

# Michigan Law Review

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Volume 56 | Issue 5

---

1958

## Atomic Energy - Patents - Patent Aspects of Domestic Law, Euratom, and the International Atomic Energy Agency

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### Recommended Citation

Peter H. Hay, *Atomic Energy - Patents - Patent Aspects of Domestic Law, Euratom, and the International Atomic Energy Agency*, 56 MICH. L. REV. 770 (1958).

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ATOMIC ENERGY—PATENTS—PATENT ASPECTS OF DOMESTIC LAW, EURATOM, AND THE INTERNATIONAL ATOMIC ENERGY AGENCY—With the growing importance of atomic energy, conventional legal concepts must be adapted and remodeled to fit new situations. In the area of patent law, the traditional notion that the inventor's reward should be a legal monopoly in the invention, in the form of a patent, has to be reconciled with the need for wide dissemination of technical information. The need for se-

crecy, for government control over weapons, and for cooperation with other countries affects the atomic patent system. These factors are reflected in the Atomic Energy Act of 1954 and in the agreements establishing two international organizations concerned with atomic energy: the European Atomic Energy Community (EURATOM) and the International Atomic Energy Agency. It is the purpose of this comment to sketch some of these patent provisions.

### I. *Patents in United States Atomic Energy Law*

A. *Domestic Law.* The Atomic Energy Act of 1946<sup>1</sup> removed from the patent system the broad areas of atomic weapons and fissionable materials.<sup>2</sup> In order not to discourage invention, provision was made for a statutory award to be granted by the Patent Compensation Board of the Atomic Energy Commission. In addition, the 1946 act gave the AEC broad powers to declare in the public interest a patent not within the above two areas and in which the inventor would normally have had a patent monopoly. The effect of such a declaration was to permit the use of the patent by the government<sup>3</sup> and by private licensees under section 7 of the act. Theoretically, at least, these provisions were for compulsory licensing.<sup>4</sup>

The 1954 act<sup>5</sup> revised the approach toward patents considerably; in fact, the patent provisions were among the ones most strongly contested in Congress.<sup>6</sup> The new law restored to the pat-

<sup>1</sup> 60 Stat. 755 (1946), 42 U.S.C. (1952) §§1801 to 1819.

<sup>2</sup> See Ooms, "The Patent Provisions of the Atomic Energy Act," 15 UNIV. CHI. L. REV. 822 (1948).

<sup>3</sup> This would have been possible anyway under 28 U.S.C. (1952) §1498.

<sup>4</sup> Ooms, "The Patent Provisions of the Atomic Energy Act," 15 UNIV. CHI. L. REV. 822 at 830 (1948). In actuality, the application of the "compulsory licensing" provisions of the 1946 act proved more limited in scope than those of the 1954 act, if only for the reason that no §7 license was ever granted under it. Boskey, "Some Aspects of Atomic Power Development," 21 LAW AND CONTEMP. PROB. 113 at 120 (1956). See generally Boskey, "Progress and Patents in Atomic Energy: The Military and Civilian Uses," 34 TEXAS L. REV. 867 (1956); Beckett and Merriman, "Will the Patent Provisions of the Atomic Energy Act of 1954 Promote Progress or Stifle Invention?" 23 GEO. WASH. L. REV. 195 (1954).

<sup>5</sup> 68 Stat. 921 (1954), 42 U.S.C. (Supp. IV, 1957) §§2011 to 2231.

<sup>6</sup> Beckett and Merriman, "Will the Patent Provisions of the Atomic Energy Act of 1954 Promote Progress or Stifle Invention?" 23 GEO. WASH. L. REV. 195 (1954). The revisions in this area followed a message by President Eisenhower to "Liberalize the patent provisions . . . , principally by expanding the area in which private patents can be obtained to include the production as well as utilization of fissionable material, while continuing for a limited period the authority to require a patent owner to license others to use an invention essential to the peacetime application of atomic energy." 100 CONG. REC. 1924 (1954).

ent system all inventions except those in the weapons field and those conceived under Commission contracts.<sup>7</sup> All other inventions employing fissionable materials were thus made patentable.<sup>8</sup> Another major change was to extend the provision for awards to all atomic energy inventions upon application to the Patent Compensation Board.<sup>9</sup> Awards, mere substitutes for weapons and fissionable materials patents under the old law, now provide supplementary benefits in other areas and thus supply added incentive to invention by private enterprise.<sup>10</sup> This added stimulus is important because of the amount of prior art kept from public disclosure under Patent Office secrecy orders making the success of patent applications at times doubtful.

Perhaps the greatest single change in the new law is found in the compulsory licensing provisions.<sup>11</sup> Alternative procedures are provided, one by which the AEC can acquire a compulsory license for itself with a right to sublicense and one by which such a license may be acquired by a private applicant on his own initiative. In regard to the former, the tests to be met are stricter than the comparable test of "public interest" in the 1946 act. There now must be a finding that the invention is of primary importance for the production or utilization of fissionable material or atomic energy. In order to obtain a sublicense under the compul-

<sup>7</sup>As of November 26, 1957, some 1345 patents were held by the Commission and available for licensing on a non-exclusive, royalty-free basis. AEC, *PROGRESS IN PEACEFUL USES OF ATOMIC ENERGY* (July-Dec. 1957) 337 (1958). Some 680 licenses have been granted to private industry. *Id.* at 173.

