VIEWPOINT

APPROACHING THE 10TH ANNIVERSARY OF THE CHEMICAL WEAPONS CONVENTION

A Plan for Future Progress

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April 29, 2007 will mark the 10th anniversary of the entry into force of the Chemical Weapons Convention (CWC), and it is also the deadline specified in the treaty for completing the destruction of all declared stockpiles of chemical weapons, most of which are owned by the United States and Russia. Unfortunately, it is already clear that neither country will meet the deadline. Although the delay in chemical weapons destruction is a serious problem, in other respects the treaty's bill of health is better than that of the Treaty on the Non-Proliferation of Nuclear Weapons or the Biological and Toxin Weapons Convention. This viewpoint reviews the current status of CWC implementation and looks forward to what might be accomplished at the Second Review Conference in April 2008.

KEYWORDS: Chemical Weapons Convention; Nonproliferation; Chemical weapons; Disarmament

April 29, 2007, will mark the 10th anniversary of the entry into force of the Chemical Weapons Convention (CWC), a global disarmament and nonproliferation treaty banning the development, production, acquisition, and transfer of chemical weapons (CW). The CWC was finalized in 1992 and entered into force in April 1997. It requires the total and verifiable elimination of all CW stockpiles and production facilities, as well as the monitoring of legitimate, non-CW-related scientific, industrial, and commercial chemical activities to ensure that they are not misused and the products are not diverted for illicit purposes. The Organization for the Prohibition of Chemical Weapons (OPCW), an international organization established by the CWC to help implement and monitor compliance with the treaty, also celebrates its 10th anniversary next April.

These milestones provide a good occasion to prepare a balance sheet on the CWC, but there is another reason, as well. April 29, 2007 is also the deadline specified in the treaty for completing the destruction of all declared stockpiles of chemical weapons, most of which are owned by the United States and Russia. Unfortunately, it is already clear that neither country will meet the deadline, which is why a five-year extension to 2012 for both countries is under consideration. Although the delay in CW destruction is a serious problem, in other respects the treaty's bill of health is better than that of the Treaty on the Non-

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Proliferation of Nuclear Weapons (NPT) or the Biological and Toxin Weapons Convention (BWTC). This paper reviews the current status of CWC implementation and looks ahead to what might be accomplished at the Second Review Conference in April 2008.

Background

The CWC and the OPCW are the central elements of the chemical weapons nonproliferation regime. In addition to enhancing the security of member states by reducing the threat of chemical warfare and providing access to protective equipment in the event of an attack, the CWC aims to respond to the aspirations of many countries with respect to the peaceful development of chemical science, technology, and industry. The most important features of the CWC that distinguish it from the other nonproliferation treaties are the following:

- The CWC is ''non-discriminatory,'' in that it treats all member states equally, regardless of whether or not they possess chemical weapons. Possessor states must declare existing stockpiles and destroy them according to a specified timetable. In contrast, the NPT created two categories—''nuclear weapons states'' and ''non-nuclear weapons states''—depending on whether they had tested a nuclear device before January 1, 1967.
- The OPCW is responsible, at least in theory, for all aspects of compliance with and implementation of the CWC. The BWC, in contrast, lacks any formal mechanisms for implementation or compliance, and the International Atomic Energy Agency (IAEA) is responsible only for safeguards on nuclear materials but not for compliance with the other elements of the NPT.
- The CWC regime is ''reasonably'' verifiable, whereas the BTWC has no formal verification measures. OPCW on-site inspection procedures monitor the elimination of all inventories of chemical weapons and former CW production facilities and include routine inspections of a large number of commercial chemical facilities to verify that only nonprohibited activities occur there. These inspection activities are far more intensive and diversified than those conducted by the IAEA, whose verification mandate covers, as noted above, only safeguards and not other aspects of NPT compliance.

The most radical verification tool created by the CWC—the right to request a ''challenge'' inspection of any facility suspected of violating the treaty, without right of refusal—is available to any state party. Although this powerful instrument has not yet been used, the OPCW director general and relevant parts of the OPCW technical secretariat are preparing the inspectorate to mount a challenge inspection as soon as a request is received.

Major Lessons Learned

The CWC is still a relatively young regime which experienced dramatic growth (180 parties as of October 20, 2006) and an unprecedented ''acceleration'' of activity during its initial phase of implementation. The operations and machinery of the OPCW were built up during the four-year preparatory phase (1993–1997) before the CWC entered into force in

April 1997. During the first few years of implementation, many unknowns remained, and considerable improvisation and on-the-job collective learning were required.

