picker, Picker informs the Commission that a development expenditure which has already exceeded

per Dyna Camera. This is ten times the royalty of $750 which Nuclear-Chicago pays to Anger. Picker's list price (after a recent price increase) is at the present time about $50,000 per Dyna Camera. A $7,500 royalty thus represents nearly 15% of the present total list price. Moreover, Picker estimates that, even with a broad reading of the patent claims, only about one half of the value of the Dyna Camera could be asserted to be covered by the patent (that is, with certain features of the Dyna Camera being excluded). Accordingly, a royalty of $7,500 per Dyna Camera would represent approximately 30% of the value of that part of the system which Nuclear-Chicago and Anger claim to be the patented combination. Such royalty proposals are so prohibitively unreasonable and excessive that they appear to be aimed primarily at maintaining for Nuclear-Chicago a monopolistic position as to the United States civilian market and at depriving the public of the Dyna Camera at a reasonable price. In the interest of avoiding litigation and settling controversy, Picker has, without prejudice to its contentions, offered to pay a royalty of $1,500 per Dyna Camera; this offer has been rejected.

18. It is Picker's position that the purported divestiture and relinquishment of important property rights of the Government--as sought to be accomplished in the

Government's rights remain, and should be deemed to remain, at least as great as they were defined in the earlier April 29, 1959 license to the Government and that accordingly the Commission has at least "the sole right to grant sublicenses . . . for use in the production or utilization of special nuclear material or atomic energy". Moreover, with respect to this Government-funded invention, any allocation of rights to Anger greater than a non-exclusive license would appear to be contrary to public policy and contrary to the policy of the Atomic Energy Act. It is Picker's position that, on each and all of these grounds, the Commission should, in keeping with the policies of the Commission and of the United States Government, grant to Picker a non-exclusive royalty-free patent license covering Picker's activities.

19. But in any event--even, if all the matters set forth in paragraph 18 above were ultimately to be resolved contrary to Picker's position--it is submitted that the Commission should grant to Picker a patent license pursuant to Section 153 of the Atomic Energy Act, a license necessary to fulfill the vital health needs of the public. The facts establish that the statutory criteria for the Commission to issue a compulsory patent license, either under Section 153(a) and (b) or under Section

WHEREFORE, it is submitted that it is in the public interest that a patent license under Patent No. 3,011,057 be granted to Picker by the Commission promptly; and that the Commission should promptly take such steps and make such determinations as are appropriate to enable this matter to be resolved consistently with the public interest and the policies and purposes of the Atomic Energy Act.

Respectfully submitted,

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Attorneys for Picker Corporation

Appendix E.7
Compulsory License Application by Hewlett -Packard Co.

BEFORE THE ENERGY RESEARCH AND

DEVELOPMENT ADMINISTRATION AND THE

NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF	)
	)
	)
HEWLETT-PACKARD COMPANY	)

APPLICATION BY HEWLETT-PACKARD COMPANY FOR PATENT LICENSE UNDER U.S. PATENT NO. 3,601,609

Introduction

1. This application is made pursuant to Section 153 of the Atomic Energy Act, as amended (42 U.S.C. §2183), and Atomic Energy Commission Regulations contained in 10 CFR, Part 2, Subpart C, and 10 CFR, Part 81.

2. The applicant is Hewlett-Packard Company, a California corporation, having its principal place of business at 1501 Page Mill Road, Palo Alto, California 94304.

3. Hewlett-Packard hereby applies for a compulsory patent license under United States Patent No. 3,601,609, issued to William L. Yauger, Jr. on August 24, 1971, and entitled "Ionization Detection Device Using a Nickel-63 Radioactive Source." A copy of the patent is attached as Exhibit A.

Hewlett-Packard Proposes to Use the Patent License in the Field of Analytical Instrumentation

6. Hewlett-Packard manufactures and sells analytical instruments known as gas chromatographs. These instruments are equipped with a particular type of ionization detector called an electron capture detector. Electron capture detectors are the devices in issue in this application.

