

Iraq and Beyond: Future Nonproliferation Inspection Challenges

By David Kay

Almost exactly five years ago the Gulf War ended with the Iraqi acceptance of the ceasefire terms set forth in United Nations Resolution 687. Other conflicts had come to an end with acceptance by the parties of a Security Council call for a cease fire, but Resolution 687 was different. It created a Special Commission, known as UNSCOM, with a broad grant of authority to ensure that Iraq surrendered for "destruction, removal, or rendering harmless under international supervision" "all chemical and biological weapons and all stocks of agents and all related subsystems and components and all research, development, support and manufacturing facilities" and all ballistic missiles with a range greater than 150 kilometers and related major parts, and repair and production facilities." For nuclear matters the resolution shared responsibility between UNSCOM and the International Atomic Energy Agency (IAEA) and required that Iraq give up for "destruction, removal, or rendering harmless" all material, subsystems, and components and research, development, support or manufacturing facilities related to nuclear weapons.

Iraqi Program

We now know because of the dogged determination of UNSCOM much about the extent of the Iraqi efforts to acquire weapons of mass destruction. These efforts included:

- The nuclear program had for ten years before the war involved a large clandestine effort-- approximately \$8-10 billion, more than 20 sites and more than 15,000 people pursuing multiple routes to enrich uranium, directed toward producing nuclear weapons. Foreign assistance, both technical and equipment, from Western based companies and the lax export control regimes operated by several of our Western allies played a major role in this program. Beginning in 1987 the Iraqis had also embarked on a testing program to field radiological weapons which would have had as their sole purpose rendering large areas uninhabitable and terrorizing civilian populations. Soon after their invasion of Kuwait, Iraq embarked on a crash program to strip the uranium out of the fuel in their safeguarded research reactor and further enrich it a secret centrifuge facility. The aim of

this crash effort was to produce a single nuclear device by April 1991.

- The biological weapons program was of astounding scope, including the production of at least 500,000 liters of botulism toxin, 50,000 liters of anthrax and lesser amounts of a number of less well understood, but still deadly, agents. At the time of the Gulf War biological agents had been weaponized, and missiles, artillery shells and aircraft--Iraq now says 191 warheads and an aerial spraying system designed to spray 2000 liters of agent over a target--stood ready to rain their deadly payloads onto civilian and military targets. At least two of the major biological weapons facilities were unknown at the time of the Gulf War.
- The chemical program had not only produced hundreds of thousands of gallons of lethal mustard and nerve agents, but chemical weapons had also been used by the Iraqi regime on its own people as well as against Iran. The Iraqi Army at the time of the Gulf War--and still today--had more combat experience in employing chemical weapons than all the combined armies of NATO and the Warsaw Pact.
- Iraq's missile program is perhaps better known, if not better understood, as a result of the dramatic television footage of Scud attacks during the Gulf War. This well funded, foreign assisted program had already given Iraq the ability to attack, ultimately with its weapons of mass destruction, all of the states of the Middle East and of US forces that might come to the aid of these states.
- Finally, it should now be clear to all that the Iraqi efforts to acquire these weapons did not end with the Gulf War. Just in the last several months new evidence has come to light that Iraq is continuing to secretly, and in violation of its obligation under Resolution 687, import equipment to extend the range of a new class of Scud-type missiles, produce additional chemical and biological weapons, and continue work on nuclear weapons-related projects.

What lessons should we draw from our failure?

We now know so much about Iraq's efforts to acquire nuclear, chemical and biological weapons and advanced means of delivery for those weapons that it is easy--and very convenient for some--to forget that the prevailing assessments of Iraq's accomplishments prior to the Gulf War were quite different. By the same token,

international and national measures designed to give assurances that states were not attempting to acquire advanced arms were prior to the end of the Gulf War generally viewed as effective and reassuring. There is little to be gained in singling out individual analysts or organizations for their failure of vision, but much more to be gained by attempting to understand:

- the systemic sources that led to this failure;
- the accomplishments of UNSCOM including both its strengths and weaknesses;
- the most important areas for US policy to address if arms control regimes such as the nuclear nonproliferation safeguard system are to become more robust.

