



XA04N0754

## THE NONPROLIFERATION TREATY AND PEACEFUL USES OF NUCLEAR EXPLOSIVES

Thomas Ehrlich

School of Law  
Stanford University

### I.

In the past, nuclear arms control and peaceful uses of nuclear explosives were seen by many proponents of each as competing--if not opposing--interests. At one extreme, some viewed peaceful uses as an annoying irritant on the way to general and complete disarmament.<sup>1</sup> At the other extreme, some considered arms-control arrangements--particularly those limiting nuclear testing--as bothersome barriers to realizing the full benefits of peaceful nuclear explosions.<sup>2</sup> Most people found themselves somewhere between those extremes. But most also felt a continuing tension between essentially opposing forces.

In my judgment, this polarity has been significantly altered by the 1968 Treaty on the Nonproliferation of Nuclear Weapons.<sup>3</sup> I believe that the future use of nuclear explosives for peaceful purposes will depend in large measure on the international arrangements worked out under the treaty. I also believe that the success of the treaty in checking proliferation of nuclear weapons is contingent, in substantial part, on those peaceful-uses arrangements. In the areas covered by the treaty, therefore, I view active development of peaceful uses for nuclear explosives as complementing rather than conflicting with nuclear arms control.

The treaty is primarily a security agreement. It is aimed at reducing the risk of nuclear war by establishing permanency in the current separation of nuclear-weapon and non-nuclear-weapon nations. By its terms, each nuclear-weapon state agrees not to transfer nuclear weapons or other nuclear explosive devices to any recipient, and each non-nuclear-weapon state agrees not to receive such weapons or devices. The non-nuclear-weapon parties are also obligated to negotiate safeguards agreements with the International Atomic Energy Agency covering peaceful-uses activities. And all signatories agree not to transfer fissionable material to those parties unless they are subject to such agreements.<sup>4</sup>

These provisions are all part of a scheme to limit the likelihood that the existing nuclear oligopoly will be broken. All impose positive obligations on the non-nuclear-weapon states without corresponding obligations on the nuclear powers. The treaty also includes, however, two important commitments by those powers. First, they are bound under Article VI to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date." Second, the nuclear-weapon states promise in Article V to ensure that the "potential benefits of any peaceful applications of nuclear explosions will be made available" to non-nuclear-weapon nations.

## II.

Among the five nuclear powers, the United States, the Soviet Union, and the United Kingdom have now ratified the treaty. France has declared that it will not sign, but that it welcomes the agreement and will abide by its terms. Communist China has also refused to join, but it has given no indication to date that it will encourage nuclear proliferation.

The United States and the Soviet Union were the principal negotiators of the treaty; they were also its prime sponsors. But they delayed ratifying the agreement until December 1969. As now appears, the delay was due to the Soviet Union's refusal to ratify until the West German Government had signed; the desire to preclude German acquisition of nuclear weapons was a principal motivation in Soviet support for the treaty. The United States, in turn, withheld its ratification until Soviet approval was assured. As of December 1, 1969, 94 nations had signed the agreement; 26 of them had ratified it.<sup>5</sup>

It is by no means certain that the treaty will ever enter into force. That requires the ratification of 17 additional nations. It is more questionable whether the treaty, if it does become operative, will succeed in checking the proliferation of nuclear-weapon states. That requires the adherence of most of the near-nuclear-weapon--or "threshold"--nations.

At least seven nations apparently have the capacity to produce nuclear weapons and the necessary delivery systems within five to ten years after a national decision to do so; more than a dozen others are not far behind.<sup>6</sup> Four of the threshold states--India, Israel, Japan, and West Germany--believe they have serious security problems for which nuclear weapons are a plausible solution. Only one of the four, West Germany, has signed the agreement, and Mr. Brandt's Government has indicated that it will not ratify until adequate safeguards arrangements are negotiated.<sup>7</sup>

The near-nuclear-weapon states are crucial to the success of the treaty; particularly the four just named. For each one that delays, others may hesitate as well. Pakistan probably will not ratify unless India is a party; some African nations may abstain unless South Africa joins; Arab states will presumably refuse without Israel. Brazil is holding back; will other South American nations sign without her? Timing will be critical in each threshold nation's process of deciding on ratification. And in several cases, time appears to be running out.

