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The Nonproliferation Treaty and the "New World Order"

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The Nonproliferation Treaty and the “New World Order”

ABSTRACT

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT or Treaty) faces either extinction or extension in 1995, when the NPT signatories will meet to decide its fate. Given the rapid changes in today's nuclear technology and political environment, many states have expressed reservations about extending the Treaty. This Note considers the implications of those reservations as well as arguments favoring extension. This Note reviews the birth of the atomic age and the terms of the NPT and examines the Treaty's strengths and weaknesses. The author concludes that the Treaty should remain in force and suggests strategies for maintaining the support of member states and attracting other states as the 1995 extension conference draws near.

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We have in this past year made great progress in ending the long era of conflict and cold war. We have before us the opportunity to forge for ourselves and for future generations a new world order, a world where the rule of law, not the law of the jungle, governs the conduct of nations.¹

I. INTRODUCTION

From the beginning of the Atomic Age,² proliferation of nuclear weapons has been a constant concern of the international community.³ With the possible exception of environmental degradation, nothing poses a greater long-term threat to the Earth's well being than nuclear weapons.⁴ Early attempts to avoid the proliferation of nuclear weapons focused on keeping nuclear technology secret.⁵ By the 1960s, however, it became apparent that controlling proliferation would require more than merely controlling the spread of technology.⁶ Only international support and cooperation can prevent widespread proliferation.

1. *War in the Gulf: The President; Transcript of the Comments by Bush on the Air Strikes Against the Iraqis*, N.Y. TIMES, Jan. 17, 1991, at A14 [hereinafter *Comments by Bush*].

2. The Atomic Age began in August of 1945 when the United States detonated atomic bombs over Hiroshima and Nagasaki and awakened the world to the atom's awesome destructive power.

3. Ben Sanders, *Non-Proliferation Treaty: A Broken Record?*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 15, 17.

4. Burns H. Weston, *Law and Alternative Security: Toward a Nuclear Weapons-Free World*, 75 IOWA L. REV. 1077, 1077 (1990).

5. The United States initial method for promoting nuclear nonproliferation was maintaining the technology's secrecy. *Nuclear Proliferation: Future U.S. Foreign Policy Implications: Hearings Before the Subcommittee on International Relations*, 94th Cong., 1st Sess. 244 (1975) (Statement of Myrun B. Kratzer) [hereinafter *Kratzer Statement*].

6. Sanders, *supra* note 3, at 17.

This Note traces the evolution of nonproliferation policies beginning with the United States early attempts at secrecy and continuing with international efforts including the Treaty on the Nonproliferation of Nuclear Weapons (NPT or Treaty).⁷ The Note then delineates those Treaty provisions designed to implement the NPT's three primary objectives which are: (1) preventing the spread of nuclear weapons; (2) promoting the peaceful use of nuclear energy; and (3) encouraging nuclear disarmament.⁸ The Note then describes those weaknesses in the NPT regime that threaten the Treaty's continuance beyond the 1995 extension meeting.⁹ The Note then identifies the NPT's successes and sets forth several strategies for maintaining the support of member states and attracting the membership of other states to ensure the Treaty's continued viability.

II. BACKGROUND

A. *The Birth of the Atomic Age and Early Attempts at Nonproliferation*

In the wake of the atomic explosions over Hiroshima and Nagasaki,¹⁰ President Truman stated that the world faced a choice between "renun-

7. Treaty on the Non-Proliferation of Nuclear Weapons, *opened for signature* July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161 [hereinafter NPT].

8. *See id.* at 484-86, 729 U.N.T.S. at 169-71.

9. Under article X of the NPT, member states must convene an extension meeting in 1995 to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty. *Id.* art. X, para. 2, at 494, 729 U.N.T.S. at 175.

10. The atomic bomb that the United States dropped over Hiroshima released an amount of explosive power equivalent to 12,500 tons of TNT and killed over 100,000 people. JONATHAN SCHELL, *THE FATE OF THE EARTH* 11, 47 (1982). The development of nuclear technology dramatically increased the destructive power of weapons. A Stanford Arms Control Group study describes the destructive power of a nuclear weapon as follows:

Whereas the power for a conventional (chemical) explosion results from the energy that is released when the atoms are rearranged in the molecule, the power of a nuclear explosion results from the tremendous quantity of energy that is released when a nucleus of Plutonium 239 or Uranium 235 breaks into smaller pieces. The nucleus can be made to fission in this way when it is struck by a neutron. When the nucleus fissions, it also releases neutrons which can split other nuclei in a chain reaction. The amount of energy released is enormous; the fission of one nucleus releases about five million times as much energy as the explosion of one molecule of TNT. . . . The development of the atomic bomb made it immediately possible to increase the destructive capability of bombs by a factor of over 1,000.

ciation of the use and the development of the atomic bomb" and a "desperate armament race which might well end in disaster."¹¹ Despite Truman's warnings and several United States proposals to internationalize nuclear energy at the end of World War II,¹² the race to acquire nuclear weapons began.

At the end of World War II, the United States was the only state capable of producing a nuclear device, and its nuclear policies reflected a strong desire to maintain that distinction.¹³ So as not to facilitate other states' nuclear programs, the United States shrouded its program in utmost secrecy¹⁴ and banned all exports of nuclear material and technology.¹⁵ For a few years, the United States preserved its nuclear monopoly. That monopoly, however, ended in 1949 when the Soviet Union conducted its first nuclear test. Thereafter, secrecy alone was no longer an effective curb to nuclear proliferation.¹⁶ By 1964, the United Kingdom, France, and China had each joined the "nuclear club."¹⁷

STANFORD ARMS CONTROL GROUP, *INTERNATIONAL ARMS CONTROL: ISSUES AND AGREEMENTS* 46-47 (John H. Barton & Lawrence D. Weiler eds., 1976) [hereinafter *STANFORD GROUP*].

11. President's Special Message to the Congress on Atomic Energy, *PUB. PAPERS* 362, 366 (Oct. 3, 1945) (Harry S. Truman).

12. In June 1946, Bernard Baruch, the United States representative to the United Nations Atomic Energy Commission, introduced a plan (the Baruch Plan) in a speech at the Commission's first meeting. Under the proposed plan, the United States agreed to relinquish its nuclear arsenal to an international authority that would assume monopoly control over nuclear energy. The United Nations Security Council would provide enforcement for the plan by imposing sanctions on any state found violating proposed plan provisions. The Soviet Union, however, rejected the plan, fearing that the plan would undermine its economic and security interests and that the United States might not carry out its pledge to disarm. *See STANFORD GROUP, supra* note 10, at 66-72; The Acheson-Lilienthal Report of 1946, *reprinted in PEACEFUL NUCLEAR POWER AND WEAPONS PROLIFERATION* 142-43 (Congressional Research Service, Library of Congress, Washington, D.C. 1975) (written by Secretary of State Dean Acheson and Tennessee Valley Authority Chairman David Lilienthal).

13. Atomic Energy Act of 1946, ch. 724, 60 Stat. 755 (1946) (codified as amended at 42 U.S.C. §§ 2011-2296 (1982)) [hereinafter *AEA*]. Under § 1(b)(2) of the Atomic Energy Act of 1946, the United States refused to share its nuclear technology until "effective and enforceable safeguards against its use for destructive purposes [could] be devised." Section 5(a)(2) of the Act requires federal government ownership of all nuclear material in the United States, and §§ 5(a)(2)-(3) forbids the export of fissionable materials.

14. *See supra* note 5.

15. *See AEA, supra* note 13.

16. LEONARD S. SPECTOR, *NUCLEAR PROLIFERATION TODAY* 7 (1984).

17. The United Kingdom, France, and China detonated their first atomic bombs in 1952, 1960, and 1964, respectively. WILLIAM SWEET, *THE NUCLEAR AGE: ATOMIC EN-*

President Eisenhower ushered the world into a new phase of non-proliferation in 1953 by introducing the "Atoms for Peace" program in a speech before the United Nations General Assembly.¹⁸ In his speech, Eisenhower outlined a plan whereby the nuclear states¹⁹ would cooperate with the nonnuclear states so that all could share in the "peaceful benefits of the atom."²⁰ In addition, the plan called for the enactment of the Atomic Energy Act of 1954²¹ and the creation of the International Atomic Energy Agency (IAEA) to safeguard all nuclear material.²² The Atoms for Peace initiatives rested on the premise that if all states could enjoy the peaceful benefits of the atom, there would be less incentive for nonnuclear states to develop their own nuclear programs.²³ The theory was that indigenous programs were more likely to spawn nuclear material for military use than would programs developed pursuant to the Atoms for Peace plan.²⁴

Worldwide support for additional proliferation controls increased after the implementation of the Atoms for Peace program, and several treaties

ERGY, PROLIFERATION, AND THE ARMS RACE 120-26 (2d ed. 1988).

18. *Address by Mr. Dwight D. Eisenhower, President of the United States of America*, U.N. GAOR, 8th Sess., 470th mtg., paras. 79-126, at 450-52 (Dec. 9, 1953) [hereinafter *Eisenhower Speech*]; see also BENJAMIN N. SCHIFF, *INTERNATIONAL NUCLEAR TECHNOLOGY TRANSFER: DILEMMAS OF DISSEMINATION AND CONTROL* 45-57 (1983) (describing in detail the Atoms for Peace program).

19. The states possessing nuclear weapons in 1953 included the United States, the Soviet Union, and the United Kingdom. See *id.*

20. *Eisenhower Speech*, *supra* note 18. The peaceful benefits of nuclear energy include the use and exploitation of the atom for energy and research as opposed to its military use. D.M. Edwards, *International Legal Aspects of Safeguards and the Non-Proliferation of Nuclear Weapons*, 33 INT'L & COMP. L.Q. 1, 3 (1984).