<sup>8</sup>Even an invention having both an atomic weapon application and a civilian use is patentable, although only with regard to the civilian application. Boskey, "Some Aspects of Atomic Power Development," 21 *LAW AND CONTEMP. PROB.* 113 at 118 (1956).

<sup>9</sup>Atomic Energy Act of 1954, §157, 68 Stat. 947 (1954), 42 U.S.C. (Supp. IV, 1957) §2187.

<sup>10</sup>Proceedings before the Board are subject to judicial review so that, especially in cases where the award is a substitute for a patent in the weapons area, the result will be the same as if the owner would have had to proceed before the Court of Claims under 28 U.S.C. (1952) §1498.

<sup>11</sup>A wide range of views on this subject was expressed during the debate. Hearings before the Joint Committee on Atomic Energy on S. 3323 and H.R. 8862 To Amend the Atomic Energy Act of 1946, 83d Cong., 2d sess., p. 129 (1954). Compulsory licensing was opposed because of its questionable constitutionality. Beckett and Merriman, "Will the Patent Provisions of the Atomic Energy Act of 1954 Promote Progress or Stifle Invention?" 23 *Geo. Wash. L. Rev.* 195 (1954); comment, 43 *Geo. L. J.* 221 (1955). Small enterprises opposed compulsory licensing arguing that the benefit of a patent monopoly under normal patent procedures is the way by which ingenuity and initiative can offset the greater financial resources of larger corporations. Karl P. Cohen in Hearings Before the Joint Committee, *supra* this note, at 421. Yet the view prevailed that it would be beneficial to retain some compulsory licensing features for a limited time. 100 *CONG. REC.* 14852 to 14873 (1954). The five-year limitation (to September 1, 1959) of §153(h) of the act was put in by the House, over the Senate's preference for a ten-year term, probably yielding to small business. 100 *CONG. REC.* 12002, 12003 (1954).

sory license acquired by the AEC, the applicant must show that the license is of primary importance to his activities. Under the alternative procedure, private applicants may acquire a compulsory license after a finding by the AEC that the granting of the license is of primary importance to the furtherance of the objectives of the act.<sup>12</sup> The fears of those opposing compulsory licensing thus found satisfaction in strict statutory requirements. Moreover, the AEC appears inclined to exercise its compulsory licensing powers sparingly.<sup>13</sup>

In order "to keep the Commission fully and currently aware of all technology in the field of atomic energy,"<sup>14</sup> section 151(c) requires that all inventions be reported within ninety days. The requirement is not new but constitutes a liberalization of the sixty-day period under section 11(a)(3) of the 1946 act.<sup>15</sup>

Two major areas are inadequately dealt with in the 1954 act, viz., the problem of patents arising out of inventions conceived while under a Commission contract or other relationship with the Commission,<sup>16</sup> except if waived by the Commission, and the problem of registration abroad of patents held by the Commission. As to inventions conceived while under Commission contract or while maintaining a relationship with it, the language of the act theoretically prevents the great majority of applicants from obtaining a patent unless the AEC makes the admittedly difficult decision<sup>17</sup> to waive the government's interest.<sup>18</sup> Absent such waiver, the Commission's suggestion to a licensee concern-

<sup>12</sup> The applicable regulations are: Commission-owned licenses: 10 C.F.R. (Supp. 1957) §§81.10 to 81.12; conditions with regard to licenses of patents, id., §§81.20 to 81.22; patents not yet declared to be of public interest, i.e., compulsory licensing upon the initiative of a third party, id., §§81.30 to 81.33.

<sup>13</sup> General Counsel Mitchell of the AEC stated that "The compulsory licensing provisions of §153 are deemed by the Commission to establish a reserve power. It is not anticipated that this authority will be invoked except under compelling circumstances." Hearings before the Joint Committee on Atomic Energy on Development, Growth, and State of the Atomic Energy Industry, 84th Cong., 2d sess., p. 194 (1955).

<sup>14</sup> H. Rep. 2181, 83d Cong., 2d sess., p. 25 (1954).

<sup>15</sup> Alternatively, the inventor may file a patent application rather than report in which case the AEC will be notified of the invention by the Patent Office pursuant to §151(d).

<sup>16</sup> Atomic Energy Act of 1954, §152, 68 Stat. 944 (1954), 42 U.S.C. (Supp. IV, 1957) §2182. The underlying motive for the section was to prevent the 15,000 firms which had been engaged in atomic work for the government from securing patents on inventions conceived while in the government's employ. Address by Rep. Cole, reprinted in 100 CONG. REC. A5858 (1954).

<sup>17</sup> See statement by AEC General Counsel Mitchell in Hearings before the Joint Committee on Atomic Energy on Development, Growth, and State of the Atomic Energy Industry, 84th Cong., 2d sess., pp. 197-199 (1955).