Despite these challenges, the OPCW to date has been relatively successful. Designed during the final years of the Cold War, the organization has not only managed to survive, but has done significantly better than expected. To some extent, this success can be attributed to the relatively low military utility of the existing chemical arsenals and the relative lack of interest in CW on the part of most military establishments around the world. By the late 1980s, both Washington and Moscow had recognized that chemical weapons did not play a significant role in the superpower military balance, and the lack of deterrent power associated with Iraq's chemical arsenal became apparent during the 1991 Persian Gulf War.

More importantly, the comprehensive, nondiscriminatory nature of the CWC has played a positive role in promoting its international acceptance. Another significant factor has been the mutually reinforcing relationship between the CWC and the OPCW. The organization has played an important role in supporting the treaty by convincing nonparties to join and applying pressure on states that are already parties to behave better than they otherwise would have. Other global WMD treaties do not enjoy comparable institutional support.

Toward Universality

The OPCW currently has 180 states parties, and it would not be an unattainable goal for the OPCW to celebrate its 10th anniversary by catching up with the 36-year-old NPT in number of member states (189). Reaching nearly universal membership in a bit more than a decade after the opening for signature of the CWC is a stunning achievement that has served to reinforce the norm against the possession, proliferation, and use of chemical weapons. Departing from the experience of ''older'' multilateral arms control regimes, the OPCW has taken a hands-on role in persuading new states to join and helping them to develop domestic implementing legislation and regulations, while taking into account their specific political, legal, and economic conditions. These achievements by the OPCW have been the result of long-term planning, analysis, nontraditional diplomacy (including coalition building), effective adaptation to changing circumstances, and continuity of effort—a combination that individual states with their diverse foreign policy priorities usually cannot not sustain.

In the course of this work, the OPCW has overcome the conventional wisdom that a state's decision to join a security-related treaty is strictly an internal, sovereign matter. Instead, the OPCW has worked proactively to influence internal governmental decision-making. Specific achievements in this area include the decisions to join the CWC by Sudan, Serbia and Montenegro, Afghanistan, Libya, and several of the former Soviet republics, particularly in Central Asia. The OPCW also made a low-profile but significant contribution to the success of the CWC ratification processes in the United States and the Russian Federation, the two biggest possessors of chemical weapons, without whom the treaty would have lost much of its meaning.

In helping to bring many countries into the CWC regime, the OPCW has demonstrated the potential of multilateral action, when carried out skillfully and imaginatively and with at least the tacit support of important member states—something that should not be taken for granted and, on occasion, has to be convincingly engineered. Today only two geographical areas remain that are of serious concern with respect to the universality and nonproliferation value of the CWC, namely, North Korea and a few countries in the Middle East. Given the difficulty of these holdout cases, however, creative political strategies and strong support by major world powers will be necessary to gain their adherence.

National Implementation Support

In addition to working on universal adherence to the CWC, the OPCW has pioneered in providing assistance to member states with national implementation, including the preparation and adoption of domestic legislation and administrative regulations and setting up functional national authorities. Once again, an old assumption had to be tactfully overcome, that is, that lawmaking is strictly the internal business of individual states. The fact that this assumption has now become largely outdated was recognized by the adoption of the OPCW Action Plan on National Implementation, another example of how multilateral institutions can extend the boundaries of their influence to affect internal legislation. It may be worth mentioning in this regard the activities of two committees reporting to the UN Security Council, the Committee on Counter-Terrorism and the 1540 Committee, which incorporated some of the OPCW experience in the area of national implementation (although their work appears to be less proactive than that of the OPCW, and the 1540 Committee does not provide assistance to states).

Another lesson learned was that a well-organized and transparent system of national implementation strongly reinforces the CWC compliance mechanism and provides an additional level of assurance to other parties regarding the compliance of the country in question. In fact, the above observations are not only applicable to the chemical weapons ban but also to other weapons of mass destruction (WMD), counterterrorism, environmental protection, human rights, and post-conflict reconstruction.

Nevertheless, progress in CWC national implementation still leaves much to be desired. This disappointing result can be attributed in part to the complexity of the subject and the slow pace of work of many parliaments. Another contributing factor has been the failure of the OPCW to shift the focus of its work in a timely manner from general and increasingly repetitive regional meetings to specific types of assistance to individual member states, although this shift has largely taken place now.