21. See *Eisenhower Speech*, *supra* note 18. Congress established the AEA to govern the transportation of nuclear equipment and materials. See generally AEA, *supra* note 13. It called for a cooperation agreement between the United States and other states party to the AEA to establish controls and safeguards for the licensing and sale of nuclear fuel and reactors. *Id.*

22. Statute of the International Atomic Energy Agency, Oct. 26, 1956, 8 U.S.T. 1093, 276 U.N.T.S. 3 [hereinafter IAEA]. The IAEA's initial charge was to promote the peaceful application of nuclear energy while preventing its military uses. The IAEA's chief functions include: (1) reviewing nuclear facility design; (2) requiring states receiving nuclear material to maintain proper records for material accountability; (3) requiring states receiving nuclear material to submit reports to the IAEA; (4) sending inspectors to states that have received nuclear material to verify compliance with IAEA safeguards; and (5) implementing article XII procedures should the Director General of the IAEA determine that a state has not complied with IAEA safeguards. Edwards, *supra* note 20, at 3-4.

23. See *Kratzer Statement*, *supra* note 5.

24. See *id.*

resulted.²⁵ The most important of these treaties are the Antarctic Treaty of 1959,²⁶ the Limited Test Ban Treaty of 1963,²⁷ the Outer Space Treaty of 1967,²⁸ and the Treaty of Tlatelolco of 1967.²⁹ While each treaty was, and still is, successful in addressing some of the problems of proliferation, each is too limited to completely address the problems that vertical³⁰ and horizontal³¹ proliferation pose. The United States, among other states, saw a need for a more comprehensive treaty.³²

25. For a list of parties to the treaties, see TREATIES AFFAIRS STAFF, OFFICE OF THE LEGAL ADVISOR, DEPARTMENT OF STATE, TREATIES IN FORCE: A LIST OF TREATIES AND OTHER INTERNATIONAL AGREEMENTS OF THE UNITED STATES IN FORCE ON JANUARY 1, 1992 (1992) [hereinafter TREATIES IN FORCE]. See generally P.K. Menon, *Proliferation of Nuclear Weapons—International Efforts to Protect the Human Society from Wanton Destruction*, 23 LAW/TECH., 3rd Quarter 1990, at 1, 18-31.

26. The Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71. The Antarctic Treaty demilitarized the Antarctic continent, making it the world's first nuclear-free zone. The Treaty provides, in part, that "any nuclear explosions in Antarctica and the disposal there of radioactive waste material shall be prohibited." *Id.* art. V, para. 1, at 796, 402 U.N.T.S. at 76.

27. The Limited Test Ban Treaty, *opened for signature* Aug. 5, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 43 (banning nuclear weapon tests in the atmosphere, in outer space, and under water). *Id.*

28. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *opened for signature* Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205. The parties to the Treaty agreed not to place in orbit around the Earth any objects carrying nuclear weapons, install such weapons on celestial bodies, or station such weapons in outer space. In addition, the testing of any type of nuclear weapons in outer space was expressly prohibited. *Id.*

29. Treaty for the Prohibition of Nuclear Weapons in Latin America, *opened for signature* Feb. 14, 1967, 22 U.S.T. 762, 634 U.N.T.S. 281 *supplemented by* Additional Protocol I, 22 U.S.T. 786, 634 U.N.T.S. 360, *and* Additional Protocol II, 22 U.S.T. 754, 634 U.N.T.S. 364 [hereinafter Treaty of Tlatelolco]. The Treaty of Tlatelolco was designed to prevent the spread of nuclear weapons in the Southern hemisphere by creating a nuclear-free zone and allowing the peaceful development of nuclear energy. *Id.* at preamble. Signatories of the treaty include: Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad & Tobago, Uruguay and Venezuela. Four states have failed to make the treaty operative. Brazil and Chile rejected certain safeguards; Argentina signed but refuses to ratify; and Cuba has not signed. See SPECTOR, *supra* note 16, at 442 app. E.

30. Vertical proliferation is the further development or acquisition of nuclear weapons by states already possessing nuclear weaponry. See *Nonproliferation Treaty Crucial in Post-Cold-War World*, CHRISTIAN SCI. MONITOR, June 11, 1991, at 19.

31. Horizontal proliferation is the acquisition of nuclear weapons by states not yet possessing them. See *id.*

32. The United States has advanced several reasons in support of the need for fur-

B. *The Nonproliferation Treaty*

In 1961 an Irish-sponsored United Nations resolution introduced the foundation for the first comprehensive nuclear regulatory regime.³³ Three years later, negotiations commenced, and by 1968 the Nuclear Nonproliferation Treaty was ready for signature.³⁴ At that time there were already five acknowledged nuclear-weapon states³⁵ and in the coming decade the United States Atomic Energy Commission anticipated there might be as many as twenty-eight such states.³⁶ Recognizing the devastation that could result from a nuclear war and "believing . . . the proliferation of nuclear weapons would seriously enhance the danger of

their proliferation controls. Among them are:

—Even a small nuclear arsenal could pose a direct security threat to the U.S. and its allies. It might counter-balance U.S. conventional superiority and force an intolerable choice between risking nuclear retaliation or using overwhelming force, perhaps including nuclear force, in the first instance;

—The introduction of nuclear explosives into a region could be politically destabilizing, touching off a local nuclear arms race with possible spillover effects in other regions;

—The actual use or threat of use of nuclear explosives or their accidental detonation could escalate a local conflict into one involving the superpowers, with the ever-present risk of global nuclear conflict;

—Additional members of the nuclear club might lack effective command and control structures or physical security capabilities, increasing the danger of unauthorized use of nuclear weapons;

—Increasing numbers of nuclear-weapon states would make the task of nuclear disarmament substantially more difficult; and

—Given the public commitment by the United States to nonproliferation, acquisition of nuclear weapons by a U.S. ally could undermine U.S. credibility.

Jonathan B. Schwartz, *Controlling Nuclear Proliferation: Legal Strategies of the United States*, 20 LAW & POL'Y INT'L BUS. 1, 5-6 (1988).

33. *Declaration on the Prohibition of the Use of Nuclear and Thermo-Nuclear Weapons*, G.A. Res. 1653, U.N. GAOR, 16th Sess., 1063 plen. mtg., U.N. Doc. A/PV.1063 reprinted in UNITED NATIONS RESOLUTIONS, Ser. I, vol. VIII, at 236 (Dusan J. Djonovich ed., 1974); BEYOND 1995: THE FUTURE OF THE NPT REGIME 122 (Joseph F. Pilat & Robert E. Pendley eds., 1990) [hereinafter BEYOND 1995].

34. See BEYOND 1995, *supra* note 33.

35. The NPT lists five nuclear-weapon states. Under the NPT a nuclear-weapon state is defined as any state that detonated a nuclear device before January 1, 1967. The nuclear-weapon states in 1968 included China, France, the Soviet Union, the United Kingdom, and the United States. All other states in the NPT regime are referred to as nonnuclear-weapon states. NPT, *supra* note 7, art. IX, para. 3, at 492-93, 729 U.N.T.S. at 174.

36. See *Non-Proliferation Treaty: Hearings Before the Senate Committee on Foreign Relations*, 90th Cong., 2nd Sess. 31 (1968).

nuclear war,"³⁷ sixty-two nations,³⁸ including three nuclear-weapon states,³⁹ agreed to the Treaty on the Nonproliferation of Nuclear Weapons.⁴⁰ The Treaty entered into force March 5, 1970.⁴¹

Essentially, the NPT has three objectives: (1) to prevent the spread of nuclear weapons beyond the acknowledged nuclear-weapon states;⁴² (2) to promote the peaceful use and application of nuclear energy among all states adhering to international safeguards;⁴³ and (3) to encourage nuclear disarmament among those states possessing nuclear weapons.⁴⁴ To prevent the spread of nuclear weapons beyond those states already possessing them, the signatories of the NPT agreed to abide by certain constraints. The nuclear-weapon states agreed not to transfer nuclear weapons to any other state or to assist any other state in acquiring such weapons.⁴⁵ The nonnuclear-weapon states promised not to manufacture or otherwise acquire nuclear weapons and not to seek or accept assistance in a nuclear weapons program.⁴⁶

Parties to the NPT were not content with merely attempting to curb horizontal proliferation, vertical proliferation was also a serious con-

37. NPT, *supra* note 7, at preamble. One Swiss official summed up the dangers of widespread proliferation as follows: "Between two nuclear powers it's a game of chess, among four, it's bridge, among a dozen, it would be poker, roulette or any of those games controlled by chance." GEORGES FISCHER, *THE NON-PROLIFERATION OF NUCLEAR WEAPONS* 31 (David Willey trans., 1971).

38. Sanders, *supra* note 3, at 16.

39. The United Kingdom, the United States, and the Soviet Union signed the NPT. China refused to participate in the negotiations and France rejected the Treaty on the ground that without specific disarmament provisions the Treaty did not guarantee adequate security. *Id.*

40. See NPT, *supra* note 7. States adhering to the NPT account for approximately 98% of the world's nuclear power capacity, all of the world's enriched uranium, and nearly all of the world's reprocessing capability. John H. Glenn, *Nuclear Proliferation: The Current and Future Threat*, *ISSUES SCI. & TECH.*, Winter 1985, at 28. For a list of parties to the NPT, see *TREATIES IN FORCE*, *supra* note 25, at 364.

41. The United States Senate delayed ratification of the Treaty after the Soviet Union invaded Czechoslovakia in August 1968, but approved the Treaty at President Nixon's request in March 1970. Sanders, *supra* note 3, at 16.

42. NPT, *supra* note 7, arts. I, II, at 487, 729 U.N.T.S. at 171. Through articles I and II, the NPT's goal was to freeze the number of nuclear-weapon states to the number that existed in 1967. Schwartz, *supra* note 32, at 6-7.