7. Electron capture detectors operate on the principle that certain compounds have an ability to "capture" electrons. The detectors contain the radioactive isotope Nickel-63 within a small chamber with an electric field across it. The radioactive particles bombard a carrier gas passing through the detector and ionize the gas. The electric field inside the detector causes the ions to migrate or drift to one electrode called an anode, resulting in measurable electric current at the anode. When an electron capturing type compound from a sample to be analyzed is mixed with a carrier gas, the molecules of the compound will capture electrons and prevent them from migrating to the anode. This results in a measurable reduction of the electric current at the anode, and this fluctuation in ion current is a measure of how much electron capturing compound was in the sample.

8. Nickel-63 electron capture detectors have the advantage

instructions to customers for completing an AEC license application are attached as Exhibit E.

The Patent Under Which a License is Sought Covers High Temperature Nickel-63 Detectors of Primary Importance in the Use of Atomic Energy in Analytical Instrumentation [10 CFR §81.82(a)]

10. The U.S. Patent Office determined that the subject matter of patent No. 3,601,609 is "useful in the production or utilization of special nuclear material or atomic energy." The Security Group of the Patent Office required that the patentee submit an affidavit under Section 152 of the Atomic Energy Act (42 U.S.C. §2182) describing the facts surrounding the making and conception of the invention. The Security Group determination and the patentee's affidavits are contained in the file history of the patent and attached hereto as Exhibit K.

11. The Yauger patent No. 3,601,609 is owned by Tracor, Inc., a Texas corporation, having its principal place of business at 6500 Tracor Lane, Austin, Texas. The patent issued from an application originally owned by Micro-Tek Instruments, Baton Rouge, Louisiana. The patent application was assigned to Tracor when Tracor acquired the business of Micro-Tek Instruments.

12. The Yauger patent (Exhibit A) states that in accordance

Nickel-63 foil and the high temperature heater cartridges. Copies of the FDA contract and AEC correspondence illustrating the FDA detector design are attached as Exhibits J-1 and J-2.

The Licensing of the Yauger Patent is of Primary Importance to the Conduct of the Activities of Hewlett-Packard [10 CFR §81.82(b)]

14. Hewlett-Packard and Tracor have litigated the Yauger patent in the Seventh Circuit. On July 7, 1975, the Seventh Circuit Court of Appeals held the patent valid and infringed by Hewlett-Packard. A copy of the Court's decision is attached as Exhibit L. The decision will become effective upon issuance of the mandate by the Court of Appeals.

15. A compulsory license under the Yauger patent is needed for Hewlett-Packard to continue in the high temperature electron capture detector business. The effect of the impending permanent injunction in the Seventh Circuit will be to preclude Hewlett-Packard from manufacturing, using, and selling the high temperature Nickel-63 electron capture detectors described in paragraph 9 above. Thus, Hewlett-Packard will not be able to continue its significant research and development efforts and contributions relating to the medical, industrial, and agricultural fields, as described in paragraphs 17 and 18 below. These fields rely on Nickel-63 detectors covered by the Yauger patent.

Hewlett-Packard has been a major supplier of Nickel-63 detectors and, by virtue of its extensive technical and research staff, has been at the forefront of discovering new applications for utilization of Nickel-63 electron capture detectors and educating users in those new applications.

17. Nickel-63 detectors for gas chromatographs have found widespread and significant application for research and development purposes, and in medical, industrial, and agricultural fields, commensurate with the objectives of the Act set forth in 42 U.S.C. §§2011, 2013, and 2111. A few uses in environmental and toxicological analysis are described in a technical paper attached as Exhibit F-1, and in the published articles referred to on page 7 of this paper. More particularly, Nickel-63 detectors are used to search for environmental contaminants that affect fish and other marine life, for example. Chemicals such as poly-chlorinated biphenyls and carbon tetrachloride are pollutants that may be found by Nickel-63 detector analysis, as shown in attached Exhibits F-2 and F-3. In the agricultural field, Nickel-63 detectors find application in analyzing compounds containing harmful residues of pesticides and herbicides used in the production of crops. For example, the herbicide Dalapon may be detected in corn fodder, as

attached Exhibit H. Hewlett-Packard sells gas chromatograph systems with Nickel-63 detectors to the FDA, the USDA, and numerous other Governmental agencies, as well as commercial users, as shown by the representative customer lists of Exhibit I-1 and I-2.