The high rate of compliance with the obligation to provide initial declarations was achieved just three years after entry into force of the CWC, thanks to a worldwide campaign initiated by the OPCW. The declarations in turn allowed the OPCW to perform the inventory of CW stocks and former production facilities, as well as a good part of the world's chemical industry engaged in activities with chemicals regulated by the CWC. While there is of course no absolute guarantee that all declarations are complete, the

OPCW has found ways to help member states identify declarable facilities, increasing the overall rate of compliance.

Accordingly, a vast geographical area of lower proliferation risk emerged, making it easier for member states to concentrate on the greatly reduced number of ''gray areas'' (countries or compliance issues where some doubts may still exist), as well as ''black areas'' (nonparties that remain beyond the OPCW verification mandate).

Routine Verification

Despite initial hiccups, the system of routine onsite inspections of treaty-relevant military and commercial facilities has worked quite well. Over time, imbalances in the design of the verification regime have come to light, such as the extremely heavy emphasis on the verification of CW destruction at the expense of certain types of industry inspections. These imbalances resulted in some cases from lingering Cold War assumptions and in other cases from the absence, at the time of negotiations, of correct information about relevant facilities.

For example, it turned out that most of the declared Schedule 1 facilities were, in fact, small laboratories that did not warrant the heavy verification regime prescribed by the CWC. Conversely, a large number of industrial plant sites producing discrete organic chemicals (DOCs) remain practically untouched by routine visits. OPCW is taking steps to address these imbalances, including reducing the number of inspectors at CW destruction facilities in the United States, Russia, and—to a lesser extent—India. But enhancing industry verification is a difficult undertaking, particularly because it must not be seen in isolation, but rather in the context of the rapid managerial, organizational, and technological changes taking place in the chemical industry today. Besides, during the preparatory period of 1993–1997, and then early after entry into force, member states succeeded in watering down the industry verification regime by applying various procedural and budgetary limitations, as well as referring to the needs of protecting confidential business information—sometimes even when the companies themselves did not consider relevant information as sensitive.

The Destruction of Chemical Weapons

The short history of CWC implementation has provided several valuable lessons in international cooperation, most notably in the area of chemical weapons destruction. Although the treaty states clearly that the costs of destroying CW and verifying their destruction must be borne by the possessor states, in fact more than one possessor state has asked for and received financial or technical assistance with CW destruction (and, in the case of Albania, with meeting verification costs as well). Russia, which possesses the largest CW stockpile, is also the biggest recipient of international assistance for destruction. Over the past several years, Moscow's financial situation has improved significantly, enabling it to increase its own budgetary allocations for CW destruction. It would not be prudent, however, to suggest that foreign assistance for Russian chemical weapons destruction is no longer needed. On the contrary, this proposition might

diminish Moscow's support for multilateral disarmament and create suspicions about Western intentions. It may sound illogical, but Russia is now in a position to provide some assistance to other parties and to the OPCW as a whole in various areas of implementation, and, perhaps, should be encouraged to do so.

As of the end of May 2006, out of more than 71 metric tons (MT) of chemical agents (including binary components), about 13.6 MT, or nearly 20 percent, have been verifiably destroyed. And out of 65 declared chemical weapon production facilities, 52 ceased to exist (35 were destroyed and 17 were converted to peaceful purposes), with certificates pending for several more. While the dismantling or conversion of former CW production facilities is generally on schedule (although it was necessary to make some adjustments to accommodate Libya's late accession to the CWC), the same is not true for destruction of CW stockpiles by the six declared possessor states or, more precisely, the two major possessors. Indeed, it has become clear that the 10-year destruction period envisioned in the CWC is simply inadequate for both Russia and the United States. (Ironically, this timetable, including the order of destruction, is excessively rigid, primarily because of U.S. demands during the last phase of the treaty negotiations.)

The negotiators of the CWC seriously underestimated the technological complexity, huge financial burden, and panoply of other issues, including environmental regulations, local concerns, and politics, associated with CW destruction, a fact that the OPCW has already recognized by agreeing in principle to extend the final destruction deadlines for the major possessor states. Specific conditions for extension, as required by the CWC, have yet to be agreed by the OPCW's highest decisionmaking body, the Conference of States Parties (CSP). Moreover, the announcement by the United States in April 2006 that it may fail to complete destruction by the proposed extended 2012 deadline could complicate efforts to reach agreement. It is therefore essential that CW destruction moves forward in all of the declared possessor states, and that those that can proceed faster do not slow down for political reasons. The momentum of international cooperation in this area also needs to be sustained in order to ensure the smooth extension of the intermediate and final destruction deadlines.