43. NPT, *supra* note 7, art. IV, at 489-90, 729 U.N.T.S. at 172-73. The NPT does not seek to prohibit trade promoting the peaceful application of nuclear energy so long as states conduct that trade in accordance with the nontransfer and nonacquisition principles of the Treaty. See Schwartz, *supra* note 32, at 7.

44. NPT, *supra* note 7, art. VI, at 490, 729 U.N.T.S. at 173.

45. *Id.* art. VII, at 491, 729 U.N.T.S. at 173-74.

46. *Id.* art. II, at 487, 729 U.N.T.S. at 171.

cern.⁴⁷ In response to vertical proliferation concerns, the NPT mandates that all parties, particularly the nuclear-weapon states, pursue good faith negotiations toward the cessation of the nuclear arms race with an aim toward complete nuclear disarmament.⁴⁸

Recognizing each party's right to develop nuclear energy for peaceful purposes, the NPT signatories agreed to promote the peaceful use and application of nuclear energy among NPT members.⁴⁹ To facilitate the advancement of nuclear technology among all member states and to allow nonnuclear member states to reap the benefits of the peaceful atom, the NPT calls for the "fullest possible exchange of equipment, materials, and scientific and technological information."⁵⁰ Those parties in a position to do so pledged to help develop peaceful applications of nuclear energy in the territories of nonnuclear-member states.⁵¹

In return for assistance in developing their nuclear programs, the non-nuclear-weapon states agreed to place their nuclear facilities under IAEA safeguards.⁵² The IAEA's safeguards serve dual purposes. The first is "to create a high [enough] probability of detection of unauthorized uses of nuclear material and to deter member states from breaching the NPT."⁵³ The second is to provide assurance to NPT member states that the terms of the Treaty are being honored and, in the event they are not, to apprise the international community of any violations.⁵⁴

So that it can better implement its system of safeguards, the IAEA requires each member state to establish and maintain an accounting system for tracking both the quantities and locations of all nuclear material within its borders.⁵⁵ Comparing the quantities of nuclear materials on record with the amount it finds during periodic on-site inspections, the IAEA seeks to detect the diversion of "dangerous amounts"⁵⁶ of fission-

47. BEYOND 1995, *supra* note 33, at 7-15.

48. NPT, *supra* note 7, art. VI, at 490, 729 U.N.T.S. at 173.

49. *Id.* art. IV, at 489-90, 729 U.N.T.S. at 172-73.

50. *Id.*

51. *Id.*

52. *Id.* art. III, at 487-88, 729 U.N.T.S. at 172.

53. Schwartz, *supra* note 32, at 8.

54. *Id.*

55. Richard Bolt, *Plutonium for All: Leaks in Global Safeguards*, BULL. ATOM. SCIENTISTS, Dec. 1988, at 14, 15.

56. A diversion of a dangerous amount of fissionable material is defined as the diversion of a significant quantity of fissionable material within a certain conversion time. A significant quantity is defined as enough nuclear material to make one crude bomb or several sophisticated ones. Quantitatively, "8 kilograms of plutonium, 25 kilograms of highly enriched uranium, 75 kilograms of low enriched uranium, or 8 kilograms of uranium 233" is enough to be considered significant. *Id.*

able material.⁵⁷ If the difference between the amounts measured and the amounts indicated in the state's records is not within the limits of measurement error, the IAEA will suspect a possible diversion.⁵⁸ Possible diversions are reported to the IAEA's Board of Governors which then notifies the United Nations Security Council and General Assembly of the IAEA's suspicions.⁵⁹

The NPT requires the application of IAEA safeguards to exports of nuclear materials to states that are not signatories of the Treaty.⁶⁰ This requirement serves to ensure that transfers beyond the Treaty's reach do not contribute to proliferation among nonparty states.⁶¹ The requirement also serves to limit possible discriminatory effects favoring nonparty states, which otherwise would not be subject to IAEA safeguards and would be able to obtain nuclear materials from NPT parties.⁶²

Adherence to the NPT's provisions is entirely voluntary. There are no prescribed sanctions for violations, and a signatory state may withdraw from the Treaty at any time upon three months notice if it determines that extraordinary events jeopardize its interests.⁶³ The NPT mandates five-year reviews,⁶⁴ and the state parties must hold a conference in 1995 to determine the Treaty's renewal terms.⁶⁵

57. *See id.* The IAEA augments its inspections with containment and surveillance methods that include cameras, video systems, and tamper-proof seals. *See id.*

58. *Id.*

59. IAEA, *supra* note 22, art. XII, para. C, at 1107-08, 276 U.N.T.S. at 28-30. The IAEA may submit reports to the United Nations and the United Nations General Assembly in the absence of an established violation if it suspects diversion but determines itself unable "to verify that there has been no diversion of nuclear material . . . to nuclear weapons." INTERNATIONAL ATOMIC ENERGY AGENCY, INFORMATION CIRCULAR DOC. INFCIRC/153/Corrected, para. 19 (1972) [hereinafter INFORMATION CIRCULAR]. The IAEA safeguard process is essentially a recordkeeping, not a policing, activity. The IAEA has no authority to impose sanctions against a state that diverts fissionable material to military purposes. Glenn, *supra* note 40, at 29.

60. NPT, *supra* note 7, art. III, para. 2, at 488, 729 U.N.T.S. at 172. Nonparty states receiving nuclear material may satisfy IAEA safeguards pursuant to a model agreement established by the IAEA "for the purpose of safeguarding specific projects or facilities, rather than an entire nuclear program." Schwartz, *supra* note 32, at 8.

61. Schwartz, *supra* note 32, at 8.

62. *Id.* at 9.

63. *Id.* art. X, para. 1, at 493, 729 U.N.T.S. at 175. Before withdrawing, a party must notify all other signatories and the United Nations Security Council of its intention to withdraw and include a statement in its notice relating the extraordinary events it regards as having jeopardized its interests. *Id.*

64. NPT, *supra* note 7, art. VIII, at 491-92, 729 U.N.T.S. at 173-74.

65. *Id.* art. X, para. 2, at 494, 729 U.N.T.S. at 175. "Twenty-five years after entry into force of the Treaty, a conference shall be convened to decide whether the treaty shall

III. NPT, SUCCESS OR FAILURE?

A. Problems from the Start

1. The Failure to Attract Key States

From its inception, the NPT has had flaws. Its most notable defect was its failure to bind several key states, in particular, China and France.⁶⁶ Without the support of two of the five nuclear-weapon states and numerous other nonnuclear-weapon states, the impact of the NPT was severely weakened.⁶⁷ Since 1968, the number of signatories has increased to approximately 150⁶⁸—the largest number of parties to any arms control pact.⁶⁹ The failure to attract signatories remains a problem, however, because a number of key states refuse to sign. Most notably, six threshold states—Argentina, Brazil, India, Israel, Pakistan, and South Africa—remain outside the NPT's regime.⁷⁰ Each of these states is believed to have either constructed a nuclear device or to soon have the

continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the parties to the Treaty." *Id.* See generally Thomas Graham, Jr., *The Duration of the Nuclear Non-Proliferation Treaty: Sudden Death or New Lease on Life?*, 29 VA. J. INT'L L. 661 (1989).

66. While France did not sign the Treaty, it declared in 1968 its intention to act in accordance with the Treaty. See *Disarmament and Related Matters 1968*, 1968 U.N.Y.B. 9, U.N. Sales No. E.70.I.1. As of January 1993, both France and China had joined the NPT. Secretary of State Eagleburger, Remarks at an Open Forum at the State Department (Jan. 15, 1993).

67. See Pamela E. Kulsrud, *Nuclear Non-Proliferation for the 80's: Carrot and Stick Policy Reexamined*, 13 BROOK. J. INT'L L. 25, 34 (1987). Today there are approximately 150 NPT signatories. States notably absent from the list include: Algeria, Angola, Argentina, Brazil, Burma, Chile, Comoros, China, Cuba, Djibouti, Guyana, India, Israel, North Korea, Mauritania, Monaco, Niger, Oman, Pakistan, United Arab Emirates, and Vanuatu. See TREATIES IN FORCE, *supra* note 25, at 364.

68. Jayantha Dhanapala, *Disappointment in the Third World*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 30.

69. Schwartz, *supra* note 32, at 15.

70. *Bombs Away*, ECONOMIST, Aug. 4, 1990, at 17. Of the six states, only India has made a confirmed nuclear detonation. Each, however, maintains some of its nuclear facilities outside IAEA safeguards. Schwartz, *supra* note 32, at 15. See generally KATHLEEN C. BAILEY, DOOMSDAY WEAPONS IN THE HANDS OF MANY: THE ARMS CONTROL CHALLENGE OF THE '90s 17-36 (1991) (discussing states that maintain unsafeguarded nuclear programs). The failure to attract key states to the treaty has prompted one commentator to write "What is the point of a nonproliferation treaty that does not include the most determined proliferators . . ." *Bombs Away*, *supra* at 17.

technology and capability to do so.⁷¹

Argentina and Brazil have both pursued plans to develop un-safeguarded plutonium and uranium reprocessing facilities.⁷² India detonated a nuclear device in May of 1974 and is believed to be stockpiling plutonium.⁷³ It is widely acknowledged that Israel possesses undeclared nuclear weapons and has the capability of producing weapons-grade material.⁷⁴ Pakistan has engaged in industrial espionage, stealing plans from a Dutch company for use in its nuclear weapons program.⁷⁵

2. Ease of Withdrawal

Another serious shortcoming of the NPT is its withdrawal provision. Under the NPT's terms, a party may choose to withdraw from the Treaty after giving the other parties and the United Nations Security Council three months advance notice and a statement of the extraordinary events that jeopardize its interests.⁷⁶ While other arms control treaties provide similar withdrawal provisions,⁷⁷ in the case of the NPT, a duplicitous state could easily use the NPT and its liberal withdrawal provision to defeat the Treaty's purpose. A state seeking nuclear weapons capability could join the NPT to gain access to the equipment, materials and technology necessary to develop a peaceful nuclear program.⁷⁸ After some initial assistance from nuclear-weapons states, the former state could then exercise its right to withdraw and take with it the acquired capability and technology to proceed with its own un-safeguarded, nuclear weapons program.⁷⁹ To date, however, no state has

71. *Bombs Away*, *supra* note 70, at 17.

