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# Controls Over Atoms-For-Peace Under Canadian Bilateral Agreements With Other Nations<sup>†</sup>

STEPHEN GOROVE\*

One of the challenging problems facing the modern world has been the establishment of acceptable international control procedures to assure that the formidable power of the atom will not be used for the destruction of mankind but will serve exclusively peaceful purposes.

Since the setting up of a world-wide authority with powers to ensure nuclear disarmament in an ideologically and politically divided world has met with endless impediments, many Western policy-makers have focused their attention on efforts to ensure that foreign nuclear assistance earmarked for peaceful purposes will not be diverted to military use. They have hoped that this procedure would not only be likely to slow down the tempo of proliferation of nuclear arms but, at the same time, might also constitute a useful step in the direction of a system of internationally executed nuclear arms control or disarmament.

In establishing international (foreign) control procedures over the peaceful uses of atomic energy, the major Western powers, led by the United States, would have preferred the multilateral route over the bilateral approach. However, shortly after the initiation of President Eisenhower's Atoms-for-Peace program, it became obvious that the establishment of the proposed International Atomic Energy Agency (IAEA) had a long way to go.<sup>1</sup> Thus the atomically advanced nations of the West decided to go ahead with the conclusion of bilateral agreements incorporating provisions for safeguards to ensure exclusively peaceful utilization of their atomic assistance to other countries.

This article is the outgrowth of a study and on-the-spot survey sponsored by the American Society of International Law involving international procedures and techniques developed to control the

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<sup>1</sup> See Gorove, "Humanizing the Atom: Establishment of the International Atomic Energy Agency," 3 N.Y.L.F. 245 at 246 ff. (1957).

peaceful uses of atomic energy. It discusses the control provisions of Canadian bilateral agreements which are, in many ways, typical of those concluded by Western nations.

The pattern of variables exhibited by the safeguards provisions of the Canadian bilaterals may conveniently be analyzed in terms of the objectives, methods, transfer, and sanctions of the control system. Generally, the respective provisions bear strong similarity to many bilateral agreements concluded by the United States and Great Britain, respectively, with other nations. This is in no way surprising since Washington, London, and Ottawa held several consultations to bring their safeguards procedures into general harmony not only among themselves but also with respect to the proposed control system of the IAEA in order to facilitate any future transfer of safeguards functions to that body.<sup>2</sup>

### I. OBJECTIVES AND SCOPE OF CONTROL

The over-all purpose of control under the Canadian bilaterals is to assure exclusively peaceful uses or "nondiversion" to military purpose (principle of "nondiversion") and, in line with this, to prevent unauthorized transfer (principle of "nontransfer").<sup>3</sup>

While there is no definition of the meaning of "peaceful" in contradistinction to "military" uses, military utilization would naturally include use for atomic weapons. Under the Agreement of December 11, 1957, with Germany, nondiversion is pledged by both contracting parties<sup>4</sup> and the same holds true under the terms of the Agreement of December 6, 1963, with India.<sup>5</sup> But whereas under the former the pledge extends to "identified materials"<sup>6</sup> (though not to information or unidentified materials, equipment, and facilities) supplied under the agreement,<sup>7</sup> by terms of the latter it extends only to fissionable materials produced in the respective power stations of the two countries.<sup>8</sup>

<sup>2</sup> The U.S. Atomic Energy Commission and the Department of State have persistently sought agreement from the other major powers supplying nuclear assistance to retain and implement safeguards rights in their bilateral agreements in a way compatible with the U.S. and IAEA systems. For details, see 3 McKinney and others *Review of the International Atomic Policies and Programs of the United States*, REPORT TO THE JOINT COMMITTEE ON ATOMIC ENERGY, 86th Cong., 2d Sess., 851 (1960).

<sup>3</sup> See, for instance, Agreements with: Australia, August 4, 1959 (391 U.N.T.S. 192), Arts. III(a), IV.1; Germany, Dec. 11, 1957 (Canada Treaty Ser. No. 29, 1957), Arts. III.A, IV.1; Pakistan, May 14, 1959 (425 U.N.T.S. 130), Arts. III(a), IV.1.

<sup>4</sup> Art. IV.1.

<sup>5</sup> Art. IX (Canada Treaty Ser. No. 10, 1963).

<sup>6</sup> "Identified material" means material (source material or special nuclear material or fuel) supplied under the Agreement, or special nuclear material derived from the use of such supplied material or produced in a nuclear reactor obtained pursuant to the Agreement. See Agreement with Germany, Dec. 11, 1957, Art. VI(g).

<sup>7</sup> Art. IV.1.

<sup>8</sup> Art. IX.