<sup>18</sup> Legislative history points to the conclusion that the section was never intended

ing the feasibility of a project,<sup>19</sup> or a letter addressed to the AEC,<sup>20</sup> not to mention licenses, including access permits to restricted data,<sup>21</sup> may be relationships within the meaning of the act and preclude private patent ownership.<sup>22</sup> An additional shortcoming of the act is its failure to give direction or encouragement to the AEC in the acquisition of foreign patent rights on its own patents. While an American manufacturer may find himself barred from foreign markets because of the danger of infringement of patents issued abroad to foreign inventors, the filing of patent applications abroad is left merely to the discretion of the AEC in cases where it holds the patent right.<sup>23</sup> To remedy this unsatisfactory situation it has been suggested that, short of repeal of the atomic patent provisions in their entirety, the AEC should, in all cases where it holds the patent rights but does not intend to file abroad, grant the original inventor such an interest in the patent as would enable him to protect his foreign interests by filing an application.<sup>24</sup>

In regard to enforcement of the patent provisions, awards may be denied for failure to comply with reporting requirements;<sup>25</sup> for the same reason, access permits or licenses may be

to reach inventions under research or commercial licenses. 100 CONG. REC. 13783 and 14344 (1954).

<sup>19</sup> Boskey, "Some Aspects of Atomic Power Development," 21 LAW AND CONTEM. PROB. 113 at 129 (1956).

<sup>20</sup> Ooms, "Revision of the Patent Provisions—Good or Bad?" NATIONAL INDUSTRIAL CONFERENCE BOARD, CONFERENCE ON ATOMIC ENERGY IN INDUSTRY 279 at 284, 285 (1954).

<sup>21</sup> Boskey, "Some Aspects of Atomic Power Development," 21 LAW AND CONTEM. PROB. 113 at 129 (1956).

<sup>22</sup> Some, unfortunately not all, of these questions have been solved, mainly because of the AEC's initiative. Thus, the AEC has determined that with the Access Permit Program it may exercise waivers in advance. AEC, EIGHTEENTH SEMI-ANNUAL REPORT 102 (1955). In its regulations, 10 C.F.R. (Supp. 1957) §§83.1, 83.2, it made extensive provisions for waiver, reserving actually only the area of written agreements between the AEC and third parties.

<sup>23</sup> See Report of the Panel on the Impact of Peaceful Uses of Atomic Energy to the Joint Committee on Atomic Energy, 84th Cong., 2d sess., vol. 2, p. 661 and vol. 1, p. 147 (1956).

<sup>24</sup> WORKSHOPS ON LEGAL PROBLEMS OF ATOMIC ENERGY 1956, SUMMER INSTITUTE OF INTERNATIONAL AND COMPARATIVE LAW, University of Michigan Law School, Workshop V, p. 92. The AEC has recently stated that only 1% of the atomic energy patents are under Patent Office secrecy orders, thus permitting communication of patents domestically and the filing of applications abroad on 99% of the privately held patents. The AEC also stated that it is filing foreign applications for patents held by it. AEC, PROGRESS IN PEACEFUL USES OF ATOMIC ENERGY (July-Dec. 1957) 173-174 (1958). The problems raised by the omissions in the Atomic Energy Act in this area may therefore not be serious for practical purposes.

<sup>25</sup> See *In re Grossman*, Docket No. 7, 235 ATOMIC IND. REP. 641 (1955).

revoked,<sup>26</sup> a patent already issued may be invalidated,<sup>27</sup> and criminal liability may be incurred for willful violation.<sup>28</sup>

*B. Agreements for Cooperation.*<sup>29</sup> The international activities authorized by the 1954 act are generally conditioned upon conclusion of a bilateral agreement of cooperation between the United States and a foreign nation.<sup>30</sup> At present, some thirty-nine such agreements are in force, of which twenty-nine provide for cooperation in atomic research and only ten for cooperation in the development of power.<sup>31</sup> Four types of agreements should be noted in connection with atomic energy patents: the broad cooperative agreements for exchange of classified information and reciprocal cooperation, such as the agreements with the United Kingdom and Canada;<sup>32</sup> agreements for the development of power involving communication of restricted data, such as the agreement with Belgium;<sup>33</sup> power agreements involving unrestricted data, such as the one with Norway;<sup>34</sup> and agreements, such as the one with New Zealand,<sup>35</sup> providing solely for cooperation in atomic research.

The British and Canadian agreements distinguish unclassified from classified inventions and discoveries. In connection with the former, provision is made for transfer by either party of all

<sup>26</sup> 10 C.F.R. (Supp. 1957) §§50.100, 70.61(b).

<sup>27</sup> This question has not yet been litigated. See Boskey, "Some Aspects of Atomic Power Development," 21 LAW AND CONTEMP. PROB. 113 at 125 (1956).

<sup>28</sup> Atomic Energy Act of 1954, §223, 68 Stat. 958 (1954), 42 U.S.C. (Supp. IV, 1957) §2273.

<sup>29</sup> See generally Boskey, "Patent Licensing Problems in International Atomic Energy Development," 39 J. PAT. OFF. SOC. 554 (1957).