72. See Glenn, *supra* note 40, at 33. Neither Argentina nor Brazil is a party to the NPT or the Treaty of Tlatelolco. *Id.*

73. *Id.*

74. *Id.*

75. *Id.* For example, A.Q. Khan, a top member of Pakistan's nuclear program, was accused and convicted *in absentia* for stealing plans for a centrifuge facility from a Dutch company. *Id.*

76. NPT, *supra* note 7, art. X, para. 1, at 493, 729 U.N.T.S. at 175.

77. Several other arms control treaties provide similar withdrawal provisions. See Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, art. IV, Aug. 5, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 43 (three months notice required for withdrawal); Seabed Arms Control Treaty, art. VIII, Feb. 11, 1971, 23 U.S.T. 701, 955 U.N.T.S. 1 (three months notice required for withdrawal); Treaty on the Limitation of Anti-Ballistic Missile Systems, art. XV, para. 2, May 26, 1972, 23 U.S.T. 3435, 3446 (six months notice required for withdrawal).

78. NPT, *supra* note 7, art. IV, para. 1, at 489, 729 U.N.T.S. at 172-73.

79. Scott J. Uim, *Non-Proliferation After Baghdad*, FLETCHER FORUM, Winter 1982, at 170, 172. "So Iraq's nuclear program may continue in an ostensibly peaceable

exercised its right of withdrawal.⁸⁰

3. Some Military Applications Not Precluded by the NPT

Although the nonnuclear-weapon states agree not to receive, manufacture, or acquire nuclear weapons or other nuclear explosive devices, nothing in the NPT forbids them from using nuclear energy for other purposes.⁸¹ For example, under the NPT, nonnuclear-weapon states are free to develop nuclear energy for naval propulsion systems.⁸² Because IAEA safeguards do not apply to nuclear material used in military activities that does not involve weaponry, a state may withdraw and exclude unlimited quantities of nuclear material from safeguarded systems for use in nonexplosive military activities.⁸³ Although no state has exercised its right to withdraw material from IAEA safeguards, the existence of that right poses a potentially significant exception to the Treaty's verification requirements.⁸⁴

4. Discrimination Between the "Haves" and "Have-Nots"

Discrimination has been a constant source of disillusionment for the nonnuclear-weapon states.⁸⁵ Nonnuclear-weapon states claim the NPT is unfair for several reasons. One is the NPT's express division between nuclear-weapon states and nonnuclear-weapon states.⁸⁶ Many non-

fashion, yet, beneath the surface will always lurk the possibility that Iraq will turn to a dedicated weapons program with reactors constructed specifically for that purpose. Perhaps the civilian, safeguarded facilities will never be used to make explosives, but the knowledge and training gained through them may serve a military program quite well indeed". *Id.* at 173-74.

80. Schwartz, *supra* note 32, at 14.

81. NPT, *supra* note 7, art. II, at 487, 729 U.N.T.S. at 171; Schwartz, *supra* note 32, at 13-14.

82. Schwartz, *supra* note 32, at 13-14.

83. *Id.* at 14. Before withdrawing nuclear materials from IAEA safeguards, a state must show that its use of the material will not violate the NPT. *Id.* The state must arrange with the IAEA to confirm the period and circumstances of withdrawal. *Id.* Thereafter, the state must keep the IAEA informed of the type and quantity of material withdrawn. *Id.* The state must replace any amounts withdrawn under IAEA safeguards if the state reintroduces the material into nonmilitary use. INFORMATION CIRCULAR, *supra* note 59, para. 14; Schwartz, *supra* note 32, at 59.

84. Schwartz, *supra* note 32, at 14.

85. See generally Ashok Kapur, *Dump the Treaty*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 21-22. Kapur calls the Treaty a system of "atomic apartheid" that favors the nuclear weapon states over the nonnuclear-weapon states. *Id.*

86. Schwartz, *supra* note 32, at 9. This distinction has been cited "as evidence that the burdens of the NPT fall predominantly and unfairly upon its nonweapon parties."

nuclear-weapon states question the fairness of a system that allows nuclear-weapon states to retain the right to develop their nuclear arsenals while denying that right to everyone else.⁸⁷ In the eyes of some states, such as Argentina, Brazil and India, the NPT merely serves to perpetuate the distinction between states that have nuclear weapons and those that do not.⁸⁸

Other charges of discrimination stem from the nuclear-weapon states' slow progress in pursuing nuclear disarmament negotiations.⁸⁹ Many nonnuclear-weapon states consider the disarmament measures implemented thus far insufficient,⁹⁰ especially in light of the nuclear weapon-states' failure to agree on a comprehensive ban on nuclear testing.⁹¹ Without the nuclear-weapon states' fulfilling their obligation, many non-nuclear-weapon states question the need to meet their own obligations.⁹² Indeed, some parties to the NPT have stated publicly that the future of the Treaty hinges on whether the nuclear-weapon states fulfill their obligation to pursue disarmament.⁹³

Another grievance of the nonnuclear-weapon states is the perceived special relationships between some nuclear-weapon states and non-nuclear-weapon states.⁹⁴ Some nonparty states that share close relations with nuclear-weapon states have become capable of producing nuclear devices.⁹⁵ A disparity results when nonnuclear-weapon nonparties re-

Id. The United States and other nuclear-weapon states, however, have taken steps to minimize discrimination. *Id.*

87. *Keeping it in the Nuclear Family*, NEW SCIENTIST, Sept. 22, 1990, at 19.

88. Sanders, *supra* note 3, at 15. "Despite the reality of power imbalances, Third World states believe passionately in the equality of nations. They cannot accept the assumption that nuclear deterrence is good for some and bad for others." *Id.* Dhanapala, *supra* note 68, at 31.

89. See NPT, *supra* note 7, art. VI, at 400, 729 U.N.T.S. at 173.

90. Dhanapala, *supra* note 68, at 31 (stating that as of 1990, the United States and Soviet Union had over twice as many nuclear warheads as they had in 1972). "It is fair to say that the disarmament element of the treaty . . . has not served with much effect during the treaty's first 20 years." Sanders, *supra* note 3, at 17; see, e.g., *The Second Review Conference*, [1980] 5 Y.B. Disarmament 128, U.N. Sales No. E.81.IX.3.

91. Sanders, *supra* note 3, at 17.

92. See Dhanapala, *supra* note 68, at 31.

93. Graham, *supra* note 65, at 664-65.

94. Ronald J. Bettauer, *The Nuclear Non-Proliferation Act of 1978*, 10 LAW & POL'Y INT'L BUS. 1105, 1137 (1978). There are at least three states that are not parties to the NPT with which the United States has active nuclear agreements—Argentina, Brazil, and India. See *id.*

95. Dhanapala, *supra* note 68, at 31. "The eagerness of France, the Soviet Union and China to do nuclear business with non-signatories to the NPT only serves to weaken the . . . treaty." Sanders, *supra* note 3, at 18.

ceive nuclear material subject to safeguards only on the transferred items, while the nonnuclear-weapon parties must accept safeguards on their entire nuclear programs.⁹⁶ Many nonnuclear-weapon states fail to see the value in being a member to a treaty that provides the same benefits to nonmembers as it does to members.⁹⁷

Nonnuclear-weapon states also express concern over the system of safeguards.⁹⁸ Under the NPT only nonnuclear-weapon states are required to accept IAEA safeguards.⁹⁹ This, many nonnuclear-weapon states argue, is inherently unfair and puts them at a commercial disadvantage relative to the nuclear-weapon states which are not subject to the safeguards.¹⁰⁰ The disadvantage arises from two sources. One source is the IAEA's intrusive inspections which result in the loss of industrial secrets and interference with state operations.¹⁰¹ The other source is the sheer cost of compliance with the safeguard system.¹⁰²

5. Faulty Technological Assumptions

Under the NPT, there is a distinction between peaceful uses and military uses of nuclear material. The NPT calls for the nonnuclear-weapon states to use nuclear material for peaceful purposes and to forgo military uses.¹⁰³ In practice, however, the distinction between such uses is imprecise.¹⁰⁴ For example, many technologies useful in producing nuclear material for civilian programs are adaptable for military use.¹⁰⁵ In addition, IAEA safeguards were supposed to assure that the transfer of peaceful

96. Schwartz, *supra* note 32, at 8-9.

97. Dhanapala, *supra* note 68, at 31.

98. Schwartz, *supra* note 32, at 10-11. The United States has attempted to alleviate these concerns by voluntarily accepting IAEA safeguards on all nuclear activities except those with direct national security significance and by imposing the same safeguard requirements on all states receiving its nuclear exports. *See id.* at 11.

99. NPT, *supra* note 7, art. III, para. 1, at 487-88, 729 U.N.T.S. at 172.

100. *See* Schwartz, *supra* note 32, at 10-11.

101. *Id.*

102. *Id.*

103. *See* NPT, *supra* note 7.

104. "The division between civilian and military atoms is inherently ambiguous. As nuclear power and research programs become more advanced, the knowledge and facilities obtained grow ever closer to the skills and accoutrements of the bombmaker." Ulm, *supra* note 79, at 171.