Another important precondition for success is to avoid a major confrontation over alleged noncompliance if one or more possessor states subsequently fails to meet the extended destruction deadline in the CWC. The main casualty of such a confrontation would be the multilateral CW disarmament and nonproliferation regime itself, rather than individual countries.

Compliance Concerns

An additional cause for serious concern is that doubts persist that some CWC member states may not have declared all relevant facilities. In addition, the U.S. State Department report on compliance with arms control agreements issued at the end of August 2005 expresses concern about possible clandestine offensive CW programs in Russia, China, Iran, and Sudan. The United States has so far tried to address these compliance concerns bilaterally, without engaging formal OPCW mechanisms. This recourse to bilateral channels is totally consistent with the CWC, which explicitly provides for such an option.

Pursuing confidential efforts to resolve concerns also has a sound political logic because, rightly or wrongly, the perception exists that bringing an allegation of noncompliance to the OPCW would elevate the dispute to a higher and more confrontational level.

On the other hand, parties using bilateral channels tend to propose measures that might not be acceptable in a multilateral context, such as the OPCW Executive Council. On such an uneven playing field, the suspected party might become even more entrenched and reluctant to cooperate. In any case, if these noncompliance concerns are not resolved in due course (and there is still some time left), they could seriously undermine the credibility of the CWC and the OPCW. It is unlikely that bilateral consultations will become more effective in the future because suspected violators could decide to retaliate against a U.S. allegation of noncompliance with the counter-accusation that the United States itself is in violation because it is failing to destroy its entire CW stockpile by the required deadline.

The CWC in the 21st Century

The CWC and the OPCW were products of the final phase of the Cold War and may not have emerged in a different historic environment, even just several years earlier or later. Indeed, although the Comprehensive Test Ban Treaty was negotiated in the mid-1990s, its ratification and entry into force ran into what now appear to be insurmountable obstacles. In much the same way, negotiations on a legally binding BTWC verification and compliance protocol, which was inspired by the successful conclusion of the CWC, collapsed in the final stage of negotiations, when the United States refused to sign off on the proposed mandatory plan, throwing the entire process into disarray.

The specific circumstances, concerns, and perceptions that created the OPCW and enabled it to start functioning more or less successfully also imposed certain limitations on the organization and its operation. It was simply not possible at the time of the CWC negotiations to anticipate certain aspects of today's world to which the OPCW must respond. One example is the treaty's excessive emphasis on the verification of CW destruction at the expense of certain types of industry inspections. Others include a noticeable change in the perception and prioritization of major threats. Although the threat posed by WMD has not gone away, its perceived importance has diminished relative to other threats, such as the spread of communicable diseases.

The perception of the nature of the threat is also different today: Superpower arsenals have been supplanted by transnational terrorist organizations and a handful of small states, which by any account cannot be regarded as major political and military powers. There also has been a tendency to underestimate the importance of economic and financial incentives not directly related to military security for reinforcing disarmament legal norms. In fact, the importance of these nonmilitary factors has grown in relative terms.

Some key provisions of the CWC are supported only marginally by verification procedures; this applies in particular to the basic obligations not to assist or encourage anyone to engage in prohibited activities and not to transfer CW directly or indirectly to anyone. The absence of specific verification provisions in the CWC for monitoring these

obligations in theory does not preclude the OPCW from developing additional procedures to address the problem (similar to how the IAEA regularly enhances its safeguards system), but the political will has been lacking. As a result, this vacuum in the CWC regime is now being filled by ad hoc measures outside the treaty framework, such as the Proliferation Security Initiative (PSI).

''External'' factors related to CWC implementation have been underestimated. First, in the new global situation problems related to different types of WMD and their proliferation have become much more interdependent. Despite the specificity of the chemical, biological, nuclear, and missile control regimes, new forms of combating the spread of WMD have sought to address these various categories of weapons under the same framework (again, PSI is good example).