<sup>30</sup> The Atomic Energy Act of 1954 provides for agreements of cooperation in the case of cooperation with other countries (§123), international cooperation in the restricted data field (§144), and participation in an international atomic energy pool (§124). Provision is also made for "international arrangements" in §121 which do not require an agreement for cooperation. An international arrangement within the meaning of the act [§11(k)] includes treaties and executive agreements approved by Congress.

<sup>31</sup> AEC, TWENTY-SECOND SEMI-ANNUAL REPORT (July 1957) cites, at p. 16, a total of 36 agreements in force. Since then further agreements were negotiated with Ecuador [103 CONG. REC. 7464 (1957)], Iraq [103 CONG. REC. 7951 (1957)], Nicaragua [103 CONG. REC. 9240 (1957)], Brazil [103 CONG. REC. 12060 (1957)], Peru [103 CONG. REC. 11460 (1957)], Spain [103 CONG. REC. 13776 (1957)]. An agreement with the Federal Republic of Germany on Behalf of Berlin [103 CONG. REC. 9765 (1957)] was concluded after amendment of the Atomic Energy Act. P.L. 85-14, Sept. 2, 1957, 71 Stat. 11. In December 1957, a total of 39 agreements were reported in force without, however, a listing of the particular countries. AEC, PROGRESS IN PEACEFUL USES OF ATOMIC ENERGY (July-Dec. 1957) 190 (1958).

<sup>32</sup> T.I.A.S. 3321 (1955), T.I.A.S. 3304 (1955) respectively. Also see agreement with Australia, 102 CONG. REC. 11430 (1956).

<sup>33</sup> T.I.A.S. 3301 (1955).

<sup>34</sup> 103 CONG. REC. 2519 (1957). Its provisions in this area are the same as those in the agreements with Brazil, Peru, and Spain, note 31 supra.

<sup>35</sup> 102 CONG. REC. 10403 (1956).

rights to the inventions, discoveries and patent applications in the country of the other, retaining only a non-exclusive, royalty-free license. Two limitations should be noted: (1) the provision covers only inventions employing information communicated under the cooperation agreement, and (2) the other government, its agency or a corporation controlled by it, must own an interest in the invention. Thus, individuals and private enterprises are not directly affected.<sup>36</sup> A further provision affords private parties national treatment with respect to licensing under patents owned by the other government in the latter's own country or in third countries. While classified inventions are subject to all the above provisions, the agreements contain additional provisions intended to assure the continued secrecy of these inventions. Thus, it is provided that no patent application containing classified information may be filed except under conditions mutually agreed upon. This also applies to the filing of applications in third countries not parties to the agreement.

The limited patent coverage of the Belgian agreement<sup>37</sup> is perhaps more typical of patent provisions in classified agreements. In its Article IX it simply gives the United States all rights, in its own country, in inventions made by any person under the jurisdiction of the Belgian Government as a result of the communication of restricted data to the Belgian Government. This covers inventions made while the agreement is in effect and in the subsequent three years. No provision is made for a non-exclusive, royalty-free license for the Belgian Government in this country, nor are there any provisions for an interchange of patent rights. The reason for the different approach, and why these provisions may be more typical than those in the British and Canadian agreements, may be that it contemplates a unilateral flow of information from the United States to Belgium rather than being designed for cooperation on a reciprocal basis.

Power agreements involving non-restricted data, typical of which is the agreement with Norway,<sup>38</sup> and the research agree-

<sup>36</sup> As a caveat to the statement, it should be remembered that individuals could be included indirectly. Thus if Canadian information is communicated to the United States and by the latter transmitted to a United States enterprise, an invention might become United States property because conceived under a relationship with the AEC. Foreign information transmitted directly to the United States enterprise may give rise to a United States property interest if the invention is either in the weapons field or is made use of under the compulsory licensing provisions.

<sup>37</sup> T.J.A.S. 3301 (1955).

<sup>38</sup> 103 CONG. REC. 2519 (1957).



ment concluded with New Zealand<sup>39</sup> may be considered together. Article III(c) of the Norwegian agreement excludes from its coverage all information which the parties are not permitted to communicate because it is privately owned.<sup>40</sup> The agreement with New Zealand which expressly excludes the communication of classified data makes no mention at all of patents. Seemingly, the explanation for their absence lies in the fact that inventions under unclassified information either have already been patented or can be patented abroad when conceived by an American inventor.<sup>41</sup> In either case, American interests in such inventions would be fully protected and would not require contractual safeguards similar to those found in the classified agreements.<sup>42</sup>

## II. *The European Atomic Energy Community (EURATOM)*

The unique character of the European Atomic Energy Community (EURATOM), as an international organization established by treaty among sovereign states,<sup>43</sup> whose member countries retain all sovereignty except in the limited areas delegated to the community, accounts for the complexity of its patent provisions.<sup>44</sup> It possesses certain "supranational" features,<sup>45</sup> exemplified by the transfer of certain powers to deal directly with individuals and is not limited to transactions with governments.

<sup>39</sup> 102 CONG. REC. 10403 (1956).