Hewlett-Packard Cannot Obtain a License From Tracor Under the Yauger Patent on Reasonable Terms [10 CFR §81.82(d)]

19. Tracor has granted licenses under the patent to five companies, including Nuclear-Chicago Corporation, Packard Instrument Company, Inc., Perkin-Elmer Corporation, and Varian Associates. These licenses are substantially identical. Each provides for the licensee to pay Tracor a patent royalty of forty dollars ($40) for each apparatus within the scope of the patent claims. Typical terms and conditions are contained in the Nuclear-Chicago license attached as Exhibit M.

20. Following the Seventh Circuit Court of Appeals decision described in paragraph 14 above, Hewlett-Packard offered to take a license from Tracor under the Yauger patent at a royalty rate of $40 for each apparatus sold after the issue date of the patent. The royalty proposed by Hewlett-Packard is identical to that granted by Tracor to its five present licensees. Discussions were held between Hewlett-Packard and Tracor attorneys on July 9, 11, 15, and 16, 1975.

royalty rate should also apply to detectors sold by Hewlett-Packard.

22. Hewlett-Packard submits that the facts of this case meet the statutory criteria for the grant of a compulsory patent license on terms not less fair than those granted to others by Tracor. These criteria, according to Section 153(e) of the Act [42 U.S.C. §2183(e)] and 10 CFR §81.82 are:

(1) the invention covered by the patent is of primary importance in the utilization of atomic energy;

(2) the licensing of such invention is of primary importance to the conduct of the activities of Hewlett-Packard;

(3) the activities to which the patent license are proposed to be applied by Hewlett-Packard are of primary importance to the furtherance of policies and purposes of the Atomic Energy Act; and

(4) Hewlett-Packard cannot otherwise obtain a patent license from Tracor on terms which are reasonable for the intended use of the patent.

Appendix E.8
AEC Compulsory Licensing Regulations

Subpart C—Procedure for Declaring Patents Affected With the Public Interest and for Licensing of Patents

§ 2.300 Scope of subpart.

This subpart prescribes the procedures for declaring a patent to be affected with the public interest pursuant to Section 153a of the Act, and for granting a license pursuant to Sections 153b(2) and 153e of the Act.

§ 2.301 Definition.

(a) "Patent owner" means the owner of a patent of record in the United States Patent Office.

PROCEDURE FOR DECLARING A PATENT AFFECTED WITH THE PUBLIC INTEREST

§ 2.302 Notice.

Prior to a declaration pursuant to Section 153a of the Act that a patent is affected with the public interest, the Commission will serve upon the patent owner a written notice of intent to declare the patent to be affected with the public interest.

§ 2.303 Request for hearing.

(a) On written request by the patent owner for a hearing, filed within 30 days after the service of the notice or such other time as the Commission may provide by the terms of the notice, the Secretary will issue a notice of hearing.

(b) Failure of the patent owner to request a hearing within the time specified in the notice may result in a declaration by the Commission that the patent is affected with the public interest. The Secretary will serve the declaration on the patent owner.

PROCEDURE FOR GRANTING A LICENSE PURSUANT TO SECTION 153b(2)

§ 2.304 Administrative examination of applications, notice to others, informal conferences.

An application for a license pursuant to Section 153b(2) of the Act, under a patent declared to be affected with the public interest shall be filed with the Secretary, and will be assigned a docket number. The Secretary will give notice of the filing of the application as required by law, and such additional notice as the Commission may direct. The applicant may be required to submit additional information, and may be requested to confer informally.

§ 2.305 Action on application.

(a) If the Commission proposes to deny an application, it will serve on the applicant a notice of denial, which will afford an opportunity to file within the time specified a demand for a hearing.

(b) If the Commission proposes to approve the application and issue a license, it will serve on the applicant and the patent owner a notice of intent to issue a license, which will specify the scope of the proposed license and afford an opportunity to file within the time specified a demand for a hearing.

§ 2.306 Request for hearing.

If either the applicant or the patent owner demands a hearing within the time specified in the notice, the Secretary will issue a notice of hearing. Failure of the applicant to demand a hearing within the time specified may result in a denial of the request for a license, and failure of the patent owner to demand a hearing within the time specified may result in the issuance of a license.

PROCEDURE FOR GRANTING A LICENSE PURSUANT TO SECTION 153c OF THE ACT

§ 2.307 Administrative examination of an application, notice to others, informal conferences.