Also unexpected at the time of the CWC's adoption was the increasing possibility of terrorists using WMD. Even when this risk became more obvious, many governments were reluctant to explore the potential of the OPCW and similar organizations to combat WMD terrorism. Just as in the area of nonproliferation, efforts to prevent the terrorist use of WMD cannot be effective if governments continue to maintain intellectual and policy firewalls between the various classes of WMD.

A further underestimated factor affecting the health of the CWC regime is the potential risk associated with the research and development of new chemicals and production processes. Although a good deal of such research and development will lead to innovations unrelated to the object and purpose of the CWC, a relatively small segment of such activities might affect the treaty. A good example is the area of ''nonlethal'' incapacitants, which are of growing interest to the United States, Russia, and other countries for counterterrorism operations. Although such developments exploit the ''law enforcement'' exemption in the CWC, they are increasingly being applied for paramilitary purposes. In theory, the OPCW has the necessary instruments, such as the Scientific Advisory Board (SAB) to address this problem, yet this topic has been considered too sensitive even to be raised in meetings of the organization.

Despite all the dramatic changes in the world, it would be a tragic mistake to conclude that WMD nonproliferation, arms control, and disarmament measures are no longer needed, as this conclusion would lead to an erosion of existing norms and institutions, creating additional incentives for proliferation. It would be equally tragic for the arms control community to ignore the dramatic changes that are taking place in the world and continue to look for solutions exclusively within the traditional realm of arms control and nonproliferation treaties.

What Comes Next?

A good opportunity to address future challenges to the CWC and the OPCW will come at the Second Review Conference, which has been scheduled for April 2008. The Executive Council of the OPCW has already set up an open-ended working group (OEWG), chaired by the United Kingdom, to prepare for the review conference. The OPCW established a similar OEWG before the First Review Conference, and the decision to do so again reflects the organization's special role and comprehensive mandate for treaty implementation.

The Second Review Conference will be an important event that, ideally, will contribute to strengthening the CWC regime and the political commitment of the states parties. Nevertheless, the nature of several problems of treaty implementation requires that they be worked on before, during, and after the conference, so limiting analysis to what should happen at the conference itself might leave important questions unanswered.

The preferred outcome would be a short, dynamic political declaration expressing strong support for the CWC and its effective implementation, supported by a longer text that addresses various important issues. Without necessarily trying to resolve permanently all these issues, the review conference should chart the course of work over the next five-year intersessional period.

Probably the biggest challenge facing the CWC today is the timetable for the destruction of declared CW stockpiles. To begin with, not later than April 29, 2007, the CSP will have to grant both the United States and Russia a five-year extension of the destruction deadline (until April 2012), despite the recognition that even this extended deadline may not be met. It will therefore be necessary to acknowledge the uncertainty surrounding the CW destruction schedules. At the same time, both countries should be urged to do everything possible to complete the job by April 2012. The parameters for destruction should be guided by the primary goal of rendering unusable whatever CW agents remain at the end of the original 10-year period. Calling for more intrusive and costly verification as a condition for the extension could be counterproductive, and from a pragmatic point of view such verification is not required. More desirable are measures for the increased transparency of destruction planning, financing, and implementation, as well as the secure storage of CW agents prior to destruction.

In the meantime, the search for a permanent solution to the CW destruction problem will have to continue after the conference. Several options can be considered, but the ultimate solution can only be achieved closer to 2012, when the real situation becomes clear. Acceptance of the fact that destruction will have to continue beyond 2012 will depend on political realities, on assurances given by the member states involved, the rate of destruction during the last several years, and the proportion of the arsenal that remains to be destroyed.

As to the modalities, some experts contend that an amendment to the CWC (and hence the convening of a formal Amendment Conference) will be necessary, yet this approach would be disruptive and could open the treaty to attempts to renegotiate other important provisions. Hence, more workable solutions are needed.

One possibility would be to degrade the CW agents, rendering them militarily useless and economically unattractive for reconversion into CW agents (chemically that would always be possible, but at a great cost, and with unproven technologies). The contentious issue of determining the end-point of chemical weapons destruction would come into play here. Greater flexibility on this technical issue might make it possible to accept the completion of destruction at an earlier stage, in conjunction with a conference decision on a regime to monitor the disposition of the toxic waste product and on the deadline for completion of the final detoxification phase. At the time of writing, the Russian Federation was already in the process of advanced experimentation in this field,

which, in the view of the author, could be quite promising. It is important, though, not to create artificial obstacles on this path.

