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Atomic Safeguards and the Stratetgy of Treaty Deterrence

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ATOMIC SAFEGUARDS AND THE STRATEGY OF TREATY DETERRENCE

The May 1974 explosion of an atomic device by the Government of India[1] shook the world political order in more ways than one. The realization that India had diverted foreign nuclear aid to obtain the atomic material for its bomb,[2] coupled with the Nixon Administration's decisions less than a month later to introduce atomic materials into the volatile Middle East,[3] led to a resurgence of interest in safeguarding nuclear materials overseas. For the United States and other nuclear nations, dependence upon multilateral treaties and broad international consensus was until recently the guiding principle for arms control.[4] In

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1. N.Y. Times, May 19, 1974, at 1, col. 8. The device was said to be in the range of 10 to 15 kilotons by Dr. H. N. Sethna, the chairman of the Indian Atomic Energy Commission. *Id.* at 18, col. 1.

2. India probably diverted the fissionable material from a nuclear reactor built under a treaty with Canada. 120 CONG. REC. S12,115 (daily ed. July 10, 1974) (remarks of Senator Kennedy); N.Y. Times, May 23, 1974, at 7, col. 1. For the text of the treaty see Agreement between Canada and India on Atomic Energy, December 6, 1963, [1963] Can. T.S. No. 10; 529 U.N.T.S. 45 (No. 7655).

It has long been known that fissionable plutonium of the type used by India can be obtained as a by-product from the waste material produced by atomic reactors. *Hearings on the Treaty on the Non-proliferation of Nuclear Weapons before the Senate Comm. on Foreign Relations,* 90th Cong., 2d Sess. 245 (1968) [hereinafter cited as *Hearings on Non-proliferation Treaty*]. For a brief but excellent discussion of the technology of nuclear weapons development, see Willrich, *The Treaty on Non-Proliferation of Nuclear Weapons: Nuclear Technology Confronts World Politics,* 77 YALE L.J. 1447, 1452-55 (1966). Regarding availability of the requisite technological skills, Willrich observes:

> Plutonium technology is unclassified, well-understood, and already widely diffused. . . . Once fissionable material is in hand, manufacture of crude fission weapons that work should no longer be considered a particularly demanding or costly task. . . .

Id. at 1454 (footnote omitted). *See also* M. WILLRICH & T. TAYLOR, NUCLEAR THEFT: RISKS AND SAFEGUARDS 20-21, 167 (1974).

3. 71 DEP'T STATE BULL. 92-93 (joint statement with Egypt), 110-12 (joint statement with Israel) (July 15, 1974). The statement issued at that time referred to negotiations which would begin subsequently. In a June 17, 1974 news conference, Secretary of State Henry Kissinger noted with reference to the Egyptian statement:

> This reactor will take from six to eight years to build and in that period will of course provide an incentive to concentrate on, among others, economic development rather than on military purposes—a period of time within which we believe that the turn toward peace in the Middle East can be finally accomplished.

Id. at 123.

4. In fact, the United States began concluding bilateral treaties in the 1950's only after determining that the establishment of an international agency would be unduly time-consuming. *See* Gorove, *Transferring U.S. Bilateral Safeguards to the International Atomic Energy Agency: The "Umbrella" Agreements,* 6 DUQUESNE U.L. REV. 1 (1967). As early as 1946, the United States government had urged that all nuclear materials be placed in the

response to increasing pressures, however, the Atomic Energy Act of 1954 was amended last fall to grant Congress a veto power over bilateral nuclear treaties,[5] and the State Department has been more insistent in its demands for safeguards from countries with which it is currently negotiating.[6] This may mark the beginning of a basic policy change in the struggle for nuclear non-proliferation.

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custody of one international agency. *See The Baruch Plan: Statement by the United States Representative [Baruch] to the United Nations Atomic Energy Commission, June 14, 1946* in U.S. DEP'T OF STATE, PUB. No. 7008, DOCUMENTS ON DISARMAMENT: 1945-1959 at 7-16 (1960). For a short history of the Plan see Firmage, *Anarchy or Order? The Nth Country Problem and the International Rule of Law,* 29 MO. L. REV. 138, 142-43 (1964).

5. Pub. L. No. 93-485, 88 Stat. 1460, signed by President Ford on October 26, 1974. The amendment affects § 123 of the Atomic Energy Act of 1954, 42 U.S.C. § 2153 (1970), which is the principal statute dealing with bilateral nuclear treaties. The final draft of the amendment, as agreed to in conference, provides that the President, following his approval of any bilateral agreement pertaining to a reactor that "may be capable of producing more than five thermal megawatts or special nuclear material for use in connection therewith," must submit such agreement to Congress. *Id.* It will be referred to the Joint Committee on Atomic Energy for a period of sixty days. Within thirty days the committee can report a recommendation of rejection, and, should Congress pass a concurrent resolution expressing disfavor, the proposed agreement would not take effect.

The original House version, passed on July 31, 1974, would have provided that no such agreement would have become effective unless specifically approved by an Act of Congress. 120 CONG. REC. H7450 (daily ed. July 31, 1974). The Conference Report, however, recommended the weaker Senate version, with minor procedural concessions to the House. 120 CONG. REC. H8500-600 (daily ed. Aug. 19, 1974).

The motives of the bill's proponents centered around the fear that the Indian explosion and Middle East agreements might encourage further proliferation of nuclear weapons. 120 CONG. REC. S12,113-14 (daily ed. July 10, 1974) (remarks of Senator Baker and Senator Jackson). One Representative pointed out that of the thirty-three countries to which the United States has sold reactors, twenty-one are not signatories of the Nuclear Non-Proliferation Treaty. 120 CONG. REC. H7434 (daily ed. July 31, 1974) (remarks of Representative Long). And, as Senator Jackson pointed out, some subnational organizations and terrorist groups have the capacity to produce such a device "if these persons are able to acquire enough fissionable material to produce a critical mass." 120 CONG. REC. S12,114 (daily ed. July 10, 1974).