What pressures may induce at least most of the near-nuclear-weapon states to conclude that their national interests can be best served by joining the agreement? The United States and the Soviet Union did sponsor a resolution in the United Nations Security Council that sought to give some assurance to non-nuclear-weapon states against nuclear attack.<sup>8</sup> But much more will depend on the success of the nuclear-weapon states in fulfilling their two critical obligations under the treaty.

## III.

The initial draft of the treaty by the Soviet Union and the United States contained no concrete commitment by nuclear powers to work toward limiting their own nuclear arms. But at a Conference of the Non-Nuclear-Weapon States organized under United Nations auspices in 1968,<sup>9</sup> many of those states insisted that such commitments be included in the treaty and that those commitments be honored if the agreement is to succeed. The terms of Article VI were accordingly added to require good-faith negotiations on limiting the arms race.

The strategic arms limitation talks (SALT) between the United States and the Soviet Union are scheduled to begin next April. It is not now possible to predict whether they will lead to agreement on significant arms-control measures, particularly on the crucial questions of deploying MIRV and ABM systems. It is possible to predict, however, that unless those talks do produce major steps toward Soviet and American arms limitations, the treaty will fail to halt the spread of nuclear weapons. Why should non-nuclear-weapon states bind themselves to abstinence unless nuclear-weapon countries restrict their superior military power? The prime argument in favor of the treaty is an abstract and global one: The proliferation of nuclear powers would create a dangerous world. But within any particular nation the main arguments against signing are usually quite specific and national, and the dangers they postulate are difficult to disprove.<sup>10</sup>

Even if the SALT talks do lead to significant bilateral arms-control measures, near-nuclear-weapon states such as Sweden demand that the nuclear nations go further. The Nonproliferation Treaty imposes an international regime of controls on the non-nuclear-weapon nations. Several threshold nations are emphatic that the superpowers must accept a similar regime covering nuclear explosions in all environments.<sup>11</sup> As part of that arrangement, an international mechanism would pass on all proposals for peaceful-uses explosions, whether by nuclear-weapon or by non-nuclear-weapon countries.

Under the 1963 Limited Test Ban Treaty, the nuclear powers are free to conduct underground nuclear explosions that contain resulting radioactive debris within national borders.<sup>12</sup> Some non-nuclear-weapon states have argued that only a comprehensive ban would remove the discriminatory features of the current international regime that allows nuclear-weapon states direct access to important economic and technological benefits that non-nuclear-weapon states can obtain, if at all, only indirectly.<sup>13</sup> This position has particular significance for projects that raise at least a substantial possibility of spreading radioactive debris beyond national borders. The Indian Government and other key threshold states have proposed that any international agreement to authorize such projects should not be through amendment of the Limited Test Ban Treaty, but in the context of a comprehensive ban and a separately negotiated agreement establishing an international regime to regulate all nuclear explosions.<sup>14</sup>

#### IV.

In the eyes of many non-nuclear-weapon states a comprehensive ban is thus a link between arms control and peaceful uses--two major aspects of the quid pro quo demanded by those states in exchange for adherence to the Nonproliferation Treaty. Along with arms-control measures, they are insistent that the nuclear powers must carry out their obligation to share the peaceful benefits of nuclear explosives.

