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CONTROLLING THE BOMB: INTERNATIONAL CONSTRAINTS ON NUCLEAR WEAPONS ARE NOT ENOUGH

INTRODUCTION

Could the Persian Gulf war have "gone nuclear?" The suggestion is not so farfetched. After the war, nuclear weapons inspectors uncovered evidence that Iraqi efforts to obtain a nuclear weapon were much further advanced than Western governments had believed. Inspectors from the International Atomic Energy Agency (IAEA)—an organization affiliated with the United Nations that monitors nuclear programs worldwide—discovered that Iraqi dictator Saddam Hussein was only months away from construction of a nuclear weapon. Saddam was building a nuclear weapon despite the fact that Iraq is a signatory to the 1968 Nuclear Non-Proliferation Treaty (NPT), which is the centerpiece of the international community's campaign to prevent the spread of nuclear weapons.

In signing the NPT, non-nuclear states forswear the development of nuclear weapons. Charged by the U.N. with monitoring international compliance with the NPT, the IAEA regularly inspects nuclear research and power facilities to prevent the diversion of ostensibly peaceful nuclear facilities to weapons programs. But Iraq had built extensive weapons development facilities clandestinely, outside the view of IAEA inspectors, in clear violation of Iraq's commitment under the NPT not to acquire nuclear weapons.

The revelations about Iraq's secret nuclear weapons program, combined with North Korea's March 11 announcement of its decision to withdraw from the NPT, have raised questions about the value of the NPT and the competence of the IAEA in detecting and preventing the diversion of nuclear power technology and materials to weapons programs.[1] The revelations also have prompted many in Congress to advocate expanding the IAEA's inspection authority to search for facilities that member countries have con-

1 For one of the harshest assessments of the IAEA, see Gary Milhollin, "The Iraqi Bomb," *The New Yorker*, February 1, 1993.

cealed. Proponents of strengthening IAEA also recommend increasing U.S. funding for the IAEA from about $22 million a year to over $27 million.

While there are ways to improve the IAEA, there are limits to what the agency can do. It is a common misunderstanding that the IAEA is responsible for enforcing the NPT. In fact, it is responsible only for detecting the diversion of peaceful nuclear facilities and materials to military purposes. Further, as an international organization, the IAEA must seek a consensus among its member states. These include the very nations whose nuclear facilities it inspects and on whose cooperation it ultimately must rely. This limits the IAEA's effectiveness because individual countries may refuse to allow inspectors to search for nuclear facilities they have hidden. The uncovering of Iraq's secret program was possible only because the inspections were forced on Baghdad as a consequence of its defeat in the 1991 Gulf war.

The IAEA also may be contributing to the very problem of proliferation that it seeks to prevent. The IAEA charter directs the organization to assist its member countries in developing nuclear technology. This is a result of the original Eisenhower "Atoms for Peace" proposal for the peaceful use of nuclear power that served as the foundation for the IAEA. Thus, the IAEA inadvertently may be assisting some countries in gaining the technical expertise to develop nuclear weapons.

Given these circumstances, it is clear that tinkering with the IAEA will not substantially slow the spread of nuclear weapons. Therefore, the U.S. needs to be cautious about the various proposals for strengthening the IAEA. Rather than relying exclusively on the IAEA to curtail the spread of nuclear weapons, the U.S. needs a policy backing up a strengthened IAEA with stronger U.S. action. Thus, the U.S. should:

- ✔ **Urge the IAEA Board of Governors, the organization's policy-making body, to focus inspections on countries that pose the most urgent proliferation threats.** The IAEA historically has conducted its inspections of nuclear facilities according to the number of nuclear facilities a particular country possesses and the ease of confirming that these facilities have not been used for military purposes. As such, countries which pose little threat of developing their own nuclear weapons, such as Germany and Japan, are inspected repeatedly, while countries such as Iraq have received relatively few inspections. Since the risk of proliferation is based on the desire of specific governments to acquire nuclear weapons, not on the number or type of nuclear facilities any particular nation possesses, the schedule of IAEA inspections should take into account the compliance record compiled by individual members.