Why had IAEA safeguards failed to detect the Iraqi nuclear program before the Gulf War? Or--and this was potentially even more dangerous--why had IAEA safeguards given false assurances that there was no Iraqi nuclear weapons program prior to the Gulf War?
(1)

There is a simple, but very disquieting, answer to the source of the failure to detect before the Gulf War Iraq's nuclear weapons program. The IAEA's nuclear safeguards were simply not designed to address the case of a state that might attempt to embark on a clandestine nuclear program, except in one very limited case--the large-scale diversion of declared nuclear material. International safeguards were designed in the late 1960s and early 1970s to address one specific concern. That concern was that the foreseen rapid expansion of peaceful nuclear power would provide an opportunity for states that might want to acquire nuclear weapons to divert critical nuclear materials from peaceful nuclear activities to weapons programs. It was apparent that the public would not tolerate international trade in nuclear materials if such a danger could not be controlled. The response was to create a safeguard system that attempted to address this single concern. Although surrounded by an elaborate system of technical jargon and rhetoric, IAEA safeguards were remarkably consistent in focusing on this single threat. The underlying assumption was that if a state desired to pursue nuclear weapons ambitions by some other means-- a parallel clandestine program, for example--it would either not sign the Nuclear Non-Proliferation Treaty or its activities would be detected by national intelligence systems of other states. The result was the development of an international nuclear safeguard system

that has as its objective "the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and deterrence of such diversion by the risk of early detection." (2)

I am prepared to accept that most of the technical assumptions that surrounded the establishment of the IAEA safeguards in the early 1970's were on balance reasonable--viewed from the past. These included: probable diversion from civil material was the only significant concern and technical means existed to detect any significant diversion; the amount of nuclear material required for a weapon would be sizable; (3) clandestine programs would be difficult to keep secret; nuclear weapons programs would have to be very large; relevant nuclear technology remained relatively well controlled and enrichment and reprocessing technology could be controlled. What was wrong with these assumptions was that at exactly the point that they were being codified into the international safeguard system they were being undermined by rapid shifts in the technology and equally important shifts in political relationships. (4) The result is that international safeguards at the time of the Gulf War did not even attempt to do what most people thought they did detect any efforts of a non-nuclear member of the NPT to develop nuclear weapons. The goal of IAEA safeguards was the much more modest, and much less relevant, objective of ensuring the nondiversion of substantial amounts of declared materials.

Beyond these technical limitations, the pre-Gulf War culture of the IAEA bears considerable responsibility for its failures. The IAEA was and remains an organization with a divided mandate and a divided membership. By its statute--and one must add the American initiative that led to its creation--the IAEA has as its objectives both the promotion of the peaceful uses of nuclear energy and ensuring that nuclear material intended for civilian programs are not used for military purposes. The tension between promotion and regulation is a constant theme in budget debates as well as election campaigns for the top office of Director General. Many developing countries view the promotion of the transfers of nuclear technology as the top priority for the IAEA and are reluctant to see any resources being devoted to safeguards. Its Board of Governors regularly has included such notable opponents to effective safeguards as India, Pakistan, Iran, Iraq, Libya, China and Algeria. The international diplomatic milieu and weak leadership led the IAEA to become trapped in the morass of believing that it had to subject all states to the same level of scrutiny. The level of inspection attention was determined by the size of the nuclear

program not by any judgment as to the likely proliferation threat. At the time of the Gulf War 55 percent of the inspection budget went to carry out inspections in three countries--Germany, Canada and Japan.