An application for a license pursuant to Section 153c of the Act for a patent useful in the production or utilization of special nuclear material or atomic energy shall be filed with the Secretary, and will be assigned a docket number. The Secretary will give notice of the filing of the application as required by law, and such additional notice as the Commission may direct. The applicant may be required to submit additional information and may be requested to confer informally regarding the application.

§ 2.308 Notice of application.

Within thirty (30) days after the filing of the application, the Secretary will serve a copy of the application on the patent owner.

§ 2.309 Notice of hearing.

Within thirty (30) days after the filing of the application, the Secretary will serve on the applicant and patent owner a notice of hearing to be held not later than sixty days after the filing of the application.

ROYALTIES

§ 2.310 Royalties.

If the Commission grants a patent license pursuant to Section 153b or 153e of the Act, the patent owner shall be entitled to a reasonable royalty fee from the licensee pursuant to Section 153 of the Act. The royalty fee may be agreed upon by the patent owner and the licensee or, in the absence of an agreement, will be determined by the Commission pursuant to Section 157 of the Act.

Appendix E.9
Compulsory Licensing In Foreign Countries

List of Foreign Countries With
Some Form of Compulsory Licensing*

Table V. Working and Compulsory License

Under the International Convention as amended at Lisbon, application for compulsory license may not be made on ground of failure to work or insufficient working before the expiration of 4 years from the date of filing the patent or 3 years from the date of grant whichever period last expires.

Country	Required Within	From Date of	Should not be Discontinued for	Compulsory License Provision	Lisbon Amdt. Applies	REMARKS x - Designates condition at top of column applies
	1	2	3	4	5	6
African & Malagasy Union	3 years	Grant	3 years	x	x	
Algeria	No term given	------	------	x	x	
Antigua	No term given	------	------	x	-	
Argentina	2 years	Issue	2 years	-	x	
Australia	3 years	Grant	------	x	-	
Austria	3 years	Publn.of Grant	------	x	x	
Bahamas	No term given	------	------	x	x	
Belgium	1 year	Working elsewhere	1 year	-	x	
Bermuda	No term given	------	------	x	-	
Bolivia	2 years	Grant	1 year	x	-	Importation will meet requirements
Botswana	3 years	Grant	2 years	x	-	
Brazil	3 years	Grant	1 year	x	-	
British Guiana	3 years	Date of Sealing	------	x	-	
British Virgin Is.	No term given	------	------	x	-	

* From White and Ravenscroft, Patents Throughout the World, 28-31 (1972 supp.).

	1	2	3	4	5	6
Japan	3 years	Patent	3 years	x	x	
Jersey	3 years	Patent	------	x	x	
Jordan	3 years	Grant	------	x	-	
Jugoslavia	3 years	Grant	------	x	x	
Korea(South)	3 years	Patent	3 years	x	-	
Kuwait	3 years	Grant	2 years	x	-	
Lebanon	2 years	Patent	------	-	-	Importation forbidden
Lesotho	3 years	Grant	2 years	x	-	
Liberia	3 years	Grant	------	x	x	
Libya	3 years	Grant	------	x	x	
Luxemburg	3 years	Grant	------	x	-	
Malawi	3 years	Date of Sealing	------	x	x	
Malta	3 years	Grant	3 years	x	x	
Mexico	3 years*	Filing	6 months*	x	x	* After first 3 years * See text
Monaco	3 years	Signature of Patent	3 years	x	x	
Montserrat	No term given	------	------	x	-	
Morocco	3 years	Filing	3 years	x	x	
Netherlands	3 years	Patent	------	x	-	
New Zealand	3 years	Grant	------	x	-	
Nicaragua	1 year	Grant	1 year	-	-	
Nigeria	3 years	Grant	------	x	x	
Norway	3 years	Grant	------	x	x	
Pakistan	4 years	Patent	------	x		
Panama	20,40 or 60 mos.	*Patent	------	-	-	*5, 10, and 15 yr. patents respectively, Revalidations - no working
Paraguay	3 years	Grant	1 year	x	-	
Peru	2 years*	Patent	------	x	-	*2 years extension possible
Philippines	3 years	Issue	------	x	x	