Another approach would be to make use of a series of provisions of the CWC regarding consultation, cooperation, and fact finding, as well as measures to redress a situation and ensure compliance (Article IX, paragraphs 1–7, and Article XII). The authors of the convention have deliberately put emphasis on the need for the Executive Council and the CSP to decide first on measures necessary to remedy, within a specified time, a situation contravening the provisions of the convention, while avoiding hasty rulings on compliance and punitive actions. Perhaps on this basis a more elegant legal solution, short of amending the treaty (even in the form of a technical change), and short of accusations of non-compliance could be found.

The best outcome would be to accelerate work on destruction, increase resource allocation, and ensure the completion of the process by the end of April 2012. The key factor will be the political will of the Russian Federation, the United States, and other CW possessors to complete the task on schedule.

A separate question is sometimes raised with respect to discarded CW, such as the chemical munitions abandoned in China by Japan toward the end of World War II. It must be recalled that in accordance with Article IV and Parts IV (A) and (B) of the Verification Annex of the CWC, the 10-year deadline and the ultimate five-year extension simply do not apply here. One cannot rule out, unfortunately, that for purely political purposes the OPCW could be drawn into the discussion of this subject.

As for the possibility of a new CW possessor state joining the convention after the 10-year destruction deadline, a very clear answer is given by Article IV (paragraph 8) of the CWC itself: A special schedule for CW destruction in that country will have be approved by the Executive Council. This means, among other things, that even when all currently declared chemical weapons are destroyed, the OPCW should continue to keep some (reduced, of course) CW verification capacity, along with procedures to resume full-scale operations, if necessary.

Regardless of the approach that is ultimately chosen, the issue of CW destruction should receive much greater political attention. A new forum for deliberations might be helpful, going beyond the traditional Monday hearings on the eve of Executive Council sessions. On the other hand, the Second Review Conference should avoid wasting time on unproductive and artificial debate about CW possessors' alleged intention not to disarm. Instead, the Second Review Conference should renew the commitment of all member states to the complete and expedited elimination of their CW stockpiles and urge the possessor states to live up to their obligations. To reinforce this message, the conference would be well advised to develop a preliminary vision of the OPCW in the post-CW era. To this end, the conference should address future priorities and structural reforms that will be needed once all of the declared CW stockpiles have been destroyed. Even if no detailed or final decisions can be made at that early stage, the conference could still instruct the Executive Council to begin systematic work on those issues.

It is logical to assume that the compliance of member states with their CWC obligations will be a topic of discussion at the Second Review Conference. Delays in destroying CW stockpiles should not detract attention from noncompliance concerns

unrelated to CW destruction. Avoiding this distraction is another reason to prevent delays in CW destruction from becoming a major compliance issue, and the best way to do that is to avoid or minimize delays. The fact remains that compliance concerns involve a relatively small number of member states. Discussing each case at the conference would do little to contribute to a successful outcome. Instead, it would be far better to undertake discreet efforts to resolve, or at least minimize, these concerns prior to the start of the conference.

Another compliance-related concern is the fact that the CWC verification mechanism is spread rather unevenly among the various prohibitions and obligations. Major elements of the treaty that have a direct impact on its nonproliferation potential, such as the prohibitions on assisting or encouraging other states to acquire chemical weapons, have been largely neglected. The OPCW should also have greater flexibility to make improvements in the verification system consistent with the treaty, either through targeted decisionmaking by the CSP or, in specific cases, through the budgetary process.

For example, CWC provisions designed to prevent the proliferation of chemical weapons and related technologies, such as export controls, could be strengthened. To begin with, parties should return to the pending issue of applying export control to Schedule 3 chemicals (if not outright prohibition, then at least reporting requirements). Then, some thought could be given to developing nonobligatory guidelines on national measures to implement obligations under Article I(d) of the convention. This paragraph is rather short (parties commit never ''[t]o assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention''), but the list of those activities is rather long. It would be useful to know how parties are implementing their obligations, which legal basis exists for that, and whether any of the best practices could be identified. Voluntary visits to facilities that play an important role in preventing illegal shipments of weapons and technology, like major sea ports, may also be an option—perhaps one or another party can consider hosting such a visit. Further down the road, a need for a more formal document could be examined.