For additional legislative history, see H.R. REP. No. 1149, 93d Cong., 2d Sess. (1974); S. REP. No. 964, 93d Cong., 2d Sess. (1974); H. CONF. REP. No. 1299, 93d Cong., 2d Sess. (1974). The latter two are reprinted in [1974] 12 U.S. CODE CONG. & AD. NEWS at 5934 and 5937 respectively.

6. N.Y. Times, Oct. 2, 1974, at 1, col. 6. In addition, Congress in the recent Foreign Assistance Act of 1974, Pub. L. No. 93-559, December 30, 1974, demonstrated increasing American hesitance concerning the prospective Egyptian and Israeli agreements. Section 43 of that Act specifically provides that none of the funds therein appropriated can be used to further a nuclear power plant agreement with either of those countries. Further congressional concern was indicated by the Export Administration Amendments of 1974, Pub. L. No. 93-500, § 14, Oct. 29, 1974, 88 Stat. 1557, in which the Congress instructed the President to "review domestic and international nuclear safeguards" and report on their adequacy, in preparation for a May 1975 conference regarding possible changes in the Treaty on the Non-Proliferation of Nuclear Weapons (*see* note 20 *infra*).

In a significant move last March, the Nuclear Regulatory Commission, *see* note 7 *infra,* stopped issuing licenses for the international transfer of plutonium and other nuclear materials. N.Y. Times, March 27, 1975, at 4, col. 3.

The purpose of this Note is to fashion a framework for a comprehensive non-proliferation policy, based on current military deterrence theory. After a general survey of the present safeguards systems, the Note will examine the broad theory of deterrence and apply it to the problem at hand, proposing an article to be included in future bilateral treaties in an effort to guarantee that recipient countries will not divert nuclear materials, as India did, to military rather than peaceful purposes.

I

PRESENT SAFEGUARD SYSTEMS

Treaties between individual countries calling for the transfer of nuclear materials have long included safeguard provisions which attempt to discourage breaches, and two prominent international agencies provide inspection teams to help enforce such treaties. The absence of stricter policing and stiffer reprisal measures, however, render current safeguards practically meaningless.

A. United States Bilateral Treaties

Section 123 of the Atomic Energy Act of 1954, the basic American statute in this field, provides that any proposed agreement between the Atomic Energy Commission and another country concerning the transfer of nuclear materials must contain "a guaranty by the cooperating party that security safeguards and standards as set forth in the agreement for cooperation be maintained. . . ." The agreement must also provide that the transferred material "will not be used for atomic weapons, or for research on or development of atomic weapons or for any other military purpose. . . ."[7] All such treaties, beginning with an agreement between Turkey and the United States on June 10, 1955, have contained such promises.[8] Furthermore, recipient countries must

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7. 42 U.S.C. § 2153(a) (1970). The recent amendment to that section affected only subsection (d). It should be noted that the Atomic Energy Commission, which used to have jurisdiction over such matters, was abolished by the Energy Reorganization Act of 1974, Pub. L. No. 93-438, tit. I, § 104, Oct. 11, 1974, 88 Stat. 1237. Among the agencies created to take its place was the Nuclear Regulatory Commission, which took over the licensing and regulatory functions of the Atomic Energy Commission. *Id.*, § 201. The Nuclear Regulatory Commission is hereinafter referred to as the "Commission."

8. Gorove, *Controls Over Atoms-for-Peace: U.S. Bilateral Agreements With Other Nations*, 4 Colum. J. Transnat'l L. 181, 186-87 (1966). For the agreement with Turkey see [1955] 2 U.S.T. 2703, T.I.A.S. No. 3320.

agree not to transfer any material received under the agreement to other countries without the Commission's authorization and to return fuel elements to the Commission upon the treaty's termination.[9]

Sanctions against recipient countries for violations of these security provisions are virtually nonexistent. Some of the more comprehensive treaties do allow the United States to suspend the agreement "within a reasonable time,"[10] but a sanction of such limited magnitude may not be enough, practically speaking. Even the recent Atomic Act amendment is little more than a dose of preventive medicine, and provides for no sanctions in case of a violation.[11]

B. Canadian Bilateral Treaties

The Canadian treaty under which India diverted its fissionable material is typical of Canadian nuclear agreements. It provides that: (1) the fissionable material used in the nuclear power station in question "will be used only for peaceful purposes;"[12] (2) no material used or

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9. For a detailed summary of typical provisions, see Gorove, *supra* note 8, at 186-88. Some subsequent bilateral treaties, involving the transfer of larger amounts of materials, contained a few additional restrictions, also detailed in Gorove, *id.* at 188-91. A principal example of the more comprehensive treaty is the Agreement with India on Atomic Energy, August 8, 1963, [1963] 2 U.S.T. 1484, T.I.A.S. No. 5446.

10. *E.g.*, Agreement with India on Atomic Energy, *supra* note 9, art. VI, para. D:

> In the event of noncompliance with the guarantees or with the provisions of this Article, and the subsequent failure of the Government of India to fulfill such guarantees and provisions within a reasonable time, the Government of the United States of America shall have the right to suspend or terminate this Agreement and require the return of any equipment and devices transferred under this Agreement and any special nuclear material safeguarded pursuant to this Article.