Appendix E.10
Proposed Compulsory Licensing Provisions of S.622

The Energy Policy and Conservation Act, Public Law 94-163, was enacted December 22, 1975, to increase domestic energy supplies and availability, to restrain energy demand, and to prepare for energy emergencies. During Congressional consideration of the bill (S-622) which led to this Act, a mandatory licensing provision (Section 547) was contained under a subheading entitled "Application of Advanced Automotive Technology."[1/] This subheading, along with the mandatory licensing provision, was deleted[2/] prior to enactment of the Act. The deleted mandatory licensing provision is significant because it does reflect the thrust of recent thinking by some members of Congress on the mandatory licensing issue. This deleted provision read as follows:

> "SEC. 547. (a) Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 shall apply to any contract (including any assignment, substitution of parties, or subcontract thereunder), grant, or obligation guarantee entered into, made, or issued by the Secretary under this part to the same extent that such section applies to contracts of the Energy Research and Development Administration under the Federal Nonnuclear Energy Research and Development Act of 1974. For purposes of applying such section with respect to this part, any reference to the 'Administrator' or to the 'Administration' shall be deemed to be a reference to the 'Secretary' or to the 'Department of Transportation', respectively.

1/ S. 622, Title V, Part B, Conference Report No. 94-516.

2/ Deleted by the House- Cong. Rec., Dec. 15, 1975, H.12555; deletion concurred in by the Senate - Cong. Rec., Dec. 17, 1975, S22526.

"(A) the unavailability of the right under such patent may result in a substantial lessening of competition or a tendency to create a monopoly in and line of commerce in any section of the country or

"(B) the availability of such right may result in a substantial increase in competition or a tendency to reduce a monopoly in any line of commerce in any section of the country, and such right is not being significantly utilized in the production of automobiles for commercial purposes.

"(3) Whenever a district court of the United States receives a certification of the Secretary pursuant to paragraph (1), such district court may, after a de novo hearing, issue an order requiring the person owning or controlling the patent which is the subject of such certification to license such patent at such reasonable royalty and on such terms and conditions as the court may determine.. If a right under such patent is made available by such district court pursuant to certification by the Secretary under subparagraphs (A)(i) and (B) of paragraph (1), the order may also provide that such right shall also be available, at such reasonable royalty and on such terms and conditions as the court may prescribe, to any other person, if the court determines that such person is engaged in fostering the development or expeditious commercial application of advanced automotive technology, and that such right will contribute to such development or application.

In the Conference Report (Senate Report No. 94-516), this section was discussed in the following manner:

The authority to require mandatory licensing of patents is limited.-- The conference sutstitute incorporates by reference section 9 of the Federal Nonnuclear Research and Development Act of 1974 (which is substantially identical to the corresponding provisions of the Senate amendment) and limits the mandatory licensing authority to two instances:

(a) where reasonably necessary to contribute to the development of advanced automotive technology pursuant to grants, contracts, or obligation guarantees provided under this part or to the commercial application thereof; or

(b) where reasonably necessary to provide for the expeditious commercial application of advanced automotive technology for purposes of complying with automobile stand-

giving interested persons an opportunity to present views, the Secretary must determine that a right under a United States letters patent is:

(1) not otherwise reasonably available (paragraph (b)(1)(A));

(2) reasonably necessary to satisfy the development or commercial application conditions set forth in either paragraph (b) (1) (A) (i) or paragraph (b) (1) (A) (ii); and

(3) there is no other reasonable method to achieve such development or commercial application.

After making these determinations, subject to the provisions of paragraph (b) (2), the section provided that the Secretary shall certify such determinations to a district court. The district court is given the discretionary authority, after a de novo hearing, to issue an order requiring the patent owner to license the subject patent at a reasonable royalty and under such terms and conditions as the court may determine. This court order may also provide that not only the applicant, but any other person may obtain a license on such terms as the court may prescribe if such other person is engaged in fostering the development or commercialization of advanced automotive technology and that such license will contribute to such end.