- ✔ **Scale back the IAEA's technical assistance programs, which help member countries develop their own nuclear industries.** The IAEA's assistance of member countries in developing their nuclear industries can run counter to its non-proliferation mission. By providing these countries with the technology to produce fissionable material, the IAEA can inadvertently be assisting a secret nuclear weapons program. Before Congress increases funding for the IAEA to improve inspections, the money for the technical assistance programs should first be reduced. This will force the IAEA to be more careful about which countries it assists and the sort of assistance it provides. Before Congress gives more money to the IAEA, it should be assured that the funds will not

go to assist a country like Iraq. Nor should they be used to improve the capacity of nuclear programs to produce fissionable material.

✔ **Press for non-proliferation inspections of foreign nuclear facilities by U.S. inspectors.** There is no reason why the U.S. must rely on the IAEA alone to discover whether a country is diverting nuclear material to the production of weapons. In addition to expanding its intelligence programs to monitor nuclear proliferation, the U.S. should insist on performing its own inspections to supplement those conducted by the IAEA. While the Clinton Administration should press for inspections in all countries suspected of violations, it should insist on inspections in all countries receiving nuclear fuel and technical assistance from the U.S. Refusal to accept supplemental U.S. inspections should be interpreted as a signal that the country is trying to obtain nuclear weapons. Washington should then cut off all nuclear fuel supplies and technical assistance programs.

✔ **Press to halt the growth of uranium enrichment and reprocessing facilities.** These technologies are essential to producing highly enriched uranium and plutonium, the key ingredients for producing nuclear weapons. Of course, these facilities are also used for making fuel for non-military nuclear reactors. To prevent countries from building uranium enrichment and reprocessing facilities of their own, the U.S. should propose establishing reprocessing facilities in the U.S. and the other nuclear weapons states designated by the Nuclear Non-Proliferation Treaty: China, France, Great Britain, and Russia.[2] The goals should be not only to prevent the proliferation of enrichment and reprocessing facilities, but to limit international trade in the most sensitive elements of nuclear weapons production.

✔ **Reserve the right to use military force to defend America from nuclear proliferation threats.** No arms control effort, no matter how tightly written or strictly implemented, will stop proliferation completely. Some countries will refuse to participate in an arms control agreement, or if they do agree, they will violate it. Therefore, the U.S. will need to maintain the military capability to stop the transfers of sensitive nuclear production equipment and technology to hostile countries and to disable or destroy nuclear weapons facilities. Covert actions and military operations are appropriate means for countering nuclear proliferation if it endangers American national security.

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2 While the Nuclear Non-Proliferation Treaty designates the Union of Soviet Socialist Republics as one of the five states designated to possess such weapons, Russia is expected to succeed the USSR in this capacity.

THE INTERNATIONAL CAMPAIGN TO CONTROL THE SPREAD OF NUCLEAR WEAPONS

The centerpiece of the international effort to curtail the spread of nuclear arms is the 1968 Nuclear Non-Proliferation Treaty (NPT). Under this agreement, five designated nuclear weapons states—the U.S., Britain, China, France, and Russia (which replaces the Soviet Union) — pledged not to provide nuclear weapons or the technology to construct them to other countries. These five weapons states also agreed to support peaceful nuclear programs in non-weapon states. Non-weapon states signing the NPT, meaning all others that acceded to the Treaty, promised not to acquire nuclear explosives and to place their nuclear facilities under international safeguards. The NPT currently has over 150 participating states. The rationale behind the NPT is to use the desire of non-weapon states to acquire nuclear technology, primarily as a means to generate electrical power, as an incentive to gain pledges to forswear building nuclear arms.

Countries on the Waiting List to Join the "Nuclear Club" and Their Membership in International Nuclear Organizations

	NPT Signatory	IAEA Member
Argentina		✔
Brazil		✔
Egypt	✔	✔
India		✔
Iraq	✔	✔
Israel		✔
Iran	✔	✔
Japan	✔	✔
Libya	✔	✔
North Korea	✔*	✔
Pakistan		✔
Saudi Arabia	✔	✔
South Korea	✔	✔
South Africa	✔	✔
Syria	✔	✔
Taiwan	✔	✔

* North Korea has announced its intention to withdraw from the NPT.

Note: NPT=Non-Proliferation Treaty, IAEA=International Atomic Energy Agency. The "Nuclear Club" is made up of Britain, China, France, Russia, and the U.S.

The primary responsibility for detecting the diversion of nuclear technology to weapons purposes rests with the International Atomic Energy Agency (IAEA). The IAEA was created in 1957 as an outgrowth of President Dwight Eisenhower's "Atoms for Peace" plan, first proposed in a December 8, 1953, speech to the U.N. General Assembly. Eisenhower offered to help other countries to take advantage of the peaceful uses of nuclear power. Underlying this proposal was the assumption that the most effective way to stop nuclear proliferation was for the U.S. and other nuclear powers to achieve greater control over the trade in nuclear technology.