It should be noted, however, that such provisions are little more than a codification of well-established principles of international law, which hold that one party to a treaty may suspend its obligations thereunder if the other party is in substantial violation. *See* Restatement (Second) of the Foreign Relations Law of the United States § 158(a) and (c) (1965); 5 J. Moore, Digest of International Law 356-58 (1906). *See also* the Vienna Convention on the Law of Treaties, art. 60(1), U.N. Doc. A/Conf. 39/27, *open for signature,* May 23, 1969, *reprinted in* 63 Am. J. Int'l L. 875 (1969) (Although the Vienna Convention has not been ratified by enough nations for it to enter into force, it must be regarded as probably the most comprehensive and enlightened statement available on the international law of treaties.). The leading case on the subject is *Hooper v. United States,* 22 Ct. Cl. 408 (1887), in which the Court of Claims observed that a treaty

> . . . is in its nature a contract, and if the consideration fail, for example, or if its important provisions be broken by one party, the other party may, at its option, declare it terminated.

Id. at 416. *See also* Charlton v. Kelly, 229 U.S. 447, 473 (1913).

11. *See* note 5 *supra.*

12. India originally contended that the effort was peaceful. N.Y. Times, May 19, 1974, at 18, col. 1.

produced by the station would be transferred beyond Indian jurisdiction; (3) India would notify Canada in advance of the disposition of nuclear fuel and material from the station; (4) records would be kept to ensure "accountability" for fuel and material; (5) "technical representatives" would be accorded access to the station for inspection purposes; and (6) the governments would exchange quarterly reports.[13]

Some Canadian treaties contain sanctions similar to those appearing in United States agreements, reserving a right to suspend delivery and demand return of nuclear materials in case of a violation.[14] In other situations, enforcement is left to the general rule of international law that one party can suspend performance if the other party breaches.[15] Canada apparently relied upon the latter principle in suspending its aid to India's atomic energy program following the May explosion.[16]

C. International Atomic Energy Agency

The International Atomic Energy Agency (IAEA), created under the aegis of the United Nations following President Eisenhower's "Atoms for Peace" speech,[17] is the principal international organization for atomic control.[18] IAEA safeguards apply under any nuclear assistance treaty in which the signatories agree to submit to the Agency's safeguards system. Oriented primarily toward preventing the diversion of fissionable material to military uses, the IAEA system consists at its heart of periodic inspections of atomic facilities by Agency technicians.[19] Infrequently relied upon it its earlier days, the IAEA has

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13. These provisions are in Articles IX-XV of the Agreement Between Canada and India on Atomic Energy, *supra* note 2.

14. Gorove, *Control Over Atoms-for-Peace Under Canadian Bilateral Agreements With Other Nations*, 42 Denver L. Center J. 41, 47-48 (1965).

15. *See* note 10 *supra*.

16. *See* N.Y. Times, May 23, 1974, at 1, col. 4. Canada's Secretary of State for External Affairs reported that Canada was reviewing its other aid commitments to India as well.

17. For the text of the Eisenhower speech, see 8 U.N. GAOR 450 (1953).

18. The statute establishing the Agency is a multilateral treaty which entered into force on July 29, 1957. Statute of the International Atomic Energy Agency, Oct. 26, 1956, [1957] U.S.T. 1093, T.I.A.S. No. 3873, 276 U.N.T.S. 3. It has been signed by some eighty nations, including all the world's atomic powers. The agreement [hereinafter referred to as the "Statute"] can also be found in 51 Am. J. Int'l L. 466 (1957). The safeguards provisions of the Statute are in Article XII.

19. See art. XII, para. A-6 of the Statute. Two IAEA documents—IAEA Document INFCIRC/66/Rev. 2 (the Safeguards Document) and IAEA Document 6C(V)/INF/39 (the Inspectors Document)—add further detail to the provisions of the Statute.

The safeguard system of the IAEA has been examined by several authors. The most comprehensive treatment is that in P. Szasz, The Law and Practices of the International Atomic Energy Agency 531-657 (1970). A good recent critical analysis is A. McKnight, Atomic Safeguards: A Study in International Verification (1971).

become more important since the promulgation of the 1968 Nuclear Non-Proliferation Treaty, which placed on the Agency's shoulders the responsibility of carrying through the Treaty's important safeguards provisions.[20]

The Agency has specific remedies available when it detects a violation of a treaty under which it has inspection rights. Its Board of Directors will demand compliance by the offending State and report the violation to the United Nations Security Council and General Assembly. If corrective action is not taken within a reasonable time, the Board may suspend any technical assistance being given by the Agency and call for the return of materials made available to the aid recipient by any Agency member.[21] Such sanctions do little more than threaten the violator with adverse publicity, however, since withdrawal of misused materials is impossible absent the cooperation of the breaching nation—a development which is highly unlikely under the circumstances.

D. European Atomic Energy Community

The European Atomic Energy Community (EURATOM) was created in 1957 by six European nations as a joint undertaking to

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It should be noted that the Statute's provisions do not bind a member "either absolutely or even only conditionally" until a separate bilateral agreement is made with the Agency. P. Szasz, *supra* at 330.

20. Treaty on the Non-Proliferation of Nuclear Weapons, *done* July 1, 1968, [1970] 1 U.S.T. 483, T.I.A.S. No. 6839. The Preamble to the Treaty says that the States concluding the agreement undertake to "cooperate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities." Only non-nuclear signatories of the Treaty must submit to the IAEA's safeguards inspections, however, and this has caused severe criticism of the Treaty. *See* art. III (4). India has refused to sign the Treaty, citing this discrimination.