<sup>40</sup> Strictly speaking, this article does not seem to add much since privately-owned information and inventions could never have been communicated *unless* the government first acquired an interest in them either by compulsory licensing or because the invention was conceived under a relationship with the AEC. For the latter see note 22 *supra*.

<sup>41</sup> The problems involved in patenting abroad by an American inventor of inventions in which the AEC either has acquired an interest or which involve classified information were noted earlier. Cf. notes 23 and 24 *supra*.

<sup>42</sup> Two further international activities of the United States should be noted: Patent interchange agreements were concluded [e.g., Turkey, T.I.A.S. 3809 (1956); France, T.I.A.S. 3782 (1957)] providing for exchange of patent rights and technical information for defense purposes. These agreements were concluded under the United States Mutual Defense Programs and expressly exclude atomic energy. However, one atomic energy patent exchange agreement was concluded between the United States, United Kingdom, and Canada. AEC, TWENTY-FIRST SEMI-ANNUAL REPORT 104, 105 (1957). Patents developed during wartime cooperation and owned by the three governments as of November 15, 1955 are covered.

<sup>43</sup> Belgium, France, Germany, Italy, Luxembourg, and the Netherlands.

<sup>44</sup> Treaty establishing the European Atomic Energy Community (EURATOM) and connected documents, Secretariat of the Interim Committee for the Common Market and Euratom, Brussels (1957). The treaty went into effect January 1, 1958.

<sup>45</sup> Analogies can here be drawn to the supranational features of the European Coal and Steel Community. In this context see Bebr, "The European Coal and Steel Community: A Political and Legal Innovation," 63 YALE L. J. 1 (1953); MOSER, DIE UEBERSTAATLICHE GERICHTSBARKEIT DER MONTANUNION (1955).

A. *Acquisition and Dissemination of Information and Patents.* The provisions of the treaty dealing with the acquisition and dissemination of information and patents can generally be divided into three areas: (1) those dealing with the communication of information which is controlled by the community, (2) those dealing with the acquisition of information and patent rights by the community, and (3) those dealing with the dissemination of information and patents so acquired.

Articles 12 and 13 of the treaty cover communication of information including patents, utility models and the like which the community itself owns, is contractually authorized to make available, or in the case of mere information, is otherwise free to disseminate. The community must make this information available upon proper application. If information communicated to the community was restricted as to dissemination because of its classified nature, the restriction must be observed by the community.<sup>46</sup>

The provision for acquisition of information by the community concerning new patent applications, patents, and utility models<sup>47</sup> envisions the communication by the member state of the contents of a patent application made within its jurisdiction (if the owner consents), or the communication of the existence of a patent application (if the owner does not consent to the communication of its contents). If only the latter is communicated, the Commission, the community's executive organ, may require the communication of the contents of the patent after a period of eighteen months, thus, in effect, enabling the owner to delay communication of the contents of his patent. In addition, member states are required to communicate unpublished patent applications which do not deal with nuclear subjects but seem *prima facie* related. In such cases, the longer period of eighteen months from the filing of the application is allowed *ab initio*. Communication of the contents of patents or patent application under these rules does not entitle the community to make use of them, but is only for the purpose of documentation. In order to acquire the right to use, two alternative procedures are available. An owner may use an "amicable arrangement" to communicate patent infor-

<sup>46</sup> It should be noted that the last mentioned condition of art. 13 is reiterated in art. 24 dealing with classified information. The main difference between the communication of classified vs. non-classified information is that the former may be communicated only to a person or an enterprise which is not a "joint enterprise" as set up under the treaty on the condition that the respective state is used as an intermediary. For "joint enterprise" see note 49 *infra*.

<sup>47</sup> Treaty, note 44 *supra*, art. 16.

mation to the community directly and to license it to make use of the patent; member states and enterprises can use the community as an intermediary for an exchange among themselves.<sup>48</sup> Alternatively, the community can acquire the right to use, or to license a third party to use a patent by means of compulsory licensing. The provision for compulsory licensing differentiates between the conditions under which the community or its joint enterprises<sup>49</sup> are entitled to compulsory licenses and the conditions under which private persons or other enterprises may obtain like licenses. In the former case, it need only be shown that the granting of a license is "necessary to the pursuit of their own research or indispensable for the operating of their facilities." As to the second group of applicants, the requirements are more stringent. There must be a showing that (1) the needs for nuclear energy in the territories where the invention is protected have not been met, (2) that the owner of the patent has himself, or through his licensees, failed to remedy those needs, and (3) that the applicant would be able to fulfill those needs if granted a compulsory license.<sup>50</sup> As an important difference from the American system, the granting of a compulsory license to a third party<sup>51</sup> is thus made a matter of *strict necessity*, with the needs of the nuclear economy, as opposed to the needs of the applicant, the vital factor.<sup>52</sup>

The mechanics of the compulsory licensing process are extremely complicated. After the Commission has notified the patent owner<sup>53</sup> of its election to exercise its compulsory licensing powers,<sup>54</sup> two courses of action are open to the owner. He may propose a "compromise," which means a referral of the case to an arbitration committee.<sup>55</sup> Alternatively the owner may refuse

<sup>48</sup> Treaty, note 44 supra, art. 15.