The IAEA was formed to serve two purposes: to facilitate international cooperation in developing nuclear energy programs for peaceful purposes, and to monitor whether nations receiving nuclear technology were using it to build weapons. Although the IAEA was established before the NPT, it was accorded the role of "safeguarding" against the diversion of nuclear technology under the terms of the NPT. The IAEA's responsibility was to confirm that a non-weapon state was using its nuclear facilities only for peaceful

purposes. While the IAEA has the right to inspect facilities, it has no power to enforce compliance with the NPT. Enforcement is the responsibility of the international community. The IAEA reports annually to the U.N. General Assembly and to the U.N. Security Council. When a country is caught violating the NPT, the Security Council is supposed to recommend action to enforce the agreement.

Headquartered in Vienna, the IAEA consists of three main organizations: the Board of Governors, the General Conference, and the Secretariat. The Board of Governors is the senior policy-arm of the Agency. Its 35 members serve one-year terms. The General Conference is comprised of delegates from each of the IAEA's 114 member states. Its role is confined largely to organizational questions. Proposals before the General Conference must be approved by two-thirds of the members present. The Secretariat, led by a Director General, performs the daily functions of the IAEA. These include inspections of nuclear facilities and technical assistance to member states. The Director General, currently Hans Blix of Sweden, is elected to a four-year term by the Board Governors with the approval of the General Conference. The IAEA budget in 1990 was about $178 million, with the U.S. contributing about $22 million.

The IAEA inspection staff monitors nuclear facilities throughout the world to detect whether nuclear materials intended for peaceful purposes are being used to construct weapons. These inspectors, who may be drawn from any member country, monitor the transfer of nuclear materials to nuclear facilities. Nuclear weapons can be produced from either highly enriched uranium or plutonium. Highly enriched uranium consists of at least 90 percent of the uranium 235 isotope. Low-enriched uranium, which consists of about 3 percent of uranium 235, is used in most power reactors. Since natural uranium contains less than 1 percent uranium 235, some degree of treatment, or enrichment, is required to produce fuel for nuclear power reactors. The IAEA monitors the fuel to assure that it is not enriched further to produce bomb-grade material.

Plutonium is produced from natural or low-enriched uranium fuel in power reactors as the fuel is spent during power production. The reaction cycle transmutes small quantities of the uranium fuel into plutonium, which must be extracted from the spent fuel. This extraction procedure is called reprocessing. In this instance, the IAEA inspectors account for the spent fuel to ensure that none has been used for producing plutonium through reprocessing. Plutonium also can be used as a power reactor fuel. While the U.S. has abandoned its plutonium fuel program, Britain, France, Germany, and Japan have continued theirs. Where power reactors are fueled with plutonium, the IAEA inspectors must account for the plutonium to ensure that none has been diverted to produce a nuclear weapon.

While the majority of facilities inspected by the IAEA are those that have been "declared" by individual governments, the IAEA has the authority to conduct uninvited special inspections of the nuclear facilities that are not acknowledged by the member government. But it has shown reluctance to undertake such special inspections without authorization from the U.N. Security Council. The reason: the IAEA depends on a consensus in making decisions and is reluctant to accuse a member of violating its non-proliferation commitments. Such timidity was a key factor in Iraq's ability to dupe nuclear inspectors. Iraq constructed several secret nuclear facilities which it refused to acknowledge to the IAEA. Prior to the Gulf war, the IAEA did not order special inspections of Iraq's nuclear facilities because it feared undermining the Agency's international consensus.

Building on the NPT

The efforts of the IAEA were supplemented in the 1970s by two international organizations which established guidelines for the export of nuclear materials, production equipment, and technologies. The first was the Non-Proliferation Treaty Exporters Committee organized by advanced countries, often referred to as the Zangger Committee, after its Chairman, Swiss nuclear expert Claude Zangger. As a result of the Zangger Committee's work, ten countries, including the U.S., Britain, and the Soviet Union, established in August 1974 a list of nuclear materials and production equipment that would not be exported unless the purchasing country abided by IAEA safeguards.[3] These countries have since been joined by several other countries, including Japan and Sweden, capable of exporting nuclear technology.