Even as sympathetic a commentator on the IAEA as Lawrence Scheinman, a frequent IAEA consultant and currently Assistant Director of ACDA, wrote:

Nevertheless, there is a certain sense that the IAEA is perhaps more conservative, more cautious, and less aggressive than it should or needs to be--that it is an inherently conservative institution that cannot easily adapt to a radically changing environment and an upgraded agenda. It cannot be denied that over the past twenty years, the agency has experienced restraints on its right of access, on the intensity and frequency of inspection efforts, and even on the extent to which it could exercise its discretionary judgment in planning, scheduling, and conducting inspections.

The events and circumstances that account for this evolution do not need to be elaborated; only the results need to be noted. Certain patterns of expectations and behavior appear to have set in among IAEA staff. Conservatism and self-constraint became internalized to the extent that the agency occasionally gave more ground in negotiating subsidiary arrangements that regulate the operational side of safeguards than perhaps was necessary. Thus, inspectors were not encouraged to raise questions about activities or structures outside defined strategic points when conducting routine inspections. Mind-set was based on verification of what was declared by states being inspected as literally specified by legal agreement. Asking too many questions was said to lead to difficulty with the state, and ultimately at headquarters. (5)

I am still amazed that given the failures prior to the Gulf War of the international inspection system to detect the Iraqi nuclear program, that the record of the UNSCOM-led post war effort has accomplished so much. What are the reasons that international

efforts to eliminate a largely unknown program were so much more successful than international efforts to detect the same program?

First of all, UNSCOM had one tremendous beginning advantage over the IAEA. UNSCOM had a single clear focus. It was to find and then destroy, remove or render harmless Iraq's weapons of mass destruction. It had no responsibilities with regard to the post-Gulf War reconstruction of Iraq, dealing with humanitarian relief or with the promotion of the peaceful side of nuclear, chemical, biological or missile technology. (6) Multinational bureaucracies are difficult organizations for outsiders to understand, and almost equally difficult for insiders to keep focused on reasonable objectives of effectiveness. They are impossible to operate with mixed or conflicting objectives. UNSCOM was able to dodge this particular bullet, and it has made a tremendous difference.

Second, the Security Council did something in creating UNSCOM that it had never done before in the entire history of the United Nations. UNSCOM was created as a subsidiary organ of the Security Council and is not subordinate to or dependent upon the UN Secretary General or the Secretariat. UNSCOM reported directly to the Security Council free of all the internal UN political pressures and compromises that render most UN reports senseless and makes direct action impossible. This arrangement also made it possible to operate a field operation free of the morass of UN rules. From little things--the first cypher lock on a UN office and the first reasonable secure communications system--to much more consequential actions--requesting and using national intelligence information and the first use of aerial reconnaissance--UNSCOM used its freedom from the UN bureaucracy to respond to an unprecedented challenge. Equally important the Security Council saw that the success or failure of UNSCOM would be viewed as its own success or failure. Particularly when compared to actions such as Bosnia, the Security Council in the case of UNSCOM has been remarkably consistent in maintaining a unity of purpose.

Third, UNSCOM was blessed with, what for the UN system at least, was a remarkably happy surprise in leadership. Rolf Ekeus, who was selected by the Security Council to chair UNSCOM, has demonstrated the rarest of combinations of leadership qualities in the United Nations--integrity, stubbornness, ability to resist intimidation, personal courage, diplomatic prowess, and the ability to inspire subordinates.

Fourth, as well led as UNSCOM has been it has benefited considerably from the incompetence and failures of Iraq. In the

early nuclear inspections Iraq was the type of opponent of which one can usually only dream--overly centralized; brutal in a way that inspires more fear in its own supporters than the inspectors; crude and incompetent in presenting its own case; cheating on all matters so that it became viewed as untrustworthy regarding everything; and unable to ever formulate and follow a coherent strategy.