<sup>49</sup> Treaty, note 44 supra, art. 17. A "joint enterprise" is an enterprise set up by the Community and enjoys independent international status within the community. Treaty, note 44 supra, arts. 45 to 51.

<sup>50</sup> Furthermore, if the patent be one not specifically involving a nuclear invention, two years must have elapsed before a compulsory license can be issued.

<sup>51</sup> A "third party" includes those enterprises not set up by the community, and private persons in the member states; this constitutes an analogy to the third party in the American compulsory licensing system.

<sup>52</sup> Licenses are on a non-exclusive, royalty-free basis just as in the American system.

<sup>53</sup> The mechanics for the grant or acquisition of a compulsory license are set forth in arts. 18 to 23 of the treaty, note 44 supra.

<sup>54</sup> The conditions for compulsory licensing are set out in art. 17 of the treaty, note 44 supra.

<sup>55</sup> The "compromise" is provided for by art. 20, the Arbitration Committee by art. 18 of the treaty, note 44 supra.

to invoke the arbitration process, thereby forcing the community to apply to the owner's government for the license. In the former case, the arbitration committee will have power to inquire whether the request of the Commission is in conformity with the compulsory licensing provisions. The decisions of the committee are final and have the force of *res judicata* unless appealed to the Court of Justice within one month. Here, the review power of the court is more limited than when reviewing decisions of the Commission with respect to granting licenses for the use of its own information. While in the latter case the court has "full jurisdiction" to review the decision,<sup>56</sup> it is restricted to a review of the "regularities of form" and the "interpretation given . . . to the provisions of this Treaty" when decisions of the arbitration committee are appealed.<sup>57</sup> The explanation seemingly lies in the fact that in the one case the Commission is an interested party while in the compulsory licensing case the owner and the Commission have previously been heard by an impartial body, the arbitration committee. Therefore, only the regularity of the administrative process need be reviewed. Where the owner refuses to permit arbitration or fails to invoke the arbitration provisions, the Commission may apply to the owner's state for the license. A hearing is required,<sup>58</sup> to be conducted by the member state, as to compliance with compulsory licensing provisions. The action of the state, both its refusal or its grant of the license, as well as its inaction may be appealed to the Court of Justice. Here, jurisdiction is broader than in the case of review of decisions of the arbitration committee.<sup>59</sup> Arbitration is compulsory for the Commission or the third party applying for a compulsory license.

<sup>56</sup> Treaty, note 44 *supra*, art. 144.

<sup>57</sup> Treaty, note 44 *supra*, art. 18, ¶2.

<sup>58</sup> Treaty, note 44 *supra*, art. 21, ¶2. It is interesting that the procedure provides for a utilization of the member state as an intermediary for the enforcement of requests of the Commission with respect to the communication of information and the granting of compulsory licenses. This is especially true in the case of an owner's refusal to submit to arbitration. The only case of direct enforcement is in the case of an award by the arbitration committee which, if not appealed, is directly enforceable under art. 164 of the treaty. When compared with the Coal and Steel Community, these provisions show less "supranationality" unless the acts of the arbitration committee be equated with the ordinary acts of the Commission and the phenomenon of the utilization of national enforcement procedures be explained by the analysis made earlier, *viz.*, that the community is an interested party.

<sup>59</sup> This follows by implication from art. 21, ¶5 of the treaty which gives the court jurisdiction to review the case with respect to the fulfilment of the conditions of art. 17 rather than restricting it to the review of the "regularities of form." The reason is again the need for a more searching review of the decisions of an interested party.

Once compulsory licensing has been decreed under either of two alternative procedures, the owner is entitled to "full compensation."<sup>60</sup> The meaning of "full compensation" presents an interesting question. The American law provides for "reasonable compensation" in the case of compulsory licensing<sup>61</sup> and for "just compensation" in the case of inventions in the weapons field.<sup>62</sup> Thus, while the American act distinguishes a taking (in the weapons area where no patent can be obtained) from the mere reduction of patent benefits (in the case of compulsory licensing), the EURATOM treaty speaks of "full compensation." This, semantically, suggests compensation for a taking in a situation of mere compulsory licensing.<sup>63</sup> Procedurally, ample provision is made to insure proper determination of full compensation. Should the parties fail to agree, resort may be had to the arbitration committee. The committee award is appealable to the court, again only on the limited grounds of irregularities of form or misinterpretation of the treaty. Should the court's judgment be unacceptable to the owner, the amount of compensation is to be determined by competent national agencies of the member states.<sup>64</sup> Furthermore, the decision of the agency or the arbitration committee is subject to revision after one year, if new facts<sup>65</sup> justify it.

B. *Provisions Concerning Security Safeguards.* A member state communicating the existence or contents of a patent application may request a particular security classification which will be automatically applied to the invention.<sup>66</sup> Such inventions are still subject to use, either with the consent of the owner or under the compulsory licensing system, with the qualification that the consent of the particular member state must be obtained. Consent

<sup>60</sup> Treaty, note 44 supra, art. 17(3).

<sup>61</sup> Atomic Energy Act of 1954, §157(c)(1), 68 Stat. 947, 42 U.S.C. (Supp. IV, 1957) §2187(c)(1).