The Treaty itself contains no enforcement provisions, which may be a fatal flaw. *See* Kaplan, *The Nuclear Non-Proliferation Treaty: Its Rationale, Prospects, and Possible Impact on International Law,* 18 J. Public L. 1, 10-11 (1969); A. McKnight, *supra* note 19, at 179. As McKnight has observed:

> The crucial nature of a treaty to halt the spread of nuclear weapons cannot brook, in the event of its breach, either inadequacy of remedies or delay in obtaining them. . . .

Id.

21. IAEA Statute, *supra* note 18, art. XII, para. C. *See also* P. Szasz, *supra* note 19, at 533. As one American official has said: "It's not a prevention system, it's a detection system." N.Y. Times, May 28, 1974, at 2, col. 6.

The IAEA, however, has been criticized on the basis that it is severely understaffed. Hearings on Non-Proliferation Treaty, *supra* note 2, at 280-81. Critics have also charged that the symposia it sponsors might encourage weapons development rather than retard it. Firmage, *supra* note 4, at 152-53.

further the development of atomic energy for peaceful purposes.[22] Chapter VII of the Treaty establishes a safeguard system somewhat similar to that of the International Atomic Energy Agency, except that more notice is required before inspection of facilities. The European Court of Justice is empowered to hear disputes and issue decisions in case of an alleged violation. Any compliance is purely voluntary, however, rendering EURATOM no more effective than the IAEA and, because of its small size and comparative lack of political weight, probably less so.[23]

In light of the current tense international situation in the Middle East and the possibility that India might not be the only nation to divert nuclear aid to military uses, it is apparent that the outmoded American, Canadian and international safeguard systems described above need to be reworked. The remainder of this Note will explore the dimensions of what is needed and outline a proposal for the future.

II

SAFEGUARDS: DETERRENCE ANALYSIS

A. The Theory of Deterrence

For the past two decades it has been common practice in the field of nuclear warfare strategy to examine the behavior of participant states through "maximization" analysis, focusing on deterrence as a strategy. This mode of analysis, however, has far broader application in international affairs than its prior use would seem to indicate. In general terms, the procedure is to assume that a given country will formulate foreign policy with an eye toward its own best interests, and then to evaluate the gains and losses which possible alternative American actions would impose on that country, in an attempt to discover how it would react. In the case of bilateral treaties, it is apparent that the treaty provisions are nothing more than reciprocal promises regarding

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22. Treaty Setting up the European Atomic Energy Community (EURATOM), Rome, March 25, 1957, 298 U.N.T.S. 3. The six countries are Belgium, Federal Republic of Germany, France, Italy, Luxembourg and the Netherlands.

23. For an analysis of the EURATOM safeguards, see Address by Stephen Gorove, *Lessons From the Control of the Peaceful Uses of Atomic Energy in EURATOM*, Fifty-eighth Annual Meeting of the American Society of International Law, April 24, 1964, reprinted in Proceedings of the American Society of International Law 136 (1964). A comparison by the United States Atomic Energy Commission is found in *Hearings on Non-Proliferation Treaty, supra* note 2, at 266-67.

future actions. Deterrence analysis can be used in this context, therefore, to determine what promises of future action the United States should make in order to influence nuclear aid recipients in predictable and beneficial ways.[24] Nations vying for nuclear assistance may frequently see as important goals the attainment of (1) nuclear energy for peaceful purposes, usually to generate electrical power, and (2) atomic weapons. The United States, as the supplier of nuclear materials, should try to ensure that the first goal is attained without the second by threatening reprisals in case of a violation, and thus imposing foreseeable costs on a recipient country's decision to construct nuclear bombs.[25]

1. Valuations and Goals of Recipients

Although countries which currently receive American nuclear assistance are industrial or newly-industrializing states which have an in-

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24. The literature in the field of nuclear deterrence strategy is vast. The best work, albeit concentrating solely on military strategy, is H. KAHN, ON THERMONUCLEAR WAR (1961). Others, broader in scope, are B. BRODIE, STRATEGY IN THE MISSILE AGE (1959); Kaplan, *The Calculus of Nuclear Deterrence,* 11 WORLD POL. 20 (1958); M. MCDOUGAL & F. FELICIANO, LAW AND MINIMUM WORLD PUBLIC ORDER (1961); T. SCHELLING, ARMS AND INFLUENCE (1966); T. SCHELLING, THE STRATEGY OF CONFLICT (1960).

A few authors in the field of nuclear safeguards have recognized the value of this analytical approach. For example, Shelton Williams, in his book, THE U.S., INDIA AND THE BOMB (1969), predicted five years before the fact that American nuclear policies would not prevent India from developing an explosive device. Explaining this view, Williams declared:

> The statesmen of the acquiring country will no doubt realize the role their nation plays in the American strategic outlook and will thus assess the possible American reaction accordingly.

Id. at 12. *See also* Gorove, *supra* note 23, at 137.

25. Such a theory is an abstraction from real life, of course, and carries with it limitations which should be recognized. It assumes, for example, that all decision makers act rationally—a supposition clearly inconsistent with experience. As one military writer has observed:

> Romanticism exalts strong action over negotiation, boldness over caution, and feeling over reflection. It exalts dedication to a cause, with minimum consideration for the utility of the cause. It also prompts us to imagine ourselves more courageous, alert, and idealistic than sober appraisals of our behavior would confirm. (footnote omitted.)