Fifth, UNSCOM has had access to and chosen to use a vast range of inspection resources and techniques that the IAEA had earlier either rejected or never sought. These resources include national intelligence information, environmental monitoring technology, aerial reconnaissance, personnel drawn from national weapons programs, handheld GPS devices, zero notice inspections, detailed interviews with Iraqi personnel, and document seizure. The post-Gulf War inspections carried out by UNSCOM, in fact, have seen an unprecedented level of sharing of national intelligence information and techniques. Data from NTM was shared beginning with the very first Iraqi inspection; as they became available clues on the Iraqi arms programs gained from HUMINT were shared; data collection techniques and analytical capabilities were put at the service of the inspection efforts; and even a collection asset--a U-2 aircraft with sensors--has been leased to the United Nations. While the US intelligence community has taken the lead in assisting the United Nations, significant contributions have also been made by other coalition partners. None of these resources and techniques are panaceas, but without them it would not have been possible to mask a program as well hidden as that of Iraq.

UNSCOM, however, has been far from perfect. It must be recognized that even after five years of the most intrusive arms inspection regime ever to be imposed significant uncertainty remains as to the true extent of the Iraqi weapons program and astounding revelations--such as those of its biological weapons program--continue to arise UNSCOM's early inspection in the missile and biological areas were poorly organized and led. The slowness of UNSCOM in fielding capable biological inspections directly contributed to Iraq's successful efforts to hide the true extent of this program. Operational security issues, even after of several sharp warnings, were given too low a priority. UNSCOM also has shared with the IAEA the all too ready desire to declare victory and to move along to less intrusive and politically uncomfortable monitoring programs.

Conclusions

If this is a reasonably accurate accounting of the shortfalls of the pre-Gulf War nuclear safeguards regime and of the reasons for UNSCOM's relatively greater success, what conclusions can be drawn as to the approach the United States should be considering in relying upon international regimes to limit the further spread of advanced arms?

First, be wary of arms control arrangements that have mixed agendas. The largest continuing defect in international nuclear safeguards remains, in my view, the mixing of promotional and regulatory responsibilities in the same organization. (7) The IAEA is obligated to promote nuclear energy. The same organization that was asked to ensure that Iraq, Iran, North Korea, Algeria and Libya were not violating their safeguard agreements was also involved in extensive technical assistance programs to those same countries. In the case of Iraq this assistance went directly to individuals and activities later identified with the clandestine weapons program. Its promotional activities have advanced reprocessing, large scale enrichment facilities and nuclear desalination with Russian naval reactors all items with serious proliferation problems. Even in national non-proliferation efforts we have seen the difficulty the United States has had in balancing non-proliferation and trade concerns. The problem is much more serious in a multilateral forum composed of many states actively hostile to arms control. The tendency is to make concession to maintain the agreement while compromising the inspection and verification activity. But even in more limited arrangements such as the United States brokered agreement with North Korea, there is reason to be concerned that the instrumental goal of supplying the North with nuclear reactors will overwhelm the arms control goal of limiting the North's ability to produce nuclear weapons.

Second, technology changes and arms control agreements that cannot adapt to changes in technology will become at best irrelevant and at worst dangerous. After the mid-1970's INFCIRC/153 safeguards focused on a declining part of the proliferation problem, diversion from declared facilities, and used antiquated techniques and approaches to cope with the safeguard mission. Any attempt to ensure the peaceful nature of such dynamic fields as biological research or missile developments must be crafted to ensure flexibility and adaptability. The United States particularly bears a heavy responsibility in the 1980's for not taking a leading role in questioning the adequacy of IAEA methods and attempting to assist a much needed renovation of inspection techniques. The benefits that can be achieved by US leadership are fully demonstrated in the case of UNSCOM where the United

States deserves much of the credit for leading the way in making resources available. Much can be done to improve the rigor of IAEA safeguards. There are no lack of ideas outside the agency as to these steps. What remains in doubt is whether the determination and leadership exists within the IAEA and its members to push these reforms fully through.