At the same time, the OPCW should seriously explore the possibility of closer interactions with other international organizations and arrangements to prevent WMD proliferation. These can include the IAEA on the nuclear side, the PSI on the cross-boundary side, and the Australia Group on the chemical and biological side. This idea may sound provocative, but it does not imply combining or changing respective responsibilities or mandates. On the other hand, joint actions could be considered, for example with the IAEA on the issue of creating a WMD-free zone in the Middle East.

On a more technical level, the OPCW should be in a better position to adjust the modalities of routine on-site inspections based on experience and in response to changes in the industrial and technological environment. For example, there should be a limited flexibility to transfer funds among the lines of the budget for industry inspections; given the high degree of compartmentalization at chemical industry plants, a consequence of industry practices, the inspection planning should be adjusted accordingly, either through a general increase in funds to enable more smaller plants to be covered, through more consecutive inspections, or through the right to check adjacent facilities under separate ownership, if they are functionally connected. The best approach would be a combination of several methods. In any case, the intensity of visits to plants producing DOCs should be

enhanced and their selection process optimized. Finally, the organization should have better opportunities to employ procedures already built in the CWC, but not used, or used on an artificially limited scale, like sampling and analysis in some types of industry inspections.

The Second Review Conference should address these problems, at least in a conceptual way, to lay the groundwork for intersessional activities in this area. Since any in-depth discussion of these issues will be of little use without active industry involvement, thought should be given to having a representative and reasonably high-level industry conference either before or after the Second Review Conference itself.

Although the OPCW has initiated numerous courses and exercises on assistance, protection, and chemical defense in various member countries and regions, many of these events appear to have been held for the sole purpose of reporting that something was being done. Identifying the proper role of the OPCW in the field of chemical defense and translating it into operational terms still requires a great deal of work. A complete evaluation of the OPCW's existing and potential assets in this area would also be a good idea. To do that, the organization should be better informed about the revolutionary changes that have taken place in recent years with respect to protection against the terrorist use of toxic chemicals and, given the interdisciplinary nature of activities involved, strive to establish a partnership network with other relevant organizations.

Similar flexibility will be needed to expand international cooperation in the peaceful uses of chemistry in a way that does not create new proliferation risks, while also strengthening the safety of the chemical industry against terrorist attacks and natural disasters. The final document of the First Review Conference included some rather modest remarks on the protection of chemical industry facilities against terrorist attacks. Since then, the United States and other Western countries have made efforts to improve the physical security of their chemical plant sites. Serious thought should be given to how this experience can be shared to benefit the safe development of the chemical industry in the developing world.

In other words, how can we build synergies between Article X (on protection against chemical weapons) and Article XI (on international cooperation in the peaceful uses of chemical technology)? This synergy cannot be limited to a simple transfer of security technologies to the developing world, since improving the security of the chemical industry also means modernizing its management and reducing the amount of precursor chemicals and ready products on-site, which in turn means applying the industry's best practices in such areas as production planning, supply chain, and distribution. Modernizing national legislations (an area where the OPCW has valuable experience) also can be helpful in this regard. The important point is that, unless this synergy is created, its absence could eventually become a divisive factor within the OPCW, hindering the upgrading of the nonproliferation capabilities of the organization.

Developments in Science and Technology

Today, 13 years after the conclusion of the CWC negotiations, developments in chemical science and technology have not yet reached the point at which a thorough reevaluation

of the treaty is warranted. Nevertheless, the SAB has begun to review various scheduled chemicals and has recommended technical adjustments to certain verification procedures. In this sense, the report of the eighth session of the SAB, dated March 8, 2006, together with the director general's note on the report, are deserving of praise and support. It is also heartening that momentum is growing to provide the SAB with greater resources so that it can intensify its activities.

Sooner or later, an in-depth review of the implications for the CWC of advances in chemical science and technology will be in order. One issue in particular that requires urgent (albeit careful) attention is the development of ''nonlethal'' chemical agents. The treaty definition of CW clearly covers incapacitants (nonlethal agents) and not just agents designed to kill (according to Article II, paragraph 2, ''Toxic Chemical means. . .any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans and animals.'').[1] If a state has riot-control agents, it must declare the types and may not use them as a method of warfare (Article III, paragraph 1e, and Article II, paragraph 5). In that sense, despite the treaty's deliberately vague language defining nonprohibited purposes (''law-enforcement, including domestic riot control,'' Article II, paragraph 9d), and thanks to the General Purpose Criterion, there seems to be no gap in the CWC coverage of various chemicals.