Under the agreement with Germany, the principle of nontransfer applies to both contracting parties and, in essence, signifies a ban on transfer to international organizations, or to third governments or to enterprises or individuals under the jurisdiction of third governments, unless the particular transfer is authorized.<sup>9</sup> Such authorization, however, is implied with respect to information, equipment (other than nuclear reactors), facilities, and materials supplied under the agreement, unless otherwise stipulated by the other party.<sup>10</sup> With respect to identified material after irradiation, there is no implied authorization, and any transfer of such to a third party for chemical processing or storage is subject to the prior written authorization of the supplying party.<sup>11</sup> While in the agreement with India nontransfer is pledged by both parties, it covers only nuclear materials used or produced in the nuclear power stations specified in the accord.<sup>12</sup> The Agreement of July 2, 1959, with Japan,<sup>13</sup> indicates further variations. By its terms, information obtained by either party may be transferred to a third party, unless otherwise specified at or before the time of supply.<sup>14</sup> The agreement further provides that, unless otherwise specified by the supplying party at or before the time of supply, materials, equipment, and identified material may be transferred to governmental enterprises of the receiving party and to persons under its jurisdiction subject, however, to the specific authorization by the recipient party. Equipment, other than nuclear reactors and materials obtained under the agreement, may be transferred beyond the jurisdiction of the recipient party unless otherwise specified by the supplier at or before the time of the initial delivery. Identified materials and nuclear reactors, however, may not be transferred beyond the jurisdiction of the recipient country without the prior consent of the supplying party.<sup>15</sup>

In addition to, and in line with, the major control objectives of nondiversion and nontransfer, some Canadian bilaterals also purport to accomplish certain lesser aims. For example, the agreement with Japan assures the supplying party option to purchase, for use for peaceful purposes only, any quantity of excess special nuclear material which has been derived from the use of identified material and is not needed for use by the recipient party. In addition, the agreement pledges consultation between the parties with respect to

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<sup>9</sup> Art. III(a).

<sup>10</sup> Art. II.3(a).

<sup>11</sup> Art. II.3(b).

<sup>12</sup> Art. X.

<sup>13</sup> 383 U.N.T.S. 262.

<sup>14</sup> Art. III(a).

<sup>15</sup> Art. III(b).

precautions with which identified material is to be guarded. The same bilateral also aims to ensure nonprocessing or nonalteration in form or content of irradiated materials unless written authorization has been given by the supplying party.<sup>16</sup> This is a very important provision since it is normally after chemical processing or other alteration that irradiated materials become most susceptible to diversion.

## II. ROUTINE CONTROL METHODS

Most of the Canadian bilaterals, not including those concluded with the United States and Great Britain, confer certain "safeguards rights" on the supplying country (or countries if both are suppliers) in order to enable such country to assure itself that the supplied material or equipment, or source or special fissionable material derived therefrom, is used solely for peaceful purposes.<sup>17</sup>

The regular methods of control are most elaborate under comprehensive agreements involving substantial nuclear assistance where the danger of diversion for military use is great. In such case, the various types of safeguards include the right to examine the design of equipment and facilities, to require appropriate record-keeping and accounting procedures, as well as submission of reports, to designate representatives who are to have access to all places and data as necessary for material accountability and determination of compliance with nondiversion, to approve the means to be used for chemical processing, and to require notification regarding disposition of nuclear materials.

The actual control functions are carried out by the designated representatives of the Canadian government on the territory of the assisted country or by other atomic energy personnel of Canada on Canadian soil.<sup>18</sup> If the bilateral agreement accords similar safeguards rights to a foreign country from which Canada receives assistance, such safeguards rights are exercised in an identical fashion by the designated representatives of the respective foreign country.

### A. Examination of Design

Under the comprehensive bilaterals, the supplying country has the right to examine the design of equipment and facilities, including

<sup>16</sup> Art. III(c)(d).

<sup>17</sup> See, for instance, Agreements with: Australia, Art. IV.1; Germany, Art. IV.1; Pakistan, Art. IV.1.

<sup>18</sup> The Canadian Atomic Energy Control Act of 1946 (10 George VI, Ch. 37) was superseded by a later Act of 1952 (R.S.C. 1952, Ch. 11, as amended by 1953-4, Ch. 47) which established an Atomic Energy Control Board. Under Sec. 9(f) of the Act, the Board is authorized, subject to the approval of the Governor in Council, to make regulations "governing co-operation and the maintenance of contact, through international organizations or otherwise, with scientists in other countries or with other countries with respect to the production, use, application and control of, and research and investigations with respect to, atomic energy."

nuclear reactors, which are made available under the agreement or in which any material supplied or any special nuclear material derived from the use of such material or equipment is to be employed or processed. Such information is a "must" for the control body if the supervision is to be exercised in a meaningful manner, especially in connection with the evaluation or verification of records (power charts, etc.) and reports. However, it should be emphasized that the right of examination and subsequent approval relates only to the question of assuring that the design will not further any military purpose and that it will permit the effective application of the provisions of the agreement.<sup>19</sup>