The representative of Afghanistan to the Conference of Non-Nuclear States argued, for example, that "the fate of the treaty . . . depends not only on the adoption of specific disarmament measures by the nuclear-weapon Powers, but also on the speed with which they fulfill their obligation under the treaty to contribute to the further development of the peaceful uses of nuclear energy."<sup>15</sup> The non-nuclear-weapon states did not present a united front on the scope of the obligation, any more than on other questions, for their interests differed, particularly in relation to their level of industrialization. Near-nuclear-weapon countries such as Canada were concerned primarily lest they be precluded from competition in the non-military nuclear field. Developing nations concentrated on exacting maximum benefits for their own economic growth.<sup>16</sup> The representative of Peru, for example, claimed that "the main use of nuclear energy should be

to accelerate the development of countries and regions faced with problems that cannot be solved by conventional methods. Injustices of any kind which divide the countries of the international community should be eliminated."<sup>17</sup> But all non-nuclear-weapon states seem agreed that the commitment of the nuclear parties to assist other signatories in exploiting the peaceful benefits of nuclear explosives offers an important opportunity both for a rapid expansion of peaceful-uses development and for a major contribution to the success of the Nonproliferation Treaty. What is that commitment and how is it to be met?

Article V of the Treaty provides that:

Each of the Parties . . . undertakes to pursue measures to insure that . . . under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-discriminatory basis and that the charge . . . will be as low as possible . . . .

The original United States-Soviet draft of the agreement included only a general reference to peaceful uses in the preamble.<sup>18</sup> The two super-powers favored a separate agreement on the subject. India and Brazil on the other hand, opposed any prohibition against the possession and use of nuclear explosive devices for peaceful purposes. They wanted an exemption for peaceful-uses explosions along the lines of the agreement establishing a Latin American Nuclear-Free Zone.<sup>19</sup> Other non-nuclear nations, although recognizing that the similarity of weapon and non-weapon nuclear technology requires a total ban, insisted on specific treaty language to ensure that they would participate in the benefits of peaceful uses.

In fact, the debate at the Conference of the Non-Nuclear-Weapon States made it clear that many countries have quite unrealistic expectations of those benefits for their own development. The very hesitancy of the United States and the Soviet Union in agreeing to Article V seems to have spurred on some non-nuclear-weapon countries in their vision of possible benefits. Brazil, for example, has suggested linking the Amazon and the Rio de la Plata by nuclear explosion.<sup>20</sup> Bolivia has proposed exploitation of its mineral resources.<sup>21</sup> The threshold nations have been more cautious; their projects may include the Australian harbor proposal and oil and gas development in Canada. Other proposals, particularly from least-developed nations, seem to bear little resemblance to reality.<sup>22</sup> My point, however, is not to weigh the relative merits of alternative proposals, but rather to emphasize the intensity of feeling, particularly among developing countries, that the nuclear powers must provide substantial peaceful-uses assistance. In considering these pressures, the United States may have to reconcile potential conflicts between the commercial interests of American private firms in the nuclear field and American foreign-policy interests in carrying out Article V obligations.<sup>23</sup>

Article V provides that the benefits from peaceful applications shall be offered "pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of the non-nuclear-weapon States." Bilateral agreements are also suggested as an alternative vehicle for transferring peaceful-uses benefits, although several nations opposed this reference on the ground that multilateral control is essential to preclude discrimination. Bilateral accords will certainly be needed concerning each specific project, but all seem to agree now that international machinery is needed to carry out the mandate of Article V.

Whatever arrangements are made under Article V, each nuclear-weapon power will insist that any nuclear device it provides for a peaceful-uses explosion must remain in its control at all times. This position seems required under Article I, which forbids any transfer of "control" over a nuclear explosive device to "any recipient whatsoever." But any provision of nuclear explosions for peaceful purposes by a nuclear-weapon state to a non-nuclear-weapon nation must be "under appropriate international observation and through appropriate international procedures." Such services are to be provided "pursuant to a special international agreement or agreements." Article V provides that negotiations on this matter are to begin as soon as possible after the treaty enters into force. It seems likely, however, that a number of key nations will not ratify the treaty--and thus limit their bargaining power--unless they are assured of a satisfactory outcome to the negotiations. The Eighteen Nation Disarmament Conference will probably provide a principal forum, though a good deal of private consultation will also be needed.