<sup>62</sup> *Id.*, §157(c)(2).

<sup>63</sup> As a caveat it should be pointed out that the American distinction may be based on the particular coverage of that act, viz., weapons and compulsory licensing, so that the distinction perhaps should not be carried over into the interpretation of the EURATOM Treaty. Moreover, the term "full compensation," though contained in the official translation, is not contained in the original text of the treaty which speaks of "pleine indemnité."

<sup>64</sup> In connection with the considerations raised in note 58 supra, it is interesting to note that the court's determination is not finally binding on the owner in the area of compensation, again an indication of the less than supranational character of this treaty in comparison with that of the Coal and Steel Community. Considerations in this area may, of course, be the greatly diversified national patent laws which national jealousy did not permit to be harmonized.

<sup>65</sup> E.g., new economic circumstances or radically changed nuclear technology.

<sup>66</sup> Treaty, note 44 supra, art. 16.

may be refused only for reasons of national defense.<sup>67</sup> The Commission is charged with the responsibility of developing a security system to safeguard classified information. In recognition of the community's interest in inventions, the classification may be changed by the unanimous vote of the Council of Ministers and upon advice of the Commission.<sup>68</sup> In return for the availability of classified patents, the community assumes liability for any damage arising out of improper use or communication to unauthorized third persons.<sup>69</sup>

*C. The Community's Interest in the International Agreements of Members.* A distinction must be drawn between international agreements of the member states already in existence on the effective date of the treaty and those concluded thereafter. As to the former, no communication of patents need be made to the Commission if an agreement with a third country or an international organization precludes it.<sup>70</sup> Indeed, no member state may invoke the treaty in order to evade international obligations undertaken prior to the signing of the treaty.<sup>71</sup> In order to harmonize and centralize existing international agreements, member states are urged to negotiate with their treaty partners in an effort to cause a transfer of the rights and obligations under the agreements to the community.<sup>72</sup> Such a process would ordinarily bring about a new agreement consented to by the original parties and a qualified majority vote of the community's council of ministers.

<sup>67</sup> These provisions are of great importance inasmuch as the treaty does not specifically exclude weapons from the general area of atomic energy covered. Absent the above provision, national defense programs (such as the French nuclear defense program) would be endangered.

<sup>68</sup> Where the owner has been prejudiced by the classification or by a change of classification, art. 27 provides for compensation according to the laws of the member states. This is also true if the owner, under art. 26, is prevented from filing his patent outside the community. These compensation provisions are not applicable to the community itself and patents owned by it.

<sup>69</sup> Treaty, note 44 supra, art. 28.

<sup>70</sup> Bilateral agreements entered into by the United States with the six European countries after the signing and before the effective date of EURATOM commonly provide for such prospective transfer under certain conditions. See Article II of the Agreement with Germany, 103 CONG. REC. 9871 at 9873 (1957).

<sup>71</sup> Treaty, note 44 supra, art. 105, ¶1. Conversely, art. 105, ¶2 provides that the international obligation shall not be used to evade the Treaty if it was undertaken *between the signing and the ratification of the Treaty*. In the light of some European opposition to EURATOM, this provision was probably designed to curb a possible flourishing of bilateral agreements which could later be asserted against the treaty.

<sup>72</sup> Needless to say an international obligation undertaken before the signing of the treaty will continue to take precedence over it under art. 105, ¶1 if no agreement can be reached whereby the rights and obligations are assumed by the community.

Future international agreements between member states and third countries or international organizations in the field of atomic energy will be concluded by the Commission. Alternatively, the Commission may authorize the member state to conclude the agreement itself,<sup>73</sup> subject to the approval of the Commission.<sup>74</sup> The scope of the Commission's inquiry apparently is confined to the question whether the proposed agreement comports with the treaty. Its determination, like the decisions of the arbitration committee, is subject to limited review by the court.

### III. *The International Atomic Energy Agency*<sup>75</sup>

Under the Statute of the International Atomic Energy Agency, member states "shall" make available information acquired as a result of assistance rendered by the agency; furthermore, they "should" make available any other information they deem "helpful" to the agency.<sup>76</sup> Information so acquired, as well as information developed by the agency itself, must be made available to other members. No provision is made in the article requiring the agency to make information available<sup>77</sup> for the protection of the agency's patent interests in inventions developed with the information so communicated. Apart from the preceding requirements, the agency can furnish information as part of the assistance rendered by it under the "Agency Projects."<sup>78</sup> "Project Agreements" are required to contain a patent clause whereby the assisted country recognizes the agency's and the members' interest in patents resulting from the assistance rendered.<sup>79</sup> In order to

<sup>73</sup> Treaty, note 44 supra, art. 29. This is also applicable to contracts between the member states and nationals of a third country.

<sup>74</sup> Treaty, note 44 supra, art. 103. Arts. 29 and 103 are probably the only provisions in any international agreement whereby sovereign states virtually relinquish their right to conduct foreign relations, even if only in the limited area of atomic energy. This phenomenon is not paralleled by the otherwise more supranational Coal and Steel Community which can conclude agreements only for itself (not for the member states), as it did in the Agreement of Association with the United Kingdom.