105. Sanders, *supra* note 3, at 17. The powerful computers, advanced machine tools, and nuclear fuel necessary to conduct a civilian nuclear power plant are readily adaptable to a weapons program. *See U.S. High-Tech Aided Iraq, U.N. Expert Says*, CHI. TRIB., Oct. 28, 1992, at 3.

nuclear technologies would not assist military programs.¹⁰⁶ However, applying IAEA safeguards at certain types of nuclear facilities has proven to be more difficult than expected.¹⁰⁷

Recognizing these problems, some nuclear-weapon states have restricted exports of equipment and technology—even to NPT parties.¹⁰⁸ These restrictions have created friction between the nuclear-weapon and nonnuclear-weapon states.¹⁰⁹ Those nuclear-weapon states that refuse to provide nonnuclear-weapon states with advanced nuclear technology base their refusal on article II of the NPT, which prohibits nuclear-weapon states from assisting nonnuclear-weapon states in the development and manufacture of nuclear weapons.¹¹⁰ The nonnuclear-weapon states challenge that position, arguing that withholding nonmilitary nuclear technology is discriminatory and contravenes the NPT provision that guarantees nonnuclear-weapon states the right to develop their own civilian nuclear programs.¹¹¹

Another potential cause for friction between the nuclear-weapon and nonnuclear-weapon states is the issue of “peaceful nuclear explosions.”¹¹² Under the NPT, the benefits from any peaceful applications of nuclear explosions must be made available to nonnuclear-weapon states party to the Treaty on a nondiscriminatory basis.¹¹³ In other words, nuclear-weapon states must provide peaceful nuclear explosive services for nonnuclear-weapon states requesting such services; however, the nuclear-weapon states need not provide the nonnuclear-weapon states access to the underlying technology.¹¹⁴ Since the drafting of this provision, however, peaceful nuclear explosions have proven to have little practical value and to cause serious environmental harm.¹¹⁵ It is unlikely, there-

106. Ulm, *supra* note 79, at 171.

107. Nuclear facilities handling enriched uranium and plutonium have proven to be especially difficult to safeguard. Sanders, *supra* note 3, at 17.

108. *Id.* “[N]uclear supplier states are increasingly restricting exports of equipment and technology that might be used to develop nuclear weapons, even if all the buyer’s nuclear installations are subject to the safeguards of the [IAEA].” *Id.* at 16.

109. *Id.* at 17. The friction between the nuclear-weapon and nonnuclear-weapon states has manifested itself in the nonnuclear-weapon states’ threats to vote against the extension of the NPT in 1995. See Dhanapala, *supra* note 68, at 30.

110. See Ulm, *supra* note 79, at 172.

111. See *id.*

112. Sanders, *supra* note 3, at 17. Peaceful nuclear explosions have been used for oil exploration, for excavation, and for other types of geological projects. See *Moscow’s Dirty Nuclear Secrets*, U.S. NEWS & WORLD REP., Feb. 10, 1992, at 46.

113. NPT, *supra* note 7, art. V, at 400, 729 U.N.T.S. at 173.

114. Sanders, *supra* note 3, at 17.

115. *Id.* See generally *Moscow’s Dirty Nuclear Secrets*, *supra* note 112, at 46.

fore, that the nuclear-weapon states will honor requests for assistance with peaceful nuclear explosions.¹¹⁶ Although no state has requested such services, some states have criticized the fact that there is a strong likelihood that the services the NPT promises will not be available to them.¹¹⁷

6. IAEA's Lack of Effectiveness

Under the NPT regime, the IAEA's primary mission has changed from promoting nuclear energy to monitoring and safeguarding nuclear material.¹¹⁸ Fulfilling this mission is difficult.¹¹⁹ With only 192 inspectors,¹²⁰ the IAEA is responsible for safeguarding nuclear activities at 992 nuclear installations in more than 50 states around the world.¹²¹ Its lack of resources has allowed the IAEA to inspect only the most sensitive facilities, leaving many facilities unsafeguarded.¹²² In 1986, approximately 300 nuclear installations operated without inspection.¹²³

Even if the IAEA had sufficient resources to inspect all nuclear facilities, significant diversions could still occur. According to a leaked confidential IAEA report, the theft of enough material to construct a nuclear device has approximately a five percent chance of going unnoticed under the current safeguards.¹²⁴ In fact, the margin of error inherent in IAEA safeguards is so great that at a large nuclear facility, enough material to make nearly six nuclear bombs could be diverted without detection.¹²⁵

IAEA failures are well documented. The most recent and egregious example is the IAEA's failure to detect Iraq's clandestine nuclear weapons program.¹²⁶ Iraqi efforts to construct a nuclear bomb should have

116. *Id.*

117. *Id.*

118. See DAVID FISCHER, STOPPING THE SPREAD OF NUCLEAR WEAPONS: THE PAST AND THE PROSPECTS 52-54 (1992).

119. See generally Bolt, *supra* note 55, at 15.

120. *Id.* at 16.

121. *Id.*

122. Glenn, *supra* note 40, at 35. After the Gulf War, lack of funds forced the IAEA to halt inspections of Iraq's nuclear weapons program. *Cash Crisis Halts Iraq Nuclear Inspections*, DAILY TELEGRAPH (London), Dec. 11, 1991, at 11.

123. Bolt, *supra* note 55, at 16.

124. *Id.* at 14-15.

125. *Id.* "The amount of material flowing through a reprocessing facility leaves a certain amount of the weapons-usable plutonium in valves, pipes, and tanks. This 'material unaccounted for' (MUF) could conceivably be used to camouflage the diversion of small, but adequate, amounts of material for military use." Ulm, *supra* note 79, at 172.

126. See *Agency Seeks New Controls on Nuclear Material*, CHI. TRIB., Dec. 7, 1991, at 18.

been apparent to the IAEA because Iraq was, and still is, a member of the NPT and was therefore subject to IAEA safeguards.¹²⁷ Numerous events should have put the IAEA on notice of Iraq's intentions. For example, in June 1981, Israeli planes attacked and destroyed an almost completed Iraqi nuclear reactor, claiming Iraq intended to use the reactor to produce material for nuclear weapons.¹²⁸ Furthermore, Iraqi President Saddam Hussein's¹²⁹ emphasis on the need for Arab states to possess atomic weaponry has been well publicized for many years.¹³⁰ Finally, Iraq's attempts to buy krytons—complex nuclear triggering devices—from a United States company collapsed recently in a joint United States-British sting operation.¹³¹ Yet, despite all these warning signs, the IAEA declared nothing amiss with Iraq's nuclear program.¹³² Meanwhile, by most estimates, Iraq was only a few years away from making a nuclear bomb when the Allies bombed Iraq's nuclear facilities during the first hours of the Gulf War.¹³³ Through its actions, Iraq showed the world that a state could fulfill its obligations under the NPT, be subject to IAEA safeguards, and still maintain a full-scale nuclear weapons program.¹³⁴ Iraq's success and the IAEA's failure illustrate the limitations of the NPT.¹³⁵

Iraq is just one of many signatories to the NPT that has faced accusations of maintaining clandestine nuclear weapons programs. Iran, Libya, North Korea, South Korea, and Taiwan, all members of the NPT regime, are widely suspected of pursuing nuclear weapons programs.¹³⁶ For many states, the costs of proliferation no longer seem to outweigh the benefits.¹³⁷ If these states continue to use the Treaty to cast a cloak of

127. Ulm, *supra* note 79, at 170.

128. *Id.* Israel justified its attack on national security grounds, claiming Iraq intended to use the facility to produce nuclear weapons. *Id.* (citing *Israeli and Iraqi Statements on Raid on Nuclear Plant*, N.Y. TIMES, June 9, 1981, at A8).

129. Saddam Hussein has been Iraq's president since 1979 and has been a major political figure in that state since 1967. See generally EFRAIM KARSH & INARI RAUTSI, SADDAM HUSSEIN: A POLITICAL BIOGRAPHY (1991).

130. See *It's Broke, So Fix It*, ECONOMIST, July 27, 1991, at 13.

131. Jill Smolowe, *The Big Sting*, TIME, Apr. 9, 1990, at 44-45.

132. *It's Broke, So Fix It*, *supra* note 130, at 13.

133. *Iraq is not the Problem*, NEW SCIENTIST, July 27, 1991, at 9.

134. George W. Rathjens & Marvin M. Miller, *Nuclear Proliferation After the Cold War*, TECH. REV., Aug.-Sept. 1991, at 24, 32. "Saddam Hussein's ability to get so close to a bomb without detection reveals the whole regulatory system is inadequate." *Iraq is not the Problem*, *supra* note 133, at 9.

135. See Schwartz, *supra* note 32, at 13.

136. Glenn, *supra* note 40, at 33-34; Sanders, *supra* note 3, at 17-18.

137. *Bombs Away*, *supra* note 70, at 17. For example, despite Israel's preemptive

respectability over their nuclear programs, other states may be tempted either to do the same or to simply withdraw from the Treaty.¹³⁸ Moreover, states considering joining the NPT will be hesitant to sign a Treaty that cannot police its own members.¹³⁹

7. Enforcement of International Law

Like many international multilateral treaties, the NPT suffers from the perspective of enforcement. Nowhere in the NPT are there enforcement provisions to remedy its violation. Even if the NPT contained enforcement provisions, international law has no mechanism to compel a state's compliance.¹⁴⁰ Each state, under international law, has the right at all times to maintain its sovereignty.¹⁴¹ Thus, the Treaty is unenforceable and nonbinding.¹⁴²

8. Ease of Construction

One assumption upon which the drafters based the NPT was that only governments—as opposed to nongovernment groups—would be capable of producing nuclear weapons. Underlying this assumption is the fact that the construction of the original atomic bombs required tremendous amounts of scientific expertise and vast sums of money.¹⁴³ Today, however, construction of a nuclear device is much easier than it was in 1945.¹⁴⁴

Most states today have a “cadre of well-educated scientists capable of mastering the secrets of nuclear weapons and the precision tools necessary to construct them.”¹⁴⁵ The most significant factor preventing a state from constructing a nuclear device is the lack of availability of fissile

attack on Iraq's nuclear reactors in 1981, Iraq has continued its quest for nuclear weapons. See Ulm, *supra* note 79, at 173.

138. *It's Broke, So Fix It*, *supra* note 130, at 13.

139. *Bombs Away*, *supra* note 70, at 17.