The treaty provides no detailed guidance for working out arrangements to ensure that nuclear-weapon states carry out their basic obligation under Article V to share the benefits of peaceful nuclear explosions, and do so on a non-discriminatory basis and at the lowest possible cost. It would undermine the treaty purposes if each nuclear-weapon state were to decide on a wholly unilateral basis the extent to which it would contribute. At the same time, it seems equally improper to conclude that a non-nuclear-weapon state has a legal claim against the United States, for example, for any and all information, material, or other assistance desired. As a practical matter, the problem may be more apparent than real, for the nuclear-weapon states must realize that their willingness to meet their commitments under Article V is an important element in the success of the treaty as a whole.

It is entirely possible, however, that neither superpower will be willing to assist South Africa, for example, in the development of its mineral resources. Is refusal on foreign-policy grounds precluded by the requirement that peaceful-uses services be offered on a "non-discriminatory" basis? United States representatives have stated that they anticipate no shortage of nuclear explosive devices for peaceful purposes.<sup>24</sup> They have also committed the United States to arrangements under Article V that will "make clear that, once the participating nuclear Powers are prepared to undertake practical applications of peaceful nuclear explosives, they will not withhold nuclear detonation services to others because of extraneous considerations."<sup>25</sup> But what about a Cuban request to develop a new harbor with nuclear explosives? The Senate Foreign Relations Committee, in its favorable report on the treaty, stated that it "specifically rejects any suggestion that Article V constitutes an across-the-board pledge by the United States to support foreign . . . projects."<sup>26</sup> In the eyes of many nations, however, that is precisely the pledge made by the United States.

In all events, what if the United States and the Soviet Union are both willing to conduct a peaceful nuclear explosion in a particular country? Canada, among others, has urged that "the international body" designated under Article V not be placed in the position of having to designate a particular supplier in response to a request for peaceful nuclear explosion services, but that the decision should instead be left to the requesting state.<sup>27</sup> Sweden, on the other hand, has suggested that nuclear-explosive devices "might be committed to a formal 'pool' for allocation, by this body, to interested customers."<sup>28</sup>

V.

From the outset of the treaty negotiations, the United States and the Soviet Union have urged that the I.A.E.A. assume the duties of the "international body" referred to in Article V.<sup>29</sup> Their arguments are based mainly on the technical competence of the Agency and the broad terms of its enabling Statute. The Agency is granted authority by that Statute to "encourage and assist research on, and development and practical application of, atomic energy for peaceful purposes throughout the world . . . ." <sup>30</sup> It is also authorized to serve as an intermediary for the supply of services for peaceful nuclear explosions.

The great majority of nations support the view that the I.A.E.A. should be designated as the "international body" under Article V. The United Nations Secretary General and the Agency's Board of Governors both concur in this view.<sup>31</sup> But a number of non-nuclear-weapon states, particularly among the developing countries, claim that the I.A.E.A. Board is dominated by nuclear-weapon powers and their allies, and call for a major restructuring of the Board to give them a stronger voice in the Agency's governance.<sup>32</sup> It now appears probable that the Board will be reorganized to provide increased representation for non-nuclear-weapon nations. Some of those nations, however, have called for either a special body within the Agency or a wholly separate entity. Their demands are apparently the reason why the Agency is not referred to specifically in Article V as it is in Article III concerning safeguards arrangements. And those demands also help to explain the requirement in Article V that the "international body" must have "adequate representation of non-nuclear-weapon States." In all events, those states are united in the view that in the 1970's the nuclear-weapon powers have a primary obligation to develop their peaceful-uses technology so that they will be able to provide assistance when requested, and that in the interim the necessary international machinery must be perfected.<sup>33</sup>

It may well be that different institutions will be assigned different responsibilities. Consider the range of those responsibilities. There should be a clearinghouse for projects proposed by the non-nuclear-weapon states for submission to nations able to supply the necessary services. It is conceivable that this clearinghouse will also conduct feasibility studies of the proposals. The I.A.E.A. seems well-suited to undertake these functions because of its extensive experience in related fields. The Agency has in the past conducted extensive studies of economic, technical, and safety aspects of reactor proposals and has assisted in a study of health and safety aspects of using nuclear explosives in Panama.