BRODIE, *supra* note 24, at 266. Another assumption is that decision makers have accurate data about the gains or losses, and costs and benefits, which they must balance. In fact the accuracy of available information frequently is far from perfect, and the weighing of costs and benefits involves a fair amount of intelligent guesswork. *See* address by Robert S. McNamara, *Defense Arrangements of the North Atlantic Community,* University of Michigan, June 16, 1962, *reprinted in* 47 DEP'T STATE BULL. 64 (1962). Even information which is obtained, however accurate, is costly in terms of both resources and time. For an economic discussion of the costs of decision making, see J. BUCHANAN & G. TULLOCK, THE CALCULUS OF CONSENT 97-116 (1962). Thus, the theory presented in this Note is useful as an analytical tool, but its results can be at best only approximations.

terest in the peaceful economic applications of atomic energy, many also have strong interests in pursuing nuclear energy for military purposes. Genuine military interest, particularly in countries which feel threatened by powerful neighbors, plays a significant role: possession of nuclear weapons adds to a country's own deterrent ability. Moreover, the feeling of national pride and power in being a member of the "nuclear club" is no small factor.[26] Indeed, a country's leaders may likely feel that such membership can divert the attention of the citizenry for a time from serious economic hardships. And, importantly, the nuclear desires of many small nations can be fulfilled by the development of only a small, crude weapons system. A large and sophisticated nuclear force is not necessary.[27]

These factors are perceived as the advantages or benefits to be derived from obtaining nuclear weapons. The costs of these benefits must be made prohibitively high, in order to effectively guarantee that recipient countries will not divert peaceful nuclear assistance to the development of destructive nuclear weapons.

2. *Corollaries of Deterrence Analysis*

Works in the field of nuclear warfare strategy have demonstrated that more can be said about an effective deterrence policy than simply that the recipient country's perceived costs must exceed its perceived gains. A reasonably accurate understanding of the threatened country's incentive and policy valuations, for example, is extremely important. The threats which are made must be believable to be effective, and the costs that threatened actions impose on the sanctioning party may have a significant relationship to credibility.[28] The limits beyond which the threatened country cannot step without tripping the reprisal action, furthermore, must be rigidly defined so as to leave no room for misunderstanding and no room for hesitation or choice on the part of

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26. These considerations, for example, were important in the case of India. Not only did India feel militarily threatened by Bangladesh and the People's Republic of China, but she also believed that the pride of her citizenry following the explosion would overshadow the country's tremendous internal problems. *See* N.Y. Times, May 22, 1974, at 6, col. 1. *See also* S. WILLIAMS, THE U.S., INDIA, AND THE BOMB 7-8 (1969). International situations involving strained relations between neighboring countries are, of course, among the last places where nuclear development should begin.

27. On the question of what kind of nuclear force will serve the needs of a smaller country, see Kahn, *Nuclear Proliferation and Rules of Retaliation,* 76 YALE L.J. 77 (1966).

28. T. SCHELLING, *supra* note 24, at 6. *See also* Kaplan, *supra* note 24, at 20, and S. WILLIAMS, *supra* note 26, at 14.

the sanctioning state.[29] Finally, the sanctioning country must be aware not only of the costs it imposes on the threatened nation, but the costs it may bring to bear upon itself. The principle of non-proliferation, important as it is, is only one of many foreign policy goals entertained by the United States. An examination of how this goal relates to other goals is necessary before any proposed policy of threats and sanctions against nuclear aid recipients can be thoroughly evaluated. These principles, however, are only theoretical. To effectuate a deterrence policy, actual recommendations which reflect these basic ideas must be formulated.

B. Sanction Possibilities

Since the nuclear aid recipients have, by definition, an interest in the peaceful application of nuclear energy, the first and most obvious sanction the United States can impose in the event a nuclear treaty is breached is the permanent withdrawal of all nuclear materials and assistance. This is the one provision which already exists in some American bilateral treaties.[30]

A logical extension of this sanction would be to cut off the violating country's non-nuclear aid. Atomic assistance is usually a small component of the total aid package the United States delivers to such countries. This approach, however, is subject to the criticism that it punishes the recipient nation's citizens for the acts of a government which may be neither elected by them nor accountable to them. For this reason, the United States would have to choose the programs it would terminate in such a case with some care. Non-nuclear military aid programs are an obvious first candidate.

A more direct approach to the sanction problem would be to require the receiving country to post a bond, deposited with the United States Treasury, which would be forfeited upon violation of the aid agreement. The size of the bond would be determined by the ability of the receiving country to pay and the likelihood of a diversion to military

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29. T. Schelling, Arms and Influence 43 (1966); T. Schelling, The Strategy of Conflict 40 (1960). A further point, not strictly relevant to the problem at hand, is that believability can be enhanced where a series of reprisals for a succession of incremental violations can be established, thus enabling the party imposing sanctions actually to carry out a few threats and establish credibility. For a discussion of this concept in the military context, see Buzzard, *Massive Retaliation and Graduated Deterrence,* 8 World Pol. 228 (1956).

30. *See* note 10 *supra.*

purposes. Similarly, the treaty might provide that the United States government would automatically attach any of the recipient country's investments in the United States should a nuclear explosion take place. Or taking a more drastic course, the United States could sell all its holdings of the violating country's currency on the international market, causing a drop in the currency's value and creating balance of payments problems.

Aid-receiving countries, especially those just now developing extensive industrial sectors, place high value on a most-favored-nation trade status with the United States and the accompanying low schedule of customs duties. The United States government, by setting high customs duties or low import quotas, could use international trade to impose rather effective sanctions on newly industrialized nations.

Finally, the most drastic reprisal would be a declaration of some sort of limited war. Because of the extremely high costs imposed on the sanctioning state, in terms of both domestic and international political uproar, however, the possibility of such an action is quite remote.