Third, we should not underestimate the difficulty that exists in reaching judgments of non-compliance with arms control obligations. UNSCOM was that rare lucky case where the non-compliance of the inspected party was almost guaranteed by the nature of the agreement. By July, 1991, no one was in doubt that Iraq was locked on a strategy of deceit and cheating. The more usual cases will involve ambiguous information and, more importantly, few good, agreed answers as to what to do if a state is found cheating. The basic arms control dilemma that remains unresolved, even after Iraq, is what to do when you catch a state in violation of its obligations. What is little understood outside of the ranks of those who have served in inspection organizations is the corrosive effect this dilemma has on the integrity of the inspection process. Inspections seek to confirm compliance not to find non-compliance. Concerns are dismissed with demands for "real" evidence, not with programs of more intrusive inspection. If the proliferator is adroit and unfettered by any obligation to speak the truth, the inspection or verification challenge can be quite daunting. Until this dilemma is adequately understood and addressed, arms control agreements will remain as potential "good cover arrangements" for proliferators and generators of false security.

NOTES

1. For a more extended discussion of my views on the pre-Gulf War limitations of the safeguard system and of the obstacles that must be overcome before a more dependable safeguard system can be put in place, see David Kay, "The IAEA: How Can it be Strengthened?", pp. 309-333, in *Nuclear Proliferation after the Cold War*, edited by Mitchell Reiss and Robert S. Litwak, Woodrow Wilson Center Press, 1994.

2. para. 28, INFCIRC/153(rev.), IAEA.

3. The term "significant quantity" used in safeguards refers to the amount of plutonium or enriched uranium needed to make a nuclear explosive. The IAEA continues to use 8 kilograms of plutonium and 25 kilograms of uranium as their reference figures although widely available unclassified information would indicate that these amounts should be considerably lower.

4. This is worthy of a more extended treatment than space here will permit. To a considerable extent, the IAEA safeguard system was an American creation and reflected U.S. dominance of nuclear industry and science at exactly the point at which that dominance was ending. Major reactor fabricators were arising in France and Germany; enrichment technology was moving to the commercial sector in Europe in the form of gas centrifuges at precisely the time that the DOE was embarking on a failed attempt to pursue this technology; reprocessing technology that had been carefully shielded in the classified world in the U.S. was beginning to be commercialized in Europe and somewhat later in Japan; computers and highly accurate machine tools were becoming widely available; a general breakdown in the effectiveness of classification as a means of controlling nuclear developments was taking place; advanced delivery systems were becoming more generally available; and the cost of technical intelligence gathering was leading this powerful tool to be focused on fewer and fewer targets and human intelligence gathering was in broad decline.

5. "Assuring the Nuclear Non-Proliferation Safeguards System", Lawrence Scheinman, Occasional Paper, Atlantic Council, pp. 26-27.

6. A continuing note of conflict between UNSCOM and the IAEA with regard to the handling of Iraq's nuclear activities was directly related to the IAEA's view that Iraq, even under resolution 687 would still have the right to a peaceful nuclear program, even including the right to operate civil nuclear reactors. There was considerable opposition in the IAEA to the subsequent Security Council Decision in resolution 707 to halt all Iraqi nuclear activities, except for the limited use of isotopes, *on the grounds that this violated Iraq's rights under the NPT*. Considerable friction later resulted from the UNSCOM demand that all the Iraqi nuclear facilities that had been involved in the clandestine program be destroyed with the IAEA arguing that at least some of these be converted to peaceful civil research establishments. While it is tempting to ask what type of logic could lead anyone to believe that in Saddam's Iraq such a concept as "peaceful civil research establishments" could actually exist, the broader point is that the divided nature of the IAEA's mandate inevitably pushes it toward this type of oxymoron.

7. Although this argument is made here with regard to safeguards, it applies equally to the nuclear power and safety area. Prior to Chernobyl, the IAEA often spoke in glowing terms of the safety of the Soviet nuclear program.

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