Article V also calls for "appropriate international observation." This responsibility appears similarly suitable to the I.A.E.A. A number of difficult issues remain to be resolved, however, in working out the observation issues in the new agreement called for under Article V. Most important, what steps will be taken to assure that a nuclear device remains under the control of a nuclear-weapon state supplying explosion services and that the project is solely for peaceful purposes?

Questions may also arise whether particular nuclear explosion services are offered at the lowest possible cost, excluding any charge for research and development. I suspect that the "international agreement" referred to in Article V will also assign these functions to the I.A.E.A., but it is possible that a new body, or at least a new mechanism within the Agency, will be established. Currently, the Agency Board is ill-equipped to act as a dispute-settlement institution, particularly outside the areas of

its current duties in fostering peaceful nuclear research and power projects, and safeguards for those activities. An ad hoc or permanent dispute-settlement institution of the type developed under other international agreements may offer a promising alternative.<sup>34</sup>

Perhaps the most likely area for employing an international institution apart from the I.A.E.A. is consistency with the Limited Test Ban Treaty. One interpretation of the 1963 treaty is that no nation may conduct any nuclear explosion on the territory of another nation since such an explosion would be "outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted."<sup>35</sup> Under that view--when coupled with the requirement that nuclear explosive devices remain in the custody of nuclear-weapon states--those states would be precluded from carrying out their obligations under Article V of the Nonproliferation Treaty. Such a restricted interpretation seems inconsistent with the intent of the framers of both agreements. Even if the interpretation is generally rejected, however, there must be some mechanism for resolving alleged conflicts between the two treaties.

Suppose, for example, that under Article V Iran calls on the United States (or the Soviet Union) to explode a particular nuclear device in Iran for purposes of oil development, and the United States (or the Soviet Union) refuses on the basis that the explosion would violate its obligations under the 1963 treaty. It seems likely that non-nuclear-weapon states will insist on some dispute-settlement mechanism for such controversies to preclude the possibility of unilateral decision by a nuclear-weapon power. It also seems probable that the mechanism will be demanded before agreement to any peaceful-uses explosions--such as for a trans-isthmian canal<sup>36</sup>--that "cause radioactive debris to be present" beyond national borders. Even if a comprehensive test ban is concluded, the same basic issues will arise.

What kind of institution would be suitable for making decisions under the Limited Test Ban Treaty--or a comprehensive ban--concerning the risks involved in particular projects? A number of nations such as Mexico have stated that these matters must be resolved under United Nations jurisdiction, although in close-cooperation with the "international body" established under Article V.<sup>37</sup> Much may depend on the standards to be applied. If health hazards are viewed as the primary concern, then the World Health Organization--a United Nations subsidiary organ--is a possible candidate. In any case, some new fact-finding and adjudicatory entity may be needed to apply negotiated standards to particular cases.

The United States and the Soviet Union could well benefit from having these issues resolved on a multilateral basis. Such an arrangement would avoid each of the superpowers imposing its own standards in the face of political pressures from non-nuclear-weapon states desiring assistance, and it might also reduce public fears of the risks involved in peaceful nuclear explosions.<sup>38</sup> There are also advantages in allocating these functions to an institution that is not on the front lines of international political controversy, and in having the decisions, insofar as possible, viewed as technical ones. But this may require a fair degree of precision as to the applicable standards, and past efforts to reach agreement within the international scientific community on the health dangers from radioactive fallout have not been particularly successful.