The likelihood that any of these or other methods will be adopted in any particular bilateral situation and the resolve with which they would be enforced are, of course, functions of several interrelated variables. If the recipient country has a precarious domestic political situation and strong rivals in its geographic area, as is the case with India, it will foresee substantial gains from the development of atomic weaponry, and the United States would have to impose a strict sanctioning scheme to ensure effective deterrence. Or if one country's development of atomic weapons would tend to spark a vigorous arms race in a particularly tense area of the world—if, for example, Egypt or Israel were to develop nuclear arms—the United States would again have to impose strong sanctions to prevent diversion.

On the other hand, factors militating for vigorous sanctions must be balanced with other considerations. Should the domestic political climate in the United States be such that American citizens would recoil at a move to drastically reduce economic aid to the country being sanctioned, the Administration might have to relent, although the fact that such sanctions were agreed to as part of the original aid package should ameliorate much adverse reaction. Similarly, if multinational organizations were offended by the sanctions threatened to be imposed in the event of breach, the United States would stand to suffer an international political cost which might outweigh the benefits of deterrence. Such a possibility can be predicted well ahead of time, however, by informing the various multinational economic and military organiza-

tions of the proposed treaty provisions and carefully gauging their reactions.

Since the particularities of a recipient state's incentives, the costs to it of reprisals, and the kinds of sanctions which are feasible will vary from country to country, the specifics of the deterrence effort vis-a-vis a given country must be carefully plotted and hammered out in treaty negotiations with that country. To retain the advantage of being able to alter the agreement to fit changing circumstances, such a treaty would, like any other international agreement, be subject to renegotiation and modification in the future.

III

PROPOSED ARTICLE

A. The Text of the Article

Subject to the qualifications in the above section, it is possible to suggest the general shape of an article which could be incorporated into a bilateral agreement between the United States and a country receiving nuclear assistance for peaceful purposes.[31]

PROPOSED ARTICLE

D. In the event that the Government of _____ fails to comply with the provisions of this agreement and conducts a test explosion of a nuclear device, the Government of the United States of America will, as soon as it has definitely ascertained that the Government of _____ has conducted such a test, take the following steps:

1. Terminate this Agreement and require the return of any equipment and devices transferred under this Agreement and any nuclear material safeguarded pursuant to this Article.

2. Terminate all deliveries of equipment, devices, and nuclear material pursuant to any other Agreements between the Government of the United States and the Government of _____ and require the return of any nuclear material safeguarded under such Agreements.

3. Terminate all deliveries of weapons and recall to the United States all technical and advisory personnel provided under any Agreement for military aid between the Government of the United States and the Government of _____.

4. Terminate all deliveries of economic assistance to the Government or people of _____ under any Agreement for such assistance reached between the Government of _____ and the Government of the United States.

5. Terminate all Agreements heretofore reached by the Government of the United States and the Government of _____ relating to trade and the level of customs duties in the United States. The Government of the United States will reserve the right to impose strict trade limitations and raise duties as the situation requires.

31. This article would be substituted for Article VI, para. D in current American bilateral treaties, as set forth in note 10, *supra*.

6. Expropriate any investments which the Government of _____ has in the United States.

7. Retain a bond of _____ which the Government of _____ will deposit with the Treasury of the United States on the date this Agreement is entered into force.

This proposed Article contains a number of suggested sanctions, not all of which need be adopted with each individual aid recipient, and not all of which would be pursued to the same degree in each case. At the negotiation stage there is great flexibility, allowing the two governments to bargain over the final wording of the sanctions to be imposed. The final agreement, of course, would make individual sanctions more specific by specifying which other military agreements are to be terminated, what investments are to be attached, and so forth. Such particulars can only be determined during negotiations with an individual aid recipient.[32]

The two parties may have previous treaties on such subjects as military aid and trade regulations, but as long as it is clear that, if a situation requiring sanctions arises, the parties intend this new agreement to supersede such older treaties, there is no doubt that the new agreement will be effective.[33] Even without that assurance, the parties could always amend their previous agreements to recognize the possibilities posed by the new sanctions.[34]

In those situations where the United States is already supplying atomic aid to foreign countries, the existing agreements should be renegotiated to reflect the new stance toward safeguards and sanctions.

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32. There is always the possibility, of course, that a country with whom the United States is negotiating will find the proposed sanctions unacceptable and prefer not to accept atomic aid, even for peaceful purposes. Such a refusal would mean simply that it is more desirable from the international point of view that the country in question not possess any nuclear materials at all—a result which serves the purposes of nonproliferation perfectly and should be regarded as the inevitable result, in some instances, of an efficient and "safe" distribution of nuclear material.

33. The Vienna Convention on the Law of Treaties, U.N. Doc. A/Conf. 39/27, *open for signature,* May 23, 1969, *reprinted in* 63 Am. J. Int'l L. 875 (1969) [hereinafter cited as the "Vienna Convention"] is a comprehensive multilateral agreement governing the international law of treaties. Although not yet ratified by enough nations for it to enter into force (article 84 requires ratification by 35 nations), it does represent a thorough and most articulate statement of the international law of treaties; indeed, perhaps the best statement available. Article 59 provides that a previous treaty is terminated if the parties "conclude a later treaty relating to the same subject-matter . . ." and (1) the parties "intended that the matter should be governed by [the later] treaty . . ." or (2) "the provisions of the later treaty are so far incompatible with those of the earlier one that the two treaties are not capable of being applied at the same time." Clearly, should the nuclear aid recipient breach the agreement, the sanctions then triggered would be inconsistent with all prior treaties on the subjects.

34. *See* article 39 of the Vienna Convention, *supra* note 33.