The Zangger Committee guidelines were expanded through meetings of the Nuclear Suppliers Group, another association of countries that export nuclear technology. Members of this group are the U.S., Canada, France, Britain, Japan, the Soviet Union, and West Germany. The Nuclear Suppliers Group agreed in January 1976 to expand on the Zangger Committee guidelines by including France (which was then neither a signatory to the NPT nor a participant in the Zangger Committee). The group also agreed to impose export guidelines not only on nuclear technology, but on nuclear materials and production equipment. Other countries have since adopted the Nuclear Supplier Group guidelines as well. These countries are Australia, Belgium, Czechoslovakia, East Germany, Finland, Italy, the Netherlands, Poland, Sweden, and Switzerland.[4] The Nuclear Suppliers Group, during a meeting in March 1991, established additional export guidelines on equipment used to produce nuclear facilities and equipment that could be used either in the nuclear sector or other industries.

IRAQ'S NUCLEAR WEAPONS DEVELOPMENT PROGRAM

The combination of international control mechanisms on the export and use of nuclear materials, production equipment, and technology is designed to detect and ultimately deter circumvention of the NPT. But the system is far from perfect, as the revelations regarding Iraq's secret nuclear weapons program have made clear.

Begun in the mid-1950s, Iraq's nuclear program was at first modest. Baghdad opened a Soviet-supplied research reactor in 1968 and acceded to the NPT the following year. In the 1970s Iraq became more ambitious, acquiring French assistance for its nuclear power and research program.[5] The French agreed to help Iraq build two reactors at the Tuwaitha site near Baghdad. The larger of the two reactors was known as Osirak. The project quickly raised concerns about proliferation because the Osirak reactor required highly en-

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3 Leonard S. Spector, *Nuclear Proliferation Today* (Cambridge, Massachusetts: Ballinger, 1984), pp. 446-447. The original ten countries were: U.S., Australia, Canada, Denmark, Finland, Great Britain, the Netherlands, Norway, the Soviet Union, and West Germany.

4 *Ibid.*, pp. 447-451.

5 For a detailed description of Iraq's nuclear program prior to the destruction of Tammuz I reactor by the Israelis in 1981, see *ibid.*, pp.165-188.

riched uranium fuel, a material suitable for constructing an explosive device. In addition, the reactor was capable of producing small quantities of plutonium.

The Iraqi government also bought from Italy the technology needed to extract plutonium from treated uranium, which is necessary to construct an explosive device. Iraq purchased large quantities of processed uranium ore and smaller quantities of depleted uranium from Brazil, Italy, Niger, and Portugal. This uranium could be transformed into weapons-grade plutonium in the Osirak reactor.

Iraq's drive to develop nuclear weapons was set back when Israeli jets destroyed the Osirak reactor on June 7, 1981. Attempts to rebuild the reactor after the raid were hampered because of several of Iraq's suppliers of nuclear technology—primarily France and Italy—would not provide assistance until Iraq first complied with IAEA safeguards. But Iraq launched a more vigorous effort to obtain nuclear weapons as its 1980-1988 war with Iran wound down. This increased activity resulted in a series of revelations in 1989 about Iraq's secret nuclear program. In 1989 Western governments discovered that Iraq was trying to obtain uranium enrichment centrifuges, which are used to increase the concentration of the isotope uranium 235. On March 28, 1990, a U.S. Customs Service "sting" operation led to the arrest of five people in London for attempting to acquire nuclear bomb triggers for Iraq.[6]

Despite these revelations, the full extent of Iraq's nuclear program did not become apparent until after the end of Operation Desert Storm in early 1991. As a condition for terminating the conflict, U.N. Security Council Resolution 687 required Iraq to destroy all of its nuclear weapons facilities. To implement the resolution, the Security Council instructed the IAEA to conduct inspections of Iraq's nuclear facilities, beginning in May 1991.

Before the inspections began, Iraq revealed for the first time that it was producing its own processed uranium ore (called "yellowcake") at its Al-Qaim facility.[7] But the Iraqis deliberately understated the scale of their uranium-enrichment program. During their second inspection in the summer of 1991, IAEA inspectors photographed Iraqis removing uranium enrichment equipment at Falluja, some forty miles west of Baghdad.[8] Subsequently, Baghdad was forced to admit in a July 7, 1991, letter to the Security Council that it was clandestinely operating three separate uranium enrichment programs, each using a different technology.