140. Kulsrud, *supra* note 67, at 37.

141. See *id.* at 38-39.

142. *Id.*

Absent any international machinery to implement current international law, a new law cannot bind a state involuntarily. This principle derives from the doctrine of positivism, which teaches that international law is the sum of rules by which states have consented to be bound, and that no principle or convention can be law if the state has not consented.

Id. at 37 n.94.

143. TOM GLANCY, Afterword to *THE SUM OF ALL FEARS* 797 (1991).

144. See BAILEY, *supra* note 70, at 8-16.

145. *Id.* at 8.

material such as plutonium or highly enriched uranium.¹⁴⁶ As time passes, however, the limiting nature of this factor continues to diminish. Some estimate that by the year 2000, there will be more commercially produced and separated plutonium in existence than all the plutonium contained in all of the military stockpiles in the nuclear-weapon states.¹⁴⁷ In the afterword to his recent novel, *The Sum of All Fears*, Tom Clancy illustrates the relative ease in which a nuclear bomb can be constructed:

I was first bemused, then stunned, as my research revealed just how easy [constructing a nuclear bomb] might be today. It is generally known that nuclear secrets are not as secure as we would like—in fact the situation is worse than even well-informed people appreciate. What required billions of dollars in the 1940s is much less expensive today. A modern personal computer has far more power and reliability than the first Eniac, and the “hydrocodes” which enable a computer to test and validate a weapon’s design are easily duplicated. The exquisite tools used to fabricate parts can be had for the asking. When I asked explicitly for the specifications for the very machines used at Oak Ridge and elsewhere, they arrived Federal Express the next day. Some highly specialized items designed specifically for bomb manufacture may now be found in stereo speakers. The fact of the matter is that a sufficiently wealthy individual could, over a period of from five to ten years, produce a multistage thermonuclear device. Science is all in the public domain, and allows few secrets.¹⁴⁸

As fissionable material becomes more widely available, states as well as terrorist groups will have the capability to construct a nuclear weapon. Most experts agree that the threat of nuclear terrorism is increasing.¹⁴⁹ The Nuclear Control Institute (NCI), a private association comprised of numerous nuclear experts,¹⁵⁰ cautions that it is entirely

146. Gordon Thompson, *Treaty a Useful Relic*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 32.

147. *Id.* “By the year 2000, the total plutonium produced as a by-product of global nuclear power will be the equivalent of 1 million atomic bombs. The worst hazards will come, not from U.S. enrichment of uranium or separation of plutonium for its own power plants, but from up to 100 countries that may be doing the same thing.” RESEARCH AND POLICY COMMITTEE, COMMITTEE FOR ECONOMIC DEVELOPMENT, NUCLEAR ENERGY AND NATIONAL SECURITY: A STATEMENT ON NATIONAL POLICY 8 (1976) [hereinafter NUCLEAR ENERGY].

148. CLANCY, *supra* note 143, at 797; see NUCLEAR ENERGY, *supra* note 147, at 8 (relating to ease of constructing an atomic bomb).

149. Eliot Marshall, *If Terrorists Go Nuclear*, SCIENCE, July 11, 1986, at 148.

150. The list of experts working with NCI include Rear Admiral Thomas Davies (USN, retired); Harold Agnew, the former director of the Los Alamos National Laboratory; Yuval Ne’eman, an Israeli physicist; Admiral Stansfield Turner, former CIA chief; and Bertram Wolfe, Vice President and Manager of General Electric’s nuclear energy

possible for a terrorist group to obtain the technology and equipment necessary to construct its own nuclear bomb.¹⁵¹

9. The Treaty's Duration

Another flaw related to the withdrawal provisions is their potential limitations upon the NPT's duration. By its terms, the NPT requires the parties to convene in 1995 to decide the Treaty's fate.¹⁵² By a majority vote, the parties may agree to extend the Treaty indefinitely, extend it for a fixed period of time, or simply terminate it.¹⁵³ Preliminary statements from various parties to the NPT indicate the Treaty's future is threatened.¹⁵⁴ Some Third World states have condemned the NPT's discriminatory role and have expressed their desire to allow the Treaty to automatically expire in 1995,¹⁵⁵ unless all parties take action, the NPT and its goals may be jeopardized.¹⁵⁶

B. *The NPT: "A Useful Relic"*

1. Cornerstone of the Nonproliferation Regime

Despite its weaknesses, the NPT has enjoyed success in curbing the proliferation of nuclear weapons and in providing a framework for peaceful nuclear uses.¹⁵⁷ The number of signatories to the NPT has grown steadily since 1970, and today with approximately 150 members, it has a greater number of signatories than any other arms control treaty in history.¹⁵⁸ In addition, the NPT serves as the cornerstone of the

division. *Id.*

151. *Id.* at 148-49.

152. NPT, *supra* note 7, art. XI, para. 2, at 494, 729 U.N.T.S. at 175.

153. *Id.*

154. Graham, *supra* note 65, at 661.

155. *Id.* Graham posits that the NPT's terms constrain the parties to choose between continuing the Treaty indefinitely or for a fixed period of time. He argues that if they reach no consensus the Treaty will continue in force automatically until the parties agree otherwise. *Id.*; see also Ashok Kapur, *Dump the Treaty*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 21 (stating that the NPT is a "system of atomic apartheid" founded on "false bases"); Dhanapala, *supra* note 68, at 31 ("Despite the reality of power imbalances, Third World states believe passionately in the equality of nations. They cannot accept the assumption that nuclear deterrence is good for some and bad for others.").

156. See Thompson, *supra* note 146, at 32.

157. Graham, *supra* note 65, at 665; see Lewis A. Dunn, *It Ain't Broke—Don't Fix It*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 19, 20 ("The Nuclear Non-Proliferation Treaty works. It makes an essential contribution to global peace and security.").

158. Graham, *supra* note 65, at 663.

world's nonproliferation regime. It is widely regarded as one of the most effective multilateral arms control agreements ever reached.¹⁵⁹ The NPT's checks and balances have helped to ensure that nonnuclear-weapon states use nuclear technology only for peaceful purposes and have also served as a springboard for nuclear arms reduction treaties among the nuclear-weapon states.¹⁶⁰ The Treaty has had some success in preventing the acquisition of nuclear weapons by additional states.¹⁶¹ Only one state, India, has detonated a nuclear device since the Treaty entered into force, and no state has openly acquired or deployed a nuclear arsenal.¹⁶²

2. Strong Commitment

Despite the few states that continue to disregard their obligations under the NPT, virtually all of the Treaty's members have shown a genuine commitment to abide by its terms.¹⁶³ This commitment has encouraged nonproliferation by assuring those states that their agreement to forgo nuclear weapons is being matched by other nonnuclear-weapon states.¹⁶⁴ For example, Canada and Sweden are capable of producing nuclear weapons but have chosen not to do so.¹⁶⁵ Based in part on their confidence in the NPT regime, they have refrained from producing nuclear weapons.¹⁶⁶

3. Peaceful Applications

The NPT has facilitated the exchange of equipment, materials, and technological information for peaceful applications of nuclear energy.¹⁶⁷ States possessing nuclear technology have assisted nonnuclear states in the development of peaceful applications of nuclear energy.¹⁶⁸ The NPT, in conjunction with IAEA safeguards, allows such commerce to proceed

159. *Keeping it in the Nuclear Family*, *supra* note 87, at 19.

160. *Id.* For example, President Lyndon Johnson announced the Strategic Arms Limitation Talks (SALT) on July 1, 1968—the day the NPT opened for signature. Peter Grose, *U.S. and Soviets Agree to Parleys on Limitation of Missile Systems: Ban on Atom Arms Spread Signed*, N.Y. TIMES, July 2, 1968, at 1.

161. Graham, *supra* note 65, at 665.

162. *Id.* at 664. India detonated a nuclear device in 1974. Dunn, *supra* note 157, at 19.

163. Dunn, *supra* note 157, at 19.

164. *See id.*

165. Sanders, *supra* note 3, at 18; *see* Glenn, *supra* note 40, at 29.

166. *See* Sanders, *supra* note 3, at 18.

167. *See* NPT, *supra* note 7, art. IV, para. 2, at 489-90, 729 U.N.T.S. at 173.

168. Dunn, *supra* note 157, at 19.

while providing assurances that the trade will not contribute to the proliferation of nuclear weapons.¹⁶⁹ Although the NPT has fostered a legitimate nuclear trade, the NPT's system of safeguards has made it costly and difficult for states to acquire the materials, components, and technology necessary to construct nuclear weapons.¹⁷⁰

4. Symbol of Opposition

The NPT symbolizes international opposition to the proliferation of nuclear weapons and embodies the idea that nuclear proliferation is a threat to international peace and stability.¹⁷¹ A negative aura now surrounds the very idea of nuclear proliferation.¹⁷² The acquisition of nuclear weapons by a previously nonnuclear-weapon state is now met with worldwide condemnation.¹⁷³ What was once an act of national pride has become an act of international outlawry.¹⁷⁴ The swift and stern international condemnation¹⁷⁵ of India's nuclear explosion in 1974 prompted India to abandon its nuclear weapons program.¹⁷⁶ India has not detonated a nuclear device since 1974.¹⁷⁷ In the face of world opinion, most states today are reluctant to reveal any ambitions of acquiring nuclear weapons.¹⁷⁸

169. Graham, *supra* note 65, at 666.

170. Dunn, *supra* note 157, at 19.

171. *Id.*

172. Graham, *supra* note 65, at 665.

173. Dunn, *supra* note 157, at 19.

174. Graham, *supra* note 65, at 665.

175. See, e.g., Statement by Prime Minister Bhutto on Indian Nuclear Explosion, May 19, 1974, *reprinted in* UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, DOCUMENTS ON DISARMAMENT 146-48 (1974) [hereinafter DISARMAMENT]; Statement by the Japanese Representative (Nisibori) to the Conference of the Committee on Disarmament: Indian Nuclear Explosion, May 21, 1974, *reprinted in* DISARMAMENT 150-51 (1974); Statement by the Swedish Representative (Eckerberg) to the Conference of the Committee on Disarmament: Indian Nuclear Explosion, May 21, 1974, *reprinted in* DISARMAMENT 152 (1974); Statement by the Canadian Representative (Barton) to the Conference of the Committee on Disarmament: Indian Nuclear Explosion, May 21, 1974, *reprinted in* DISARMAMENT 151.