The recent bilateral between Canada and India shows an interesting variation from the usual pattern as it is much more specific. By the terms of that agreement, Canada pledges to provide the necessary information and design, with detailed drawings and specifications, of a planned atomic power station in India, up to and including the steam raising equipment. India, on the other hand, undertakes to provide the design and detailed drawings of the part of the station beyond the steam raising equipment, services, and buildings.<sup>20</sup> In addition, both countries pledge to exchange information on a continuing basis with regard to the design, construction, operation, and use of their respective atomic power stations, research, and development related thereto.<sup>21</sup>

### B. *Records and Reports*

As a rule, under the comprehensive agreements the recipient government pledges that an accurate record will be kept at all times of the source and special nuclear materials derived from the use of materials or equipment supplied pursuant to the agreement. In addition, the recipient country agrees to make such records available to the authorities of the supplying country and to submit periodic reports based upon them.<sup>22</sup>

Under the recent bilateral between Canada and India, both governments agree to establish an adequate system of records to ensure accountability for all fuel and fissionable material on the premises of their respective nuclear power stations and to exchange quarterly reports and special reports in the event of special circumstances at the request of either government, regarding the operation

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<sup>19</sup> See, for instance, Agreements with: Germany, Art. IV.1(a); Japan, Art. IV.1(a).

<sup>20</sup> Arts. III and IV.

<sup>21</sup> Art. VIII.

<sup>22</sup> See, for example, Agreements with: Germany, Art. IV.1(b) and (c); Japan, Art. IV.1(b) and (c).

of their respective nuclear power stations. The reports are to contain such details as may be reasonably requested by the recipient country.<sup>23</sup>

### C. *Inspection*

One of the most crucial requisites of a meaningful control system aiming to ensure the peaceful uses of atomic energy is on-the-spot inspection. For this reason, the supplying country is given the right to appoint representatives (inspectors) who are to have access at all times to all places, equipment, and facilities where identified material is used or located, to all data relating to such identified material, and to all persons who, by reason of their occupation, deal with such identified material or such data. The appointment of representatives, however, may be made only after consultation with the recipient government which clearly indicates a two-way process rather than a unilateral imposition. The recipient state is normally notified in advance of the proposed visit by the foreign inspectors who are to be accompanied — upon either party's request — by representatives of the receiving country, provided that they are not thereby delayed or otherwise impeded in the exercise of their functions. The access is to be assured to the extent as may be necessary to account for all identified material and to determine whether such identified material is being used for peaceful purposes only.<sup>24</sup> Normally, the inspectors carry out their control functions by verification and audit of records and reports, by comparisons, physical and accounting checks, sampling, measurement, and through the use of other devices and procedures that may be necessary for the accomplishment of the safeguards objectives.

Slightly more circumscribed stipulations may be found in the earlier noted agreement between Canada and India which provides that designated technical representatives of the two governments are to maintain close contact and, whenever such representatives of either government so request, they are to be accorded access to all parts of the atomic power stations and to all other places where fuel or fissionable material used in or produced by the station (or an equivalent amount thereof) is being used, stored, or located. They are also to have access to the appropriate persons and the relevant data, including nuclear fuel records. Furthermore, they are entitled to make such observations and measurements of fuel and fissionable material as are relevant to the purposes of the agreement. How-

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<sup>23</sup> Arts. XII and XIV.

<sup>24</sup> See, Agreements with: Germany, Art. IV.1(e); Japan, Art. IV.1(d); Pakistan, Art. IV.1(e).

ever such observations and measurements are to be kept to the minimum consistent with the accomplishment of these purposes.<sup>25</sup>

#### *D. Chemical Processing and Disposition*

With respect to the already mentioned vital area of chemical processing, most bilaterals provide that each party may satisfy itself that the means to be used for such processing of identified material after irradiation will not lend themselves to diversion to military use.<sup>26</sup> It may also be noted that the agreement with India provides for advance notification regarding the disposition, after removal from the respective nuclear power station, of any fuel and fissionable material produced therein.<sup>27</sup>

### III. TRANSFER OF CONTROL TO AN INTERNATIONAL AGENCY

Canadian bilaterals, much as their U.S. and U.K. counterparts, envisaged the possible transfer of control rights and obligations to the IAEA. Bilaterals which were entered into prior to the adoption by the agency of its safeguards system required consultations between the parties at or after the time the IAEA was in a position to carry out its safeguards functions. The purpose of such consultations was to determine whether, and to what extent, the governments wished to modify the bilateral control stipulations so that they would conform more closely with the safeguards provisions of the IAEA and to decide whether the parties wished to transfer the safeguards functions to the agency.<sup>28</sup>

The recent agreement with India is less specific with respect to transfer and provides only that the two governments will consult with each other from time to time to determine in what respect and to what extent they desire to "avail themselves of the services" of the IAEA in reference to the bilateral.<sup>29</sup>

Although all the Canadian bilaterals have been concluded with friendly nations, most of them carry provisions for certain sanctions. For instance, under the agreement between Canada and Germany, both parties have the right to apply sanctions in case it is determined by either party that identified material is furthering a military purpose. In such case the party making such determination has the

<sup>25</sup> Art. XIII.