Iraq's deceptive practices toward the IAEA inspectors led to a U.N. deadline for revealing all remaining nuclear sites. Baghdad submitted a list of additional facilities three days after the deadline of July 25, 1991. This list revealed that Iraq also had mounted a secret program for reprocessing plutonium. But even this list was incomplete. Another inspection discovered a previously unknown facility, called the Al-Furat project.[9]

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6 Leonard S. Spector, *Nuclear Ambitions* (Boulder, Colorado: Westview, 1990), pp. 192-193.

7 David Kay, testimony before the United States Senate Committee on Foreign Relations, Senate Hearing 102-422, "Nuclear Proliferation: Learning from the Iraq Experience" (Washington, D.C.: Government Printing Office, 1992), p. 14.

8 *Ibid.*, p. 15.

9 *Ibid.*

In September 1991, an IAEA inspection team discovered at a petrochemical facility near Baghdad over 45,000 pages of documents outlining the full scope of the Iraqi nuclear weapons program. The documents removed all doubt that Iraq was managing a very ambitious clandestine nuclear weapons program.[10] The discoveries made in the earlier inspections led the IAEA to supervise the destruction of Iraqi nuclear facilities at Al-Atheer and other locations in April, May, and June of 1992. The August 1992 IAEA inspection led the inspection team's leader, Maurizio Zifferero, to declare that the Iraqi nuclear program was "at zero." But the IAEA also recommended caution, arguing that Iraq still retains the scientific expertise and technical know-how to resume its nuclear weapons program.[11]

IAEA inspections continue in Iraq despite Saddam's footdragging and frequent noncompliance. The Iraqis are hostile toward the IAEA inspectors, often trying to intimidate them with threats of force. Western observers speculate that the Iraqis may be trying to prevent the IAEA from discovering a secret underground nuclear facility.

IRAQ'S NUCLEAR PROGRAM SPURS CONGRESS INTO ACTION

The dramatic revelations unearthed by the inspections of Iraq's nuclear program have spurred Congress to consider several legislative proposals to "strengthen" the IAEA. Among these is an increase in U.S. funding for the IAEA and an expansion of its authority to conduct inspections of so-called undeclared nuclear facilities. Companion measures offered in the last Congress by Representative Edward Markey (H.R. 2755) and then-Senator Timothy Wirth (S. 1601) would direct the U.S. to undertake multilateral negotiations to expand the inspection authority of the IAEA. Two other companion measures, introduced by Representative Fortney Stark (H.J.Res. 351) and Senator John Glenn (S.J.Res. 216), recommend giving the IAEA the power to impose fines on countries that violate safeguard procedures. Stark and Glenn also proposed expanding the coverage of IAEA safeguards to include facilities that manufacture equipment, such as centrifuges, that are used to produce fissionable material or nuclear explosives. While neither of these proposals was enacted in 102nd Congress, attempts certainly will be made to adopt them in the current 103rd Congress.

Weakness of the IAEA Action Proposals

There are two problems with Congress's approach to strengthening the IAEA. First, congressional reformers focus almost exclusively on the IAEA's inspection mandate, while ignoring the fact that the IAEA's role in assisting supposedly non-military nuclear industries inadvertently contributes to the problem of proliferation. Second, the proposal by Representative Stark and Senator Glenn overlooks the weaknesses of the IAEA, which can work only when a consensus exists among its members. Although a strong international consensus produced dramatic results in ferreting out Iraq's nuclear secrets, this was an unusual situation because of the obvious threatening nature of Iraq. Such an

10 *Ibid.*, p. 16.

11 Reuter, "Iraq Seen Unable to Make A-Bomb," *The Washington Post*, September 5, 1992, p. A30.

international consensus may be lacking in the future if the offender is less bellicose than Saddam Hussein.

It would be unwise for the U.S. to become overly reliant on the IAEA for curtailing the spread of nuclear weapons. The agency has failed in the past, and it will surely fail again. America needs a stronger policy, one that does not depend exclusively on the good will and agreement of other nations.

STRENGTHENING THE IAEA

The U.S. should recognize the IAEA has both strengths and weaknesses. Once this is realized, the Clinton Administration can develop an anti-proliferation policy that seeks not only to reform the IAEA, but to prepare for the times when it will surely fail. Thus, the U.S. should:

✔ Urge the IAEA Board of Governors to focus inspections on countries that pose the most urgent proliferation threats.