Perhaps such states will demand something further in the way of nuclear aid in exchange for acceding to the newer, stricter provisions. In light of the low likelihood of diversion under the new agreements, however, this nation should feel confident in extending further aid. Even in situations where the aid recipient refuses to renegotiate, the United States can, at a minimum, inform that nation of its new policy of terminating all nuclear agreements whenever any breach is detected, as evidenced by the apparent termination of American aid to India following India's breach of the Canadian treaty.[35]

B. The Implications of the Article for International Law

Because a bilateral treaty is recommended to affirmatively control the actions of the parties rather than to establish or codify economic and political relationships—which is the usual function of treaties—the proposed Article raises some interesting questions of international law.

The Vienna Convention on the Law of Treaties, written at the United Nations Conference on the Law of Treaties and opened for signature in 1969,[36] dealt with the problem of the invalidity of treaties. A treaty may be declared invalid by one of its parties, according to the Convention: (1) if it contains an error relating to a material fact or situation; (2) if the party has been "induced to conclude a treaty by the fraudulent conduct of another negotiating state"; (3) if its consent has been "procured through the corruption of its representative"; (4) if its representative has been coerced through threats directed against his person; or (5) if the state itself has been coerced through the threat or use of force in violation of the United Nations Charter.[37] So long as

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35. N.Y. Times, Sept. 8, 1974, at 1, col. 6. Said one American official: "If there isn't some cost to India for doing this, other nations will go ahead." N.Y. Times, May 28, 1974, at 2, col. 4. *But see* N.Y. Times, Sept. 8, 1974, at 1, col. 6. Such a statement, however, only illustrates that the move lacked the essential element of effective deterrence: it was never threatened ahead of time and was therefore never viewed as a potential cost by India. Nevertheless, the action represents an encouraging sign towards international cooperation in these matters.

When one country suspends its own obligations to another following that nation's breach of a treaty with a third nation, serious questions of international law are involved. Since the action here was in the interests of world peace and consonant with the policy of nonaggression outlined in the United Nations Charter, however, it is doubtful that India will challenge the suspension.

36. *See* note 33 *supra*.

37. These provisions are contained in articles 48-52 of the Vienna Convention, *supra* note 33. During the course of the Conference, there was some support among the smaller nations for a provision including political and economic pressure among the

negotiations with nuclear-aid-receiving countries over the proposed Article are conducted in good faith, none of the foregoing objections is likely to be successful.

The Vienna Convention also includes, however, in Article 53, a final and much broader ground for asserting the invalidity of treaties, namely, that treaties are void if, at their conclusion, they conflict with a "peremptory norm of general international law."[38] Such norms, referred to by the term *jus cogens,* constitute "the irreducible minimum of public international law which bind all states, old and new."[39] Though the existence of such universal principles of international behavior has long been postulated,[40] international recognition of the concept of *jus cogens* is comparatively recent.

Because of the expectation of universal adherence to these minimum principles[41]—hence their importance—there was much debate at the United Nations Conference over the content of *jus cogens.*[42] Despite some disagreement among members,[43] it is safe to say that the rules of

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forms of "coercion" condemned in articles 51 and 52. The final draft of the Convention itself, however, did not include such language. *See* Nahlik, *The Grounds of Invalidity and Termination of Treaties,* 65 AM. J. INT'L L. 736, 744 (1971).

38. Article 53 of the Vienna Convention, *supra* note 33, reads as follows:

Article 53

Treaties conflicting with a peremptory norm of general international law (jus cogens)

A treaty is void if, at the time of its conclusion, it conflicts with a peremptory norm of general international law. For the purposes of the present Convention, a peremptory norm of general international law is a norm accepted and recognized by the international community of states as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.

39. Abi-Saab, Papers and Proceedings II: *The Concept of Jus Cogens In International Law,* in CONFERENCE ON INTERNATIONAL LAW 9 (Carnegie Endowment for International Peace, Lagonissi [Greece] April, 1966) [hereinafter cited as Lagonissi Conference]. For other discussions of *jus cogens,* see Narasimhaswamy, *Jus Cogens and International Law,* 14 J. INDIAN L. INSTITUTE 340 (1972); Riesenfeld, *Jus Dispositivum and Jus Cogens in International Law: In the Light of a Recent Decision of the German Supreme Constitutional Court,* 60 AM. J. INT'L L. 511 (1966); Schwarzenberger, *International Jus Cogens?,* 43 TEXAS L. REV. 455 (1965); Verdross, *Jus Dispositivum and Jus Cogens in International Law,* 60 AM. J. INT'L L. 55 (1966); and the debates at the Vienna Conference, UNITED NATIONS CONFERENCE ON THE LAW OF TREATIES, U.N. Doc. A/CONF. 39/11, at 293-334 (First Session, United Nations Official Records 1969) [hereinafter cited as U.N. Conference].

40. Suy, *The Concept of Jus Cogens in Public International Law,* in Lagonissi Conference, *supra* note 39, at 18-19.

41. Abi-Saab in *id.* at 12; Suy in *id.* at 71; U.N. Conference, *supra* note 39, at 294, 301, 324.

42. U.N. Conference, *supra* note 39, at 293-334.

43. Some delegates to the U.N. Conference would have included such "norms" as the condemnation of imperialism and the "struggle against colonial domination." *Id.* at 300 (remarks of Representative C.O.E. Cole of Sierra Leone), and at 307 (remarks of Representative Boris Kudryavtsev of the Byelorussian Soviet Socialist Republic). Most delegations, however, did not agree.

jus cogens derive from two sources: (1) Articles 1, 2, and 103 of the United Nations Charter and "other humanitarian conventions"; and (2) customary rules of international morality.[44] The latter include such principles as the abstention from use of force, non-interference in the internal affairs of other states,[45] the sovereign equality of states, the prohibition of slavery, abstention from genocide,[46] fair treatment of prisoners,[47] and freedom of the high seas.[48] The problem of particularizing *jus cogens* lies on the "ill-defined borderline between morality and law,"[49] as one delegate put it, and the concept is probably best left to the development of custom and practice.[50] Despite the vagueness of this ground, however, there is little doubt that the proposed Article could withstand criticism on the basis of Article 53. *Jus cogens* "aims at the protection of the interests of the international society as a whole rather than those of individual states,"[51] and a treaty which only attempts to ensure the peaceful development of atomic energy is furthering that aim rather than retarding it.