Since September 11, 2001, however, the fight against terrorism has led to intensified research on new chemical compounds with very rapid incapacitating or irritant effects, along with the development of new means of delivery and dispersal. According to press accounts, in several instances delivery systems have been designed in different versions for law enforcement and battlefield use. Such work is eroding the boundary between the permitted use of riot-control agents for law enforcement purposes and the CWC's prohibition on their use as a method of warfare.

Thus, the time has come for informal discussions to address concerns over nonlethal agents on the basis of the CWC definitions of ''toxic chemical'' and ''non-prohibited purposes,'' including ''law enforcement, including domestic riot control.'' The Second Review Conference in 2008 will have to address these issues, which are the cause of concern for a growing number of parties. At the same time, a frontal attack on the problem could be counterproductive. One should bear in mind that the negotiators of the CWC deliberately created ambiguity in the treaty text about the meaning of the term ''law enforcement, including domestic riot control.'' It is therefore vital to develop greater understanding of the issue and explore ways of providing greater transparency. As a first step, the conference could explore the possible exchange of information about national legal and administrative norms governing research and development in the area of incapacitating agents to ensure that the integrity of the CWC is not at risk.

National implementation, an important safeguard against abuse, is quite relevant in this case, as well. Indeed, the requirement in Article VI (2) that, ''Each State Party shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred or used within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention,'' if properly complied with, will take care of much of the problem.

The Second Review Conference is also likely to continue in some form with the two action plans, launched at the First Review Conference in 2003, to promote universal participation in the CWC and better national implementation of the treaty. It would be desirable to allocate more resources to these activities and introduce new approaches, such as improved follow-up and greater use of strategic alliances with other international and regional organizations and interested member states. Because integrating the two issues might be more cost-effective, a combined task force should be considered.

Finally, it would be desirable for the OPCW to pay serious attention to the current discussion in the United Nations on ways to improve administration and management, not with the view of copying the UN changes, but rather to consider whether they can help solve some of the OPCW's own problems. There are many factors that make the OPCW quite different from the UN—size, age, and specialization of the former and multi-functionality of the latter. The OPCW has been fortunate to avoid ''acute bureaucratization syndrome,'' from which the UN continues to suffer, although some mild symptoms inevitably exist. Until recently, administration was not the OPCW's strong suit. Its internal oversight system should be strengthened and relieved of secondary duties so that it can play a more prominent role in ensuring good internal financial discipline, cost-effectiveness, and proper management of various programs, not just in the administrative area.

Although the OPCW was never conceived (at least by its creators) as a place providing permanent jobs for international bureaucrats, the decision to limit tenure with the organization, made by member states in April 2003, has effectively limited the length of service to a maximum of seven years. Based on the author's personal observations and discussions with senior staff of the OPCW technical secretariat, this policy has resulted in a rapid turnover of staff, higher personnel costs, and, ironically, a significant increase in the size and budget of the human resources branch. Other related problems include reduced morale, an exodus of highly qualified and experienced personnel, a loss of institutional memory, and the growing perception among the staff that the OPCW is a ''stopover'' station between more important assignments.

These issues urgently need to be addressed, not by reversing the tenure policy as a whole but by reviewing the organization's current practices with respect to the duration and sequence of contracts, the system of incentives and other staff retention measures (within tenure limits), and so forth. In addition, the member states might agree to give the director general some additional flexibility to retain valuable staff members. Such flexibility should be balanced by more vigorous internal review and oversight mechanisms and better transparency.

Conclusion

In less than 10 years, the CWC and its implementing body, the OPCW, have proven their effectiveness and ability to adapt to changing global conditions. The CWC regime is a good example of constructive multilateralism in the field of disarmament and non-proliferation. At the same time, the OPCW faces several emerging challenges that are more serious than those it has confronted previously. If left unattended, they could seriously

damage the CWC regime and erode the entire set of nonproliferation and disarmament arrangements. Some time still remains before and during the Second Review Conference in April 2008 to negotiate critical decisions and make the necessary adjustments. By taking advantage of this window of opportunity, we can ensure that the future of the chemical weapons disarmament regime remains bright and that the CWC, a multilateral disarmament and nonproliferation treaty with an elaborate verification and compliance system, will continue to serve and protect the interests of the international community.

NOTE

1. United States Chemical Weapons Convention Treaty website, <www.cwc.gov/cwc_treaty_article_02.html>.