<sup>26</sup> Agreements with: Australia, Art. IV.1(d); Germany, Art. IV.1(4); Japan, Art. IV(c); Pakistan, Art. IV.1(d).

<sup>27</sup> Art. XI.

<sup>28</sup> See, for instance, Agreements with: Australia, Art. IV.2; Pakistan, Art. IV.2. It may be noted that the IAEA, Japan and the United States signed an Agreement on September 23, 1963 (14 U.S.T. & O.I.A. 1265), providing for the application of safeguards by the Agency to the bilateral accord between the two States. Similar action may be taken in regard to the Canadian bilaterals.

<sup>29</sup> Art. XV.



#### IV. SANCTIONS

right to suspend or cancel scheduled delivery of source material, special nuclear material and fuel, and to require the return of all identified material under the control of the other party.<sup>30</sup> A slightly smoother approach is taken by the agreement with Japan, which provides that the party making the determination may, before exercising the right of suspension or cancellation and before demanding return, call upon the other contracting party to take corrective steps.<sup>31</sup>

In the bilaterals, there is no machinery provided for arbitration or judicial or any other settlement of a dispute arising out of non-compliance or otherwise. The bilateral with India goes even further by omitting any reference to sanctions and stating simply that the agreement reflects the "special relations and long standing cooperation" between the two countries in the peaceful uses of atomic energy.<sup>32</sup>

Finally, in order to protect the interests of the cooperating nation and to allay possible fears regarding the disclosure of technological know-how and industrial secret or other confidential information, some bilaterals provide that representatives and other officials under the jurisdiction of either contracting party, who, by reason of their official duties, acquire such secret information, may not disclose such information.<sup>33</sup> The penalty for unauthorized disclosure in such case is determined by domestic law.

#### V. CONCLUSION

The preceding safeguards procedures established by Canadian bilateral agreements over the peaceful uses of atomic energy are instructive inasmuch as they reveal a pattern of minimal requisites thought to be essential for the application of effective control.<sup>34</sup>

While all the safeguards represent, one way or another, some burden and constitute an intrusion into domestic affairs, many of them, especially the requirements for the maintenance of records and the submission of reports, do not necessarily involve much extra work, since they would normally be required by any efficient management as well as by the domestic control organs.

Undoubtedly, the most significant safeguard and the most crucial test of the ultimate effectiveness of the control system is on-site

<sup>30</sup> Art. IV.3. For identical provisions, see also Agreements with: Australia, Art. IV.3; Pakistan, Art. IV.3.

<sup>31</sup> Art. IV.4.

<sup>32</sup> Art. XVII.

<sup>33</sup> See Agreements with: Germany, Art. IV.2; Japan, Art. IV.2.

<sup>34</sup> On the meaning of "effective control," see MCDUGAL AND FELICIANO, *LAW AND MINIMUM WORLD PUBLIC ORDER* 277 (1961).

inspection. Limited as this is in regard to its over-all purpose and application, it must nonetheless be viewed as a vital breakthrough in the formerly "impregnable" wall of sovereignty.<sup>35</sup> The last-mentioned fact, however, should in no way cause us to underestimate national defense and security considerations which are likely to continue to be the most powerful impediments in the way of an extension of the "atoms-for-peace" inspection and control systems to the all-important area of nuclear arms control and disarmament.<sup>36</sup>

The ultimate value of the Canadian bilateral atomic control program, like that of its U.S. and U.K. counterparts, lies not only in the experience gained from its establishment and operation but also in the fact that it has helped to make foreign supervision and on-the-spot inspection on a reciprocal basis an accepted standard procedure with respect to several countries. This surely seems to be a step in the right direction.

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<sup>35</sup> See GOROVE, *International Security Controls: From the Atom to Cosmic Space*, PROC. 6TH COLL. ON THE LAW OF OUTER SPACE 3 (Paris, 1963).

<sup>36</sup> GOROVE, *Lessons From the Control of the Peaceful Uses of Atomic Energy in Euratom*, PROC. AM. SOC. INT'L LAW 136 at 139 (1964); cf. also GOROVE, *Controls Over Atoms*, N.Y. Times, March 22, 1964, Sec. E., p. 8.



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