Of the customary norms of international law not embraced by the term *jus cogens,* none are seriously violated by the proposed Article. The expropriation of private investments, particularly if provided for in the original agreement, would not constitute a discriminatory expropriation of foreign property.[52] Nor would the provisions concerning trade regulations be discriminatory restrictions on trade and investment,[53] since the offended nation, by agreeing to the original treaty, would have brought the "discrimination" upon itself.

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44. *Id.* at 297 (remarks of Representative M. Antoine Fattal of Lebanon); Abi-Saab in Lagonissi Conference, *supra* note 39, at 12.

45. U.N. Conference, *supra* note 39, at 294 *passim.*

46. *Id.* at 297, 318.

47. *Id.* at 297.

48. *Id.* at 302.

49. *Id.* at 309 (remarks of Representative Jean-Jacques de Bresson of France).

50. This is suggested by the fact that the International Law Commission, which recommended article 53, decided not to include either an exhaustive or exemplary list of rules within the article.

51. Abi-Saab in Lagonissi Conference, *supra* note 39, at 13.

52. J. STARKE, AN INTRODUCTION TO INTERNATIONAL LAW 297-98 (1972). Retaliatory expropriations, moreover, are invalid only where undertaken in the absence of a legitimate social purpose in the public interest. McNair, *The Seizure of Property and Enterprises in Indonesia,* 6 NETHERLANDS INT'L L. REV. 218, 243-47 (1959); Anglo-Iranian Oil Co. v. S.U.P.O.R. Co., 22 I.L.R. 23, 42 (Italian Civil Court of Rome 1954); RESTATEMENT (SECOND) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES § 185(a) (1965). *See also* Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 429 nn.27-30 (1964). In the instant situation the inclusion of such a sanction is only for the purpose of protecting world peace. It would be difficult to argue that there is any higher "public purpose" in international law.

53. J. STARKE, *supra* note 52, at 366-67.

Treaties are virtually never attacked on the basis that they contravene international law principles, and this treaty should be no exception to that custom.[54] In any event, it is clear that two nations may modify a particular rule of international law between themselves, so long as they do not abrogate *jus cogens* standards of international conduct.[55]

CONCLUSION

An international commitment to nuclear non-proliferation with strictly-enforced safeguards has never existed.[56] The Nuclear Non-Proliferation Treaty and the International Atomic Energy Agency probably represent the best joint approach currently available: to offer the non-nuclear nations what one author has called the "nuclear option without the nuclear decision."[57] However, the increasing expansion in the numbers of atomic power stations abroad,[58] the resulting easy availability of plutonium, and the current wide understanding of nuclear technology,[59] demand that stronger safeguards be imposed than those currently available on the international scene.[60]

For these reasons, the vehicles for truly effective deterrence must be individual bilateral treaties. The ideal nuclear safeguard approach would be for all nuclear countries to adopt the kind of sanctions herein proposed. The nations imposing such sanctions, including the United States, must be keenly aware, however, that an accurate appraisal of the feasibility of alternative sanctions can be made only after a thorough

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54. C. HYDE, 2 INTERNATIONAL LAW CHIEFLY AS INTERPRETED AND APPLIED BY THE UNITED STATES 1374 (2d rev. ed. 1945).

55. RESTATEMENT (SECOND) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES § 116, Illustration 1 (1965). *Cf.* Ray, *Des Conflicts Entre Principes Abstraits et Stipulations Conventionnelles,* 48 RECUEIL DES COURS 631, 637 (1934-II); 1 L. OPPENHEIM, INTERNATIONAL LAW 25-27 (8th ed. 1955).

56. Any international safeguard system is seriously weakened by the longtime Soviet position that "the principle of respect for the sovereign rights of states be strictly observed"; *i.e.* that the recipient countries be allowed a free hand to do with the materials what they wish. Yemelyanov, *Atomic Energy for Peace: The U.S.S.R. and International Cooperation,* 38 FOR. AFF. 465, 473 (1960). The recent American suspension of atomic aid to India (*see* note 35 *supra*), however, is encouraging.

57. R. ROSECRANCE, PROBLEMS OF NUCLEAR PROLIFERATION 9 (1966).

58. 120 CONG. REC. H7433-34 (daily ed. July 13, 1974) (remarks of Representative Hosmer).

59. Willrich, *supra* note 2. *See also* Firmage, *The Treaty on the Non-Proliferation of Nuclear Weapons,* 63 AM. J. INT'L L. 711-12 (1969).

60. "Atomic energy would seem to fall in that category of technology which is advancing at such a rate as to defy the attempts of customary international law, taken alone, to control it." Firmage, *supra* note 4, at 139.

evaluation of the importance of non-proliferation in relation to other foreign policy goals. So far, there is little evidence that such questions have been seriously considered in this country.[61] Accordingly, that process of evaluation should soon begin.

Don F. Dagenais

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61. S. WILLIAMS, *supra* note 26, at 12.