Some countries receive far fewer IAEA inspections than others. For example, while Iran and India are seldom inspected, Canada, Germany, and Japan, together account for two-thirds of IAEA inspections.[12] To be sure, Canada, Germany, and Japan have more nuclear facilities to inspect than Iran or India, and these facilities are of types that need to be closely monitored to account for the whereabouts of their nuclear fuel. But there is no indication that these three countries have attempted to use their nuclear facilities to build nuclear weapons. The same cannot be said of India, which exploded a nuclear device in 1974, and Iran, which is believed to be pursuing a nuclear weapons program. Therefore, the IAEA's system for scheduling inspections is not only wasteful and inefficient, but ineffective because it targets the wrong countries.

The risk of nuclear proliferation posed by a country is based on the nuclear ambitions of its government, not merely on the number or type of its nuclear facilities. Therefore, the IAEA should revise its inspection schedules to concentrate on the most likely threats of nuclear proliferation, such as Iraq. The IAEA also should establish a minimum number of inspections even for countries with spotless records. No country should be allowed to exempt itself from the inspection process.

✔ Scale back the IAEA's technical assistance programs, which help member countries develop their own nuclear industries.

The IAEA historically has allocated funds equally to inspection and technical assistance programs. In 1992, roughly $65 million will go to each of these activities.[13] This division of resources, largely the result of demands by Third World members, is misplaced. More funds should be given to inspections than to assisting non-military nuclear programs. Before the U.S. makes large-scale increases in its contribution to the

12 Telephone interview on June 12, 1992, with David Sloss, of the Arms Control and Disarmament Agency.

13 These figures were supplied by the International Atomic Energy Agency Liaison Office in New York.

IAEA budget, it should demand that the IAEA give a higher priority to its inspection or "safeguard" budget.

The IAEA's technical assistance to nuclear industries runs counter to its nonproliferation mission. Since this assistance sometimes ends up helping tyrants like Saddam Hussein to build weapons, it should be curtailed. Before Congress increases funding for the IAEA, it should press it to reduce spending on technical assistance to questionable countries like Iran and Iraq. It is disturbing that the IAEA in 1990 provided Iraq with $266,000 of technical assistance.[14]

✔ Press for non-proliferation inspections of foreign nuclear facilities by U.S. inspectors.

When the U.S. and other nuclear supplier states provide nuclear fuel or facilities to so-called non-weapons states, they generally require that the recipient country allow periodic IAEA inspections of its facilities. The U.S. and other nuclear suppliers rely heavily on the IAEA to warn them if nuclear fuel or facilities are used illegally to manufacture weapons.

The IAEA's Director General, Hans Blix, has emphasized that much of Iraq's illegal nuclear activity was conducted secretly at sites not monitored by the IAEA. Indeed, on October 8, 1991, he told the U.N. Security Council: "The lessons from Iraq are almost written on the wall. No inspection system can blindly grope for undeclared facilities."[15] But Blix is sidestepping an important point. Iraq was able to produce undetected small amounts of plutonium from uranium at its Tuwaitha facility, which was under IAEA safeguards.[16] Therefore, there is reason to believe that IAEA safeguards may not be adequate to prevent a determined regime from attaining nuclear weapons.

The U.S. need not rely exclusively on the IAEA to discover whether the NPT is being violated. In addition to focusing its own intelligence assets on detecting nuclear weapons development programs, the U.S. should insist on performing its own inspections of nuclear facilities to supplement those conducted by the IAEA. Supplemental inspections could be stipulated as part of a sales agreement with a foreign country's nuclear agency. In addition, the U.S. could provide inspection services as part of an agreement between other countries. For example, it could assist South Korea in inspecting the nuclear facilities of North Korea. While these inspections should in no way be interpreted as a substitute for IAEA inspections, they can help lessen the IAEA's heavy inspection burden. However, if a country refuses these supplemental inspections, it should be interpreted as a sign of bad faith and as a possible indication that an illegal nuclear weapon program is underway.

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14 According to the International Atomic Energy Agency's 1990 Report on Technical Assistance.

15 Blix's statement is reprinted in Zachary S. Davis and Warren H. Donnelly, "Iraq and Nuclear Weapons," Congressional Research Service, March 2, 1992, p. 8.

16 Leonard S. Spector, *Deterring Regional Threats from Nuclear Proliferation* (Carlisle Barracks: U.S. Army War College, 1992.), p. 17.

✔ Press to halt the proliferation of enrichment and reprocessing facilities.