176. Graham, *supra* note 65, at 666.

177. *Id.*

178. Dunn, *supra* note 157, at 19.

IV. SAVING THE NPT: STRATEGIES FOR THE 1990s

As 1995 approaches and the Depository States¹⁷⁹ prepare to convene the NPT's extension meeting,¹⁸⁰ it is uncertain whether a majority of the member states will vote to extend the Treaty.¹⁸¹ However, from the standpoint of world peace and stability, it is imperative that the NPT, or some similar nonproliferation treaty, remain in force.

Despite the naysayers who dwell on the Treaty's limitations, most still consider the NPT to be one of the most comprehensive and successful nonproliferation treaties in history.¹⁸² Given that nuclear weapons proliferation will continue to pose a threat to international peace and stability well into the future, member and nonmember states alike must be persuaded that continuation of the Treaty is in their collective best interests.¹⁸³ To help ensure that the NPT regime will continue in force, the Treaty's weaknesses—both real and perceived—must be addressed and remedied to persuade ambivalent states that the Treaty should be extended. Three primary weaknesses of the NPT regime require resolution: (1) the motivation for acquiring nuclear weapons must be reduced; (2) the NPT regime must be strengthened and IAEA safeguards enhanced; and (3) the perceived discriminatory treatment by nuclear states of nonnuclear states must be diminished.

A. *Reduce the Motivation to Acquire Nuclear Weapons*

After the United States lost its nuclear monopoly in the late 1940s, it became apparent that the effectiveness of supply-side proliferation controls—efforts to restrict the availability of technological information necessary to construct a nuclear device—was limited.¹⁸⁴ History has demonstrated that supply-side strategies can slow, but not prevent, the proliferation of nuclear materials and technologies.¹⁸⁵ State parties can

179. The Depository States are the the United Kingdom, the United States, and the Soviet Union. See *supra* note 35.

180. See NPT, *supra* note 7, art. X, para. 2, at 489-90, 729 U.N.T.S. at 173.

181. See generally Graham, *supra* note 65.

182. BAILEY, *supra* note 70, at 37.

183. See Graham, *supra* note 65, at 677.

184. Munir A. Khan, *Towards a Universal Framework of Nuclear Restraint, in NUCLEAR NON-PROLIFERATION AND THE NON-PROLIFERATION TREATY* 45 (M.P. Fry et al. eds., 1990). "The policy of denial has not been very effective in controlling the spread of any modern technology." *Id.* at 49. "France was denied access to nuclear technology in the 1950s. It has not only attained self-sufficiency but is now a major potential supplier of sophisticated nuclear plants and services." *Id.* at 49-50.

185. Harold Müller, *The Nuclear Trade Regime: A Case for Strengthening the Rules, in NUCLEAR NON-PROLIFERATION AND THE NON-PROLIFERATION TREATY*,

tighten export controls and international safeguards, but where there is a demand, it will ultimately be filled.¹⁸⁸ The most effective way to encourage nonproliferation, and membership in the NPT, is to reduce the motivation to acquire nuclear weapons.

1. Security

In order to devise effective strategies to reduce demand, it is necessary to understand why states desire nuclear weapons. Many theories have emerged as to why states seek nuclear-weapons capability.¹⁸⁷ For many states the foremost concerns are the desire to ensure national security and defense.¹⁸⁸ Moreover, many states are convinced that possession of nuclear weapons will reduce or deter military threats against their strategic interests.¹⁸⁹ This belief is often without merit.

While nuclear weapons may provide a military advantage in the short-term, this advantage is often only temporary.¹⁹⁰ Once a state acquires nuclear weapons, its adversary often does the same.¹⁹¹ For example, after the United States built the first nuclear weapons, the Soviet Union developed its nuclear capabilities.¹⁹² Fearing the Soviet Union's nuclear capability, China followed suit.¹⁹³ To counter China's nuclear weapons, India developed its own.¹⁹⁴ Once India gained nuclear capability, Pakistan vigorously pursued a nuclear weapons program.¹⁹⁵ A simi-

supra note 184, at 19. "Many states have created some system of export controls. Yet experience . . . show[s] that these controls are far from being perfect; illegal exports and the utilization of existing loopholes have contributed to unsafeguarded nuclear activities in several counties." *Id.* at 23.

186. As with the war on drugs, when authorities eliminate one source, another source emerges to fill its place. The same is occurring, and will continue to occur, with nuclear material and technology. See BAILEY, *supra* note 70, at 137.

187. See generally STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, POSTURES FOR NON-PROLIFERATION: ARMS LIMITATION AND SECURITY POLICIES TO MINIMIZE NUCLEAR PROLIFERATION 5-7 (1979) (postulating several reasons for states to seek nuclear weapons capabilities) [hereinafter SIPRI].

188. See Rathjens & Miller, *supra* note 134, at 26.

189. BAILEY, *supra* note 70, at 39.

190. *Id.*

191. *Id.*

192. *Id.* The Soviet Union detonated its first atomic bomb on August 29, 1949. SWEET, *supra* note 17, at 117.

193. BAILEY, *supra* note 70, at 39. China detonated its first atomic bomb in 1964. SWEET, *supra* note 17, at 125-26.

194. Glenn, *supra* note 40, at 31. India tested its first atomic bomb in May 1974. SWEET, *supra* note 17, at 138.

195. Glenn, *supra* note 40, at 31.

lar chain reaction is emerging in the Middle East where Arab states such as Iran, Iraq and Libya have pursued the acquisition of their own nuclear weapons in the face of the perceived nuclear threat from Israel.¹⁹⁶

In addition, as Iraq discovered in the 1981 Israeli attack on its nuclear reactors, the mere appearance of a nuclear weapon program can actually diminish security. Acquiring nuclear weapons can be destabilizing on a government because it vastly changes that state's internal power structure.¹⁹⁷ Various logistical questions may also arise. Should a state distribute such weapons among the several branches of the military?¹⁹⁸ Can the head of state maintain direct control over the weapons?¹⁹⁹ Is security for the weapons adequate? Will possession of the weapons prompt a pre-emptive strike?²⁰⁰ Nonnuclear-weapon states should consider each of these questions before developing a nuclear weapons program.²⁰¹

Historically, when there has been a great imbalance in conventional capabilities, weaker states have sought to acquire nuclear weapons.²⁰² Promoting disarmament, encouraging security arrangements, and fostering better international relations for vulnerable states will help to remove the impetus to acquire nuclear weapons.²⁰³ For example, the United States security arrangement with South Korea arguably has helped avert one regional nuclear arms race.²⁰⁴

196. *Id.*

197. Ulm, *supra* note 79, at 174; Thomas Schelling, testifying before a United States Senate subcommittee, underscored the numerous problems inherent in maintaining a nuclear weapons arsenal: "What should a wise head of government respond if offered immediate delivery of a few nuclear weapons, free of charge? I think he or she should respond, 'Not yet—let me think where to put them.'" *Id.*; see also Testimony of Thomas Schelling, Harvard University, before the Senate Subcommittee on Energy, Nuclear Proliferation and Government Processes, Committee on Governmental Affairs, June 24, 1981.

198. *Id.*

199. *Id.*

200. *Id.*

201. *Id.*

202. See Rathjens & Miller, *supra* note 134, at 27. For example, Israel promoted nuclear weapons development to counter superior Arab conventional forces. South Africa sought nuclear weapons to equalize military force with its African neighbors. Pakistan has developed its nuclear weapons program in the face of superior Indian military forces. See Glenn, *supra* note 40, at 31.

203. Rathjens & Miller, *supra* note 134, at 27.

204. Mutual Defense Treaty, Oct. 1, 1953, U.S.-Korea, 5 U.S.T. 2368. Other frequently cited alliances that have assisted in deterring the acquisition of nuclear weapons are the North Atlantic Treaty Organization and the Mutual Cooperation Treaty between the United States and Japan. See North Atlantic Treaty, Apr. 4, 1949, 63

2. Status and Prestige

Many motivations prompt states to pursue nuclear weaponry.²⁰⁵ For the United Kingdom it was status and prestige. The United Kingdom developed nuclear weapons to demonstrate its technological prowess and to maintain its political influence with the United States.²⁰⁶ For France it was to retain its military independence.²⁰⁷ For some Third World states, possession of nuclear weapons has developed into a symbol of achievement and status.²⁰⁸

The international community must demonstrate that the possession of nuclear weapons is no longer a source of prestige or status in international affairs.²⁰⁹ World opinion and condemnation must accompany potential proliferators' moves toward acquiring nuclear weapons. The international community should encourage other indices of prestige and status.²¹⁰ For example, Japan and Germany have become prominent forces in international affairs through their economic rather than military power.²¹¹

As the economic strength of nuclear-weapon states such as France, the United Kingdom, and the United States erodes relative to nonnuclear-weapon states such as Japan and Germany, states contemplating acquiring nuclear weapons should consider the high economic and political costs of a nuclear arms race. As the former Soviet Union discovered, possession of nuclear weapons counts for little if it results in a broken

Stat. 2241, 34 U.N.T.S. 243; Treaty of Mutual Cooperation and Security, Jan. 19, 1960, U.S.-Japan, 11 U.S.T. 1632.