A number of substantive and procedural questions will remain concerning consistency with the Limited Test Ban Treaty, apart from issues of standards. Whatever the mechanism chosen, what will be the scope of its jurisdiction, and will that jurisdiction be compulsory? Will the

institution's decisions be binding or advisory, and will it be permanent or an ad hoc board be established for each decision? Will the institution review all proposals for peaceful-uses explosions made by non-nuclear-weapon states, or only those rejected by a nuclear power on the basis that the explosions might violate the 1963 agreement? Will non-nuclear-weapon states be able to seek advance clearance from the institution--a kind of international declaratory judgment--concerning particular proposals? Will third states that object to a peaceful-uses project be authorized to seek a ruling precluding that project--a kind of international injunction procedure? Whatever the standards chosen, will they be waivable and under what circumstances? These are the kinds of questions that may arise in the course of trying to establish the necessary arrangements to deal with this one aspect of the problem.

Until this point, we have been considering the extent of the nuclear-weapon states' obligation to provide peaceful-uses services to non-nuclear-weapon nations that are parties to the treaty. Do the nuclear powers also have an obligation not to provide such services to countries that do not ratify? Article V imposes no such requirement explicitly, though a number of nations would apparently support such a provision in the new agreement to be concluded under Article V.<sup>39</sup> Pakistan went further, and in a proposal obviously aimed at India, called on nuclear-weapon states to deny all nuclear assistance to states that did not ratify the treaty or negotiate a safeguards agreement with the I.A.E.A.<sup>40</sup> It seems in the long-term interests of the nuclear-weapon states to insist that nations desiring the peaceful benefits of nuclear explosives must be parties to the Nonproliferation Treaty. For some countries, this may be a substantial inducement; there seems every reason to make the most of it.

One final point. The Nonproliferation Treaty provides no explicit enforcement mechanism to handle violations of its terms. Instead, it adopts the same scheme developed in the Limited Test Ban Treaty: A party may withdraw "if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country." The 1968 agreement does go beyond the 1963 treaty by requiring not only three-months advance notice of withdrawal to other parties, but also notice to the United Nations Security Council and, more important, a statement of the reasons for withdrawal. This provision, makes it likely that, apart from withdrawal, enforcement of the Nonproliferation Treaty will be limited to adverse publicity by the I.A.E.A. and whatever other international arrangements are devised, with ultimate appeal to the Security Council. On issues arising under the treaty, the Council may avoid much of the cold-war standoff that has paralyzed it so often in the past. Hopefully, both the United States and the Soviet Union will view their interests in halting nuclear proliferation as outweighing any short-term political gain from involving treaty controversies in cold-war politics.

At the same time, the Nonproliferation Treaty will not stand or fall on the issue of enforcement. The key will be the extent to which non-nuclear-weapon states find it in their interests to adopt the treaty strictures. In part, the resolution of this question by particular nations--and the threshold states are the most important--will turn on matters wholly outside the control of the nuclear-weapon countries. In part it will turn on the progress made by those countries toward limiting their own nuclear arms. But a key element in the decision of many non-nuclear-weapon states is whether they conclude that substantial benefits from peaceful nuclear explosives are available to them if they join the agreement.

For perhaps the first time, those states have some substantial leverage in nuclear affairs. They are no longer content with peaceful coexistence by the superpowers. They demand that American and Soviet resources now allocated to nuclear arms be used to help meet their development needs. Far from being mutually exclusive, therefore, arms control and peaceful uses reinforce each other in this area, and they must develop in conjunction. The United States can take advantage of the opportunity by a major expansion of its Plowshare Program, directed particularly to helping other nations.