In comparing the procedures for mandatory licensing under those statutes which permit such actions, with those of the deleted mandatory licensing provision (Section 547), the following differences are noted:

It is significant to note, in paragraph (b)(1)(A)(ii) that the mandatory licensing provision was recited to be applicable to the expeditious commercial application of advanced automotive technology in order to comply not only with standards defined in this Act, but other Federal automobile standards. Thus, this provision was intended to reach beyond the scope of the standards which were prescribed by this Act. It is also significant to note that the Secretary is required, in paragraphs (b)(2)(A) and (b)(2)(B) to make a determination of the effects of refusing or granting a license on competition and the tendency to create a monopoly. This kind of determination, involving complex economic and legal issues, is typically made by a court of law in an antitrust action.

Appendix E.11
Contractor Study of Compulsory Patent Licensing

APPENDIX E.11

A STUDY ON MANDATORY PATENT LICENSING

It is the intent of this study to increase the base knowledge of the need for and the effect of mandatory licensing of patents in the energy field in accomplishing the purpose of ERDA's legislative enactments. "Mandatory licensing" can broadly be defined as requiring the patent owner to forego the injunctive remedy provided by Title 35 of the U.S. Code against infringing acts of another. Any United States patent held by any party, regardless of whether it was the result of private or Government sponsored research, would be subject to mandatory licensing.

The Contractor is to identify, collect, and analyze data and information, over a period of approximately four months, which will increase the base of knowledge of the need for and effect of mandatory patent licensing in accomplishing the purpose of ERDA's legislative enactments.

In particular, the Contractor is to review the principles underlying mandatory licensing, identify the policy issues surrounding the question of mandatory licensing, and analyze the effect of mandatory licensing on obtaining a proper balance of the interests of the public. Data and information should be collected which would be helpful in answering the following questions and presented in a format productive to a comparative analysis of their relative importance in determining whether the mandatory patent licensing best supports the overall public interests:

A. What is the impact of the injunction remedy in patent infringement cases? What is the frequency of injunctive remedies - temporary restraining orders, preliminary injunctions, and permanent injunctions - in patent infringement cases? What is the impact of the injunctive remedy on technology transfer arrangements such as patent cross licensing? What is effect of injunctions on the affected parties? What is the impact of the injunctive remedy in controlling access to patented technology? What is the value of the injunctive remedy for patent infringement in the energy field?

B. What is the availability of the injunctive remedy - temporary resulting order, primary injunctive and permanent injunctive - in patent infringement cases? What is the availability of mandatory licensing in the judicial exercise of discretion to deny an injunction for patent infringement under existing law? What is the availability of mandatory licensing in the judicial exercise of discretion to order mandatory licensing as a remedy for antitrust or unfair trade violations? What is the availability of mandatory licensing in specific technologies

(iii) What is the impact and effect of mandatory licensing on the capital expenditures necessary to commercialize inventions (that is, bringing patented inventions to the market place)? What effect does mandatory patent licensing have on the commercial utiliztion of inventions? Does mandatory licensing impede or promote the further development and commercialization of inventions; under what conditions and circumstances? Is the substantial investment needed to commercialize inventions over and above the development costs affected by mandatory patent licensing? Do the terms and conditions of such mandatory licensing enable recoupment and commercialization costs? To what extent, if any, does mandatory licensing mitigate the necessity of the private sector to undertake long-term capital commitment for long range programs, investment and marketing plans, competitive research, etc.? Does mandatory licensing encourage or discourage private investments in the commercialization of patented inventions? Does mandatory licensing impact the diffusion of patented inventions into the market place? Does mandatory licensing impact the availability of patented inventions for new products for the market place? Would mandatory licensing result in technology and product stagnation?

(iv) What is the impact and effect of legislative mandatory licensing on government procurement policies? What has been its impact on procurement activities of the Atomic Energy Commission and the Environmental Protection Agency? What is the effect of mandatory licensing on background procurement policy? Does mandatory licensing impact ERDA's mission to get new energy sources to the market place? Do government R&D procurement policies with mandatory licensing tend to encourage or hurt private investment dollars in the same research and development area?

(v) What is the impact and effect on the nature, kind of business and nature of technology? Who would be principally affected in gaining access to or sharing patented technology if statutory mandatory licensing is enacted in the energy field? Are differing effects ascertainable between small versus large business by kinds of industry or kind of technology? What effect would mandatory licensing have on the existing competitive relationship between large and small companies; (i.e., would it tend to strengthen or weaken the position of one at the expense of the other?)

Appendix E.12
Panel Study of Patent Policy and Compulsory Patent Licensing

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