205. SIPRI, *supra* note 187, at 7. The Stockholm International Peace Research Institute (SIPRI) has enumerated the following reasons explaining why states seek nuclear weapons:

- (1) To deter a nuclear attack or blackmail by a nuclear-weapon state, or to defend against a superior conventional attack.
- (2) To match the acquisition by a local or regional adversary.
- (3) To achieve prestige and power.
- (4) To achieve political independence and political status.

Id.

206. Rathjens & Miller, *supra* note 134, at 26.

207. *Id.*

208. Dhanapala, *supra* note 68, at 31.

209. See Rathjens & Miller, *supra* note 134, at 27.

210. See *id.* at 32.

211. See George H. Quester & Victor A. Utgoff, *U.S. Arms Reductions and Nuclear Nonproliferation: The Counterproductive Possibilities*, WASH. Q., Winter 1993, at 126, 127. "[E]conomic prowess is now seen at least on par with nuclear prowess where international political influence is concerned." *Id.*; Rathjens & Miller, *supra* note 134, at 27.

economy.²¹²

3. Limited Utility

Another way to reduce the motivation to acquire nuclear weapons is for nuclear-weapon states to emphasize the limited utility of such weapons. The evident reluctance of nuclear-weapon states to use nuclear weapons in military conflict sends a strong signal to the nonnuclear-weapon states of the limited usefulness of nuclear weapons.²¹³ In addition, the Gulf War attests to the limited deterrent value of nuclear weapons. Iraq invaded Kuwait despite the strategic interests of the United States, the United Kingdom, and France, all of which possess nuclear capabilities.²¹⁴ Argentina's seizure of the Falkland Islands from the United Kingdom is another example.²¹⁵ The aggressors in each instance considered the possibility of a nuclear response, but they apparently discounted that possibility.²¹⁶

To control proliferation, the motivation for states to acquire nuclear weapons must be curtailed. Once a state makes the decision to develop a nuclear weapons program, it is often difficult to retreat. After initiating a nuclear weapons program, bureaucratic "inertia develops and soon the program takes on a life of its own."²¹⁷ Those states initiating nuclear weapons programs expend enormous sums of money on them.²¹⁸ These programs create institutions and jobs.²¹⁹ Once created, the bureaucracy tends to build to the point where it is difficult, if not impossible, to stop.²²⁰

B. *Strengthen the NPT Regime*

Because eliminating all possible motivations to acquire nuclear weapons will be impossible, it is imperative that the international community encourage confidence in the NPT; therefore, it is necessary to strengthen IAEA safeguards and controls over nuclear technologies and materials. While the spread of knowledge is unavoidable and the secret of nuclear weapons has all but vanished, strengthened safeguards will force poten-

212. Quester & Utgoff, *supra* note 212, at 127.

213. Glenn, *supra* note 40, at 29.

214. Rathjens & Miller, *supra* note 134, at 26.

215. *Id.*

216. *Id.*

217. BAILEY, *supra* note 70, at 39.

218. *See id.*

219. *Id.*

220. *See id.*

tial proliferators to incur great political and economic costs if they wish to obtain a nuclear device.²²¹

Above all else, the NPT depends on the confidence of its members to be effective. Without adequate assurances that member states are fulfilling their obligations, the Treaty regime would cease to exist. In the wake of the Gulf War and Iraq's clandestine nuclear weapons program, confidence in the NPT has diminished significantly.²²² To recapture this lost confidence, state parties must increase IAEA resources and strengthen its safeguards. States must install effective surveillance and detection systems and encourage accurate accounting of nuclear materials.²²³ Instruments and human monitors should be utilized to ensure accurate inspections.²²⁴ Member states should also add sites to the IAEA's inspection list for additional safeguard controls.²²⁵

To further bolster the IAEA's credibility, the IAEA needs more power over its inspections. Under current inspection procedures, the IAEA must obtain approval from a state before inspecting its nuclear facilities.²²⁶ An unwilling state can thwart the inspection by simply refusing the inspection or by delaying it.²²⁷ To remedy such shortcomings, the IAEA needs the authority to conduct special inspections whereby it could enter at will any member state's nuclear facilities even over that state's veto.²²⁸ In addition, the public should have access to the results of IAEA inspections, and states in violation of the NPT should be subjected to international sanctions.²²⁹

C. *Diminish Discrimination Among States*

Many states, such as Argentina, Brazil, and India object to the NPT on the ground that it perpetuates the distinction between nuclear-weapon and nonnuclear-weapon states.²³⁰ If the NPT is to continue in force, reducing discrimination is imperative. One way the nuclear-weapon

221. See Menon, *supra* note 25, at 34.

222. See *It's Broke, So Fix It*, *supra* note 130, at 13.

223. Glenn, *supra* note 40, at 35.

224. *Id.*

225. For example, the use of missile material in nonexplosive military applications, such as submarine nuclear reactors, should be monitored. John Simpson, *Nonproliferation Agenda Beyond 1990*, BULL. ATOM. SCIENTISTS, July-Aug. 1990, at 39.

226. Paul Lewis, *Atom Inspectors Seek Easier Entry*, N.Y. TIMES, July 17, 1988, at A9.

227. See *Bombs Away*, *supra* note 70, at 17.

228. Lewis, *supra* note 226, at A9.

229. *It's Broke, So Fix It*, *supra* note 130, at 13.

230. Sanders, *supra* note 3, at 15.

states could address the problem would be to fulfill their Treaty obligations by entering into good faith disarmament negotiations.²³¹ A comprehensive ban on nuclear weapons testing among the nuclear-weapon states would provide a good start.²³²

The nuclear-weapon states' failure to implement a comprehensive nuclear test ban has had the effect of accentuating the belief among other states of the desirability of nuclear weapons because it has conveyed the message that the nuclear-weapon states still attach great importance to nuclear weapons.²³³ Implementation of a comprehensive nuclear test ban will help change this. A comprehensive test ban will show the non-nuclear-weapon states that the nuclear-weapon states are serious about nuclear disarmament, and will also advance nonproliferation goals by making the development of nuclear weapons more difficult.²³⁴ A nondiscriminatory nuclear test ban also will strengthen the nonnuclear-weapon states' commitment to the NPT regime.²³⁵

Both the United States and the United Kingdom oppose a full nuclear test ban.²³⁶ Their criticisms of such a test ban center on issues of compliance verification and national security.²³⁷ While the concerns of United States and the United Kingdom were relevant a decade ago, they are much less so today. At one time there was disagreement about the threshold at which underground nuclear explosions could be detected and whether such explosions could be distinguished from other seismic activity.²³⁸ As a result, the United States opposed a comprehensive test ban for fear the Soviet Union might gain military advantage through secret testing.²³⁹ Many scientists now agree, however, that modern instrumentation is sufficiently sensitive to detect and distinguish an underground nuclear explosion.²⁴⁰

Other factors also favor the creation of a comprehensive nuclear test

231. NPT, *supra* note 7, art. VI, at 490, 729 U.N.T.S. at 173. The United States and Russia recently signed the START II Treaty, which will reduce their nuclear arsenals by two-thirds. Ann Devroy, *Bush and Yeltsin, Sign Treaty to Slash Nuclear Arsenals*, WASH. POST, Jan. 4, 1993, at A1.

232. See Dhanapala, *supra* note 68, at 31.

233. *Id.*

234. Schwartz, *supra* note 32, at 20.

235. James P. Rowles, *Nuclear Power and Non-Proliferation: The View from Brazil*, 14 VAND. J. TRANSNAT'L L. 711, 781 (1981).

236. *Keeping it in the Nuclear Family*, *supra* note 87, at 29.

237. Glenn, *supra* note 40, at 32.

238. *Id.*

239. Rathjens & Miller, *supra* note 134, at 30.

240. Glenn, *supra* note 40, at 32.

ban. During the Cold War years, the United States refused to consider a full test ban, arguing that continued testing would make weapons more reliable.²⁴¹ However, with the demise of the Soviet Union and the end of the Cold War, the additional gains through further testing pale beside the gains that would accrue from a comprehensive test ban. Because the issue of a comprehensive nuclear test ban is directly linked to extending the NPT beyond 1995,²⁴² implementation of such a test ban is necessary to help persuade Treaty members that the NPT regime is indeed worth retaining.²⁴³

V. CONCLUSION

As 1995 approaches and the NPT extension meeting draws near, each member to the Treaty must consider one question: Is the extension of the Treaty in that state's best interests? A simple majority of votes will determine the NPT's fate.²⁴⁴ No single initiative will provide the key to the Treaty's survival, nor will any single weakness be the source of its downfall.²⁴⁵ Ultimately, each member state must weigh for itself the costs and benefits of continuing the NPT and cast its vote accordingly.

The NPT's survival is contingent upon its members' ability to adapt to a rapidly changing global environment. The long-term viability of NPT will require maintaining the support of member states and attracting the support of new states. It will require reducing states' motivation to possess nuclear weapons and eliminating the discrimination between the nuclear-weapon and nonnuclear-weapon states. Ultimately, the best way to accomplish this is for the member states to rededicate themselves to attaining the Treaty's three basic goals: (1) halting nuclear proliferation; (2) facilitating peaceful uses of nuclear energy; and (3) moving toward disarmament.²⁴⁶

Like other global problems such as ozone depletion and global warming, only concerted international effort will resolve nuclear proliferation.²⁴⁷ It is imperative that the international community garner the necessary support. World peace and stability depend on it. With the necessary support, the NPT can continue beyond 1995 and can help to

241. Jonathan Schlefer, *Nuclear Terrorism*, *TECH. REV.*, Apr. 1991, at 5.

242. Rathjens & Miller, *supra* note 134, at 30.

243. Schlefer, *supra* note 241, at 5.

244. *See* NPT, *supra* note 7.

245. Dunn, *supra* note 157, at 20.

246. *Id.*

247. *See* Thompson, *supra* note 146, at 33.

lead the transition to a "new world order of peaceful coexistence."²⁴⁸

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248. *Comments by Bush, supra* note 1, at A14; *see Thompson, supra* note 146, at 33.