#### FOOTNOTES

1. For an example of concern about the impact of peaceful-uses programs on arms-control arrangements, see the testimony of Dr. H.D. Smyth in Hearings on Frontiers in Atomic Energy Research Before the Subcommittee on Research and Development of the Joint Committee on Atomic Energy, 86th Cong., 2d Sess. 11 (1960).
2. This sentiment is harder to document, but it has sometimes emerged in my discussions with individuals active in the Plowshare Program.
3. For the text of the treaty and a full analysis of its legal implications, see Willrich, *Non-Proliferation Treaty: Framework for Nuclear Arms Control* (1969). For a briefer treatment, see Firmage, *The Treaty on the Non-Proliferation of Nuclear Weapons*, 63 A.J.I.L. 711 (1969). See also Note, *The Nonproliferation Treaty and Peaceful Applications of Nuclear Explosions*, 20 Stan. L. Rev. 1030 (1969); Koop, *Plowshare and the Nonproliferation Treaty*, 12 Orbis 793 (1968). For a step-by-step account of the treaty negotiations from a United States perspective, and the texts of many relevant documents, see U.S. Arms Control and Disarmament Agency, *International Negotiations on the Treaty of the Nonproliferation of Nuclear Weapons* (1969).
4. Like numerous international agreements, the treaty raises almost as many questions as it resolves--perhaps more. A range of issues concerning safeguards arrangements with I.A.E.A., and the role of EURATOM in such arrangements, remain to be settled. See Scheinman, *Nuclear Safeguards, the Peaceful Atom, and the IAEA*, *International Conciliation*, March 1969, No. 572. A cluster of problems also relate to peaceful-uses research, and particularly to fission-free explosive research. See Van Cleave, "The Non-proliferation Treaty and Fission-Free Explosive Research," 11 Orbis 1055 (1968). Here, however, my focus is on the actual use of nuclear explosives for peaceful purposes and the international arrangements concerning such uses that are called for under the treaty. Even in that area, it is not possible here to do more than suggest some of the principal questions involved.
5. Information supplied by the Assistant Legal Adviser for Treaty Affairs, U.S. Dept. of State.
6. See Hearings on the Nonproliferation Treaty Before the Senate Comm. on Foreign Relations, 90 Cong., 2d Sess. 31 (1968) (statement by the Atomic Energy Commission).
7. See German Embassy Press Release, "Government of the Federal Republic of Germany Signs Non-Proliferation Treaty," Nov. 28, 1969.
8. UNSC Res. 255 (1968). The resolution, U.N. Security Council Res. 255 (1968), is reprinted in U.S. Arms Control and Disarmament Agency, *International Negotiations on the Treaty on the Nonproliferation of Nuclear Weapons* 155 (1969).
9. For the Final Document of the Conference, see U.N. Doc. A/CONF. 35/10 (1968). The Conference proceedings are summarized in Gellner, *The Conference of Nuclear Weapons States, 1968; A Survey of Views and Proposals*, in Hearings on the Nonproliferation Treaty Before the Senate Comm. on Foreign Relations, 91st Cong., 2d Sess. pt 2, at 450 (1969).
10. This argument is forcefully developed in Young, *The Control of*

Proliferation: The 1968 Treaty in Hindsight and Forecast (Adelphi Papers No. 56, April 1969).

11. See., e.g., U.N. Doc. A/CONF. 35/C.2/SR.10, at 110 (1968).
12. Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water, Aug. 5, 1963, art. I, [1963] 2 U.S.T. 1313, T.I.A.S. No. 5433.
13. This pressure by the non-nuclear-weapon states is not an isolated phenomenon. Many are increasingly resentful at what they describe as the combined efforts of the United States and the Soviet Union to maintain monopoly positions, particularly in nuclear arms. The recent United Nations General Assembly rejection of the seabed agreement negotiated by the two superpowers is another example. See N.Y. Times, Dec. 16, 1969, p. 8, col. 8. See generally *id.*, Dec. 1, 1969, p. 6, col. 1.
14. See U.N. Doc. A/CONF. 35/C.2/SR.12, at 129 (1968). The relationship between a comprehensive ban and peaceful uses of nuclear explosives, in the eyes of many countries, can be seen in Resolution L adopted by the Conference of Non-Nuclear Weapon States. U.N. Doc. A/CONF. 35/10, at 18-19 (1968).
15. U.N. Doc. A/CONF. 35/C.2/SR.9, at 97 (1968).
16. For a study of the differing positions held by non-nuclear-weapon states and of related issues raised in this paper, see Scheinman, Nuclear Safeguards, the Peaceful Atom, and the IAEA, International Conciliation, March 1969, No. 572.
17. U.N. Doc. A/CONF. 35/C.2/SR.12, at 131 (1968). A representative of the U.A.R. put the point more sharply. Developing nations, he said, want to avoid being "turned into a nuclear market comparable to the old semi-colonial markets, in the sense that those countries would supply nuclear raw materials to the advanced States, from which they would acquire finished industrial products . . . ." U.N. Doc. A/CONF. 35/C.2/SR.7, at 66 (1968).
18. See U.S. Dept. of State, [1967] Documents on Disarmament 338-41. The first agreed United States-Soviet Union draft was submitted on August 24, 1967. For a history of the subsequent revisions, see Arms Control and Disarmament Agency, International Negotiations on the Treaty on the Nonproliferation of Nuclear Weapons (1969).
19. For the text of the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco), see U.N. Doc. A/C.1/946 (1967). The United States and the United Kingdom both signed Protocol II to the Treaty, thereby undertaking not to use or threaten to use nuclear weapons against the parties.
20. See Koop, Plowshare and the Nonproliferation Treaty, 12 *Orbis* 793, 809 (1968).
21. See U.N. Doc. A/CONF. 35/C.2/SR.9, at 98 (1968).
22. For a discussion of the potential benefits of peaceful nuclear technology for developing countries, see U.N. Doc. A/7568 (1968).
23. See Young, The Control of Proliferation: The 1968 Treaty in Hindsight