<sup>75</sup> The Statute of the International Atomic Energy Agency is contained in IAEA/CS/13, Nov. 1, 1956. For a discussion of the statute, see Bechhoefer and Stein, "Atoms for Peace: The New International Atomic Energy Agency," 55 MICH. L. REV. 747 (1957). The United States joined the agency by passing the International Atomic Energy Agency Participation Act, P.L. 85-177, 71 Stat. 453 (1957).

<sup>76</sup> Statute, note 75 supra, art. VIII(B) and (A), respectively.

<sup>77</sup> Statute, note 75 supra, art. VIII(C).

<sup>78</sup> Agency Projects, provided for by art. XI of the statute, are projects whereby the agency renders assistance, or arranges for assistance to member states seeking it in regard to fissionable materials, and other "services."

<sup>79</sup> Statute, note 75 supra, art. XI(F)(5).

explain more fully these two alternative modes of communication of information and the patent questions arising therefrom, analysis must proceed in terms of the different sources of the information eventually supplied by the agency to the inventor country.

A. *Information Communicated by Member States.* Three distinct situations can be recognized here: information supplied voluntarily under Article VIII(B) which is also generally available; information supplied voluntarily under Article VIII(B) but supplied specially to the agency; and information supplied under the requirement to supply information resulting from assistance rendered by the agency.

Where the agency is provided information generally available, such as a scientific publication, the agency apparently does not acquire an interest in patented inventions conceived by a country to which it passed on the information, since the information could have been obtained elsewhere. Where information is voluntarily supplied by a member state, but under a special relationship with the agency, it seems probable that the communicating country will attach conditions to the dissemination, thus protecting its patent interests. Where it does not, the agency itself can probably attach such conditions in spite of its unqualified duty to make information available. This would seem so because the duty to make "available" need not be interpreted as a duty to allow the "use." Furthermore, the agency could communicate such information under a project agreement in which case the statute calls for the inclusion of a clause protecting the agency's patent interests.<sup>80</sup> The difficulty here is that it would be necessary to interpret the word "services" in the project agreements<sup>81</sup> to include "information."<sup>82</sup>

Where information or patents are supplied to the agency under a member's duty to make available all information and patents resulting from agency assistance, the agency's duty to make information available again cannot be interpreted to require authorization to use such information or patents. On the contrary, it would seem that the agency becomes the owner of patents so communicated; its duty to make information available would then at most be a duty to make known the *existence* of the patent,

<sup>80</sup> *Ibid.*

<sup>81</sup> Statute, note 75 *supra*, art XI(A) and (C).

<sup>82</sup> This problem is also raised by Bechhoefer and Stein, "Atoms for Peace: The New International Atomic Energy Agency," 55 MICH. L. REV. 747 at 770, note 98 (1957), with regard to the interpretation of "services" in art. XI(F)(3).



the use of which may be licensed under conventional processes of patent law. The only possible qualification is that the agency may have a duty to grant licenses, though there seems to be no reason to require that such a license should be royalty-free.

B. *Information Originating with the Agency.* When information originates with the agency, the situation is virtually the same as when information is voluntarily communicated to the agency without protective conditions attached and is passed on by the agency to an inventing country. Again the situation is one where dissemination must be made by virtue of the requirement to make information available, with no provision for the inclusion of a patent clause. Again, it seems that the agency's duty to make available is not so far-reaching as to require authorization to make use of the information. The agency should therefore be able to attach conditions to any communication it makes. Alternatively, it should be able to communicate the information pursuant to a project agreement and be protected by the latter's patent clause, as previously discussed.

Reasons for the very general treatment of the problems of information and patents in the statute, as compared to the far-reaching activities and powers of the EURATOM Commission, can be found in the different position occupied by the agency with regard to member states as well as in the fact that the safeguarding of patent interests can largely be handled contractually. Perhaps the basic reason, however, was a desire to leave the statute as free from details as possible, thus leaving greater freedom for policy shaping with the agency's board of governors which is composed of the atomically most advanced countries.<sup>83</sup>

### *Conclusion*

The above examination indicates the EURATOM provisions to be the most complicated in the field of atomic energy patents. The explanation lies in the nature of the community as an international organization composed of sovereign states. Like the American law, it relies on compulsory licensing to satisfy the need for dissemination of atomic information and patents, and thus cuts down on the conventional patent monopoly accorded inventors. Compared with the American law and EURATOM, the In-

<sup>83</sup> See Bechhoefer and Stein, "Atoms for Peace: The New International Atomic Energy Agency," 55 MICH. L. REV. 747 at 750, note 23 (1957).

ternational Agency has only very general provisions. This may be explained both by the fact that policy decisions were to be left to the board of governors, with the drafters of the statute only providing the framework, as well as by the fact that much of the agency's activity will be as an intermediary between states. The patent problem can thus often be handled contractually.

In the field of United States international activities, patent provisions are, for practical purposes, found only in the bilateral agreement for cooperation in the field of power development when classified data are communicated. They are not found in the unclassified power or the research agreements.

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