Enrichment and reprocessing technologies are essential to producing highly enriched uranium or plutonium, the key ingredients for producing nuclear weapons. Thus, the spread of enrichment and reprocessing facilities around the world is itself a nuclear weapons proliferation threat.

The U.S. argued in the Nuclear Suppliers Group in 1975 that nuclear supplier states should prohibit the transfer of uranium enrichment and reprocessing technology and facilities as a means of preventing nuclear proliferation.[17] The U.S. should revive this proposal and plan to establish a multilateral agreement between nuclear weapons states and non-weapon states to govern the transfer of uranium enrichment and reprocessing technologies. The U.S., Britain, China, France, and Russia would pledge to make enriched uranium or plutonium fuel available to non-weapons states if they pledged not to build their own enrichment or reprocessing facilities. Nuclear suppliers also would agree to bar the export of enrichment or reprocessing facilities and their components.[18] The near-term goal should be to prevent the spread of enrichment and reprocessing facilities beyond those countries already possessing them.

✔ Reserve the right to use military force to defend America from nuclear proliferation threats.

No non-proliferation agreement, no matter how tightly written or strictly enforced, will completely prevent the spread of nuclear weapons. IAEA inspections did not deter Iraq from trying to build nuclear weapons. While these barriers slowed the Iraqi nuclear weapons program, the 1981 Israeli raid on the Osirak reactor and the 1991 Persian Gulf war were mainly responsible for Saddam not getting the bomb.

The IAEA has fairly broad authority to inspect the nuclear facilities of member states, but it is not an enforcement agency. According to the IAEA's charter, the IAEA Board of Governors has three options when it discovers violations. First, it can curtail or suspend nuclear assistance to the offending country. Second, it can demand that the member state return materials and equipment made available to it. Third, it can suspend the country's IAEA membership. However, the IAEA has no direct authority to dismantle, destroy, or otherwise render harmless any nation's nuclear facilities. In Iraq's case, this authority was provided by U.N. Security Council Resolution 687, which conditioned the February 27, 1991, cease-fire in the Persian Gulf war on the dismantling of Iraq's weapons of mass destruction.

To take such strong action in the future, the IAEA will need a supportive international consensus and the specific approval of the Security Council. But such conditions may not be forthcoming. Given the inherent weaknesses of the IAEA as an institution, the U.S. must be prepared to block, by military force if necessary, the transfer of sensi-

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17 Spector, *Nuclear Proliferation Today*, pp. 448-449.

18 Title I of the Nuclear Non-Proliferation Act of 1978 contains the legislative authority for the Clinton Administration to pursue such an agreement.

tive nuclear production equipment and technology when they pose a threat to U.S. security and interests. Further, Washington must be prepared to disable or destroy weapons facilities if a transfer already has taken place. Covert actions and military operations are both necessary parts of such a policy. Covert actions could include interdicting clandestine shipments of sensitive nuclear production equipment and weapons components. Military options include bombing missions such as the one undertaken by the Israelis in 1981. Also U.S. special operation forces may be called upon to disable or destroy a nuclear weapons facility. In both cases, emphasis should be placed on developing military tactics that reduce the risk of disbursing radioactive material.

CONCLUSION

The revelations about Iraq's nuclear weapons program underscore the weaknesses of the IAEA as a watchdog against nuclear proliferation. Iraq is not likely to be the last country to try illegally to acquire nuclear weapons. North Korea announced its withdrawal from the NPT on March 12, 1993. It also announced it would bar IAEA inspectors from two suspicious sites.

In order to address the weaknesses in the international nuclear inspection system, the U.S. first will need to convince the IAEA to revise its inspection schedule. Second, it should demand that the IAEA change its budget priorities, to assure that inspection activities are funded more generously than technical assistance programs for nuclear industries. It should back such a demand by refusing to give the IAEA more money until its current priorities change. Third, the U.S. should conduct its own inspections to supplement those performed by the IAEA. Fourth, the U.S. should forge an international agreement that halts the trend toward the proliferation of uranium enrichment and reprocessing facilities around the world. Finally, the U.S. must be prepared to take covert or even overt military action to stop nuclear proliferation, when arms control fails to do the job.

This policy will build on the International Atomic Energy's Agency's strengths, while compensating for its weaknesses. International agreements are not enough in the war against nuclear proliferation. A threat as serious as this requires U.S. action beyond relying on the good faith of the likes of Saddam Hussein.

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