- and Forecast 15 (Adelphi Papers No. 56, April 1969).
24. See U.N. Doc. A/7678, at 39 (1968).
  25. U.S. Dept. of State, [1967] Documents on Disarmament 173.
  26. S. Exec. Rep. No. 9, 90th Cong., 2d Sess. 14 (1968).
  27. See U.N. Doc. A/7678, at 13 (1969).
  28. See U.S. Dept. of State, [1967] Documents on Disarmament 248, 250.
  29. For a summary of national and other views on the "international body," see U.N. Doc. A/7678 (1969).
  30. Statute of the International Atomic Energy Agency, Oct. 26, 1956, art. III.A.1. [1957] 1 U. S.T. 1093, T.I.A.S. 3873.
  31. See U.N. Doc. A/7678, at 6, 41-48 (1969).
  32. See, e.g., U.N. Doc. A/CONF. 35/C.2/SR.5, at 39 (1968) (remarks of the Representative of Ghana).
  33. See, e.g., U.N. Doc. A/CONF. 35/C.2/SR.9, at 100 (Remarks of the Representative of Pakistan).
  34. The mechanisms established for the International Consortium for Satellite Communications and the International Coffee Agreement are two examples. See Chayes, Ehrlich, and Lowenfeld, International Legal Process, Vol. 1, Problems VIII and IX (1968).
  35. Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water, Aug. 5, 1963, art. I, [1963] 2 U.S.T. 1313, T.I.A.S. No. 5433. For an analysis of aspects of the Limited Test Ban Treaty relevant to this discussion, see Ehrlich, The 1963 Limited Test Ban Treaty and Civil Nuclear Engineering, in Proceedings, Symposium on Education for the Peaceful Uses of Nuclear Explosives (University of Arizona, 1969).
  36. See Hearings on the Nuclear Test Ban Treaty Before the Senate Comm. on Foreign Relations, 88th Cong., 1st Sess. 210 (1963).
  37. See U.N. Doc. A/7678, at 28 (1969).
  38. See Willrich, Non-Proliferation Treaty: Framework for Nuclear Arms Control 145-46 (1969).
  39. Mexico suggested that the benefits of peaceful nuclear explosives be accorded to all states that "have renounced nuclear weapons" by an "international contractual instrument." See U.N. Doc. A/7678, at 26-27 (1969). This proposal would cover a party to the Treaty for the Prohibition of Nuclear Weapons in Latin America even if it did not join the Nonproliferation Treaty.
  40. See Scheinman, Nuclear Safeguards, the Peaceful Atom, and the IAEA, International Conciliation, March 1969, No. 572, at 53 (1969).