

Seeking Biosecurity Without Verification: The New U.S. Strategy on Biothreats

During a December 9 speech to the annual meeting of states-parties to the Biological Weapons Convention (BWC) in Geneva, Undersecretary of State for Arms Control and International Security Ellen O. Tauscher declared, “The Obama administration will not seek to revive negotiations on a verification protocol to the Convention. We have carefully reviewed previous efforts to develop a verification protocol and have determined that a legally binding protocol would not achieve meaningful verification or greater security.”¹

In effect, President Barack Obama has decided not to reverse the 2001 decision by the Bush administration to reject a draft BWC compliance protocol that had been developed over six years of multilateral negotiations from 1995 to 2001. The protocol would have created a legally binding

inspection regime for the BWC, which still lacks formal verification measures.

Although a few arms control advocates had hoped for a different outcome, the Obama administration’s decision did not come as a major surprise. It had already been foreshadowed by the

December 2008 report of the bipartisan Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, chaired by former Senators Bob Graham (D-Fla.) and Jim Talent (R-Mo.), which concluded that “the U.S. decision in 2001 to withdraw from the BWC Protocol negotiations was fundamentally sound and that the next administration should reject any efforts to restart them.”²

In lieu of a decision to return to the negotiating table, the Obama administration released a 23-page “National Strategy for Countering Biological Threats,” which was distributed to the delegations in Geneva. This strategy seeks to reinforce the objectives of the BWC through a variety of indirect measures, including efforts to enhance the security of laboratories that work with dangerous pathogens and to improve global disease surveillance—the ability to detect and rapidly contain outbreaks of infectious disease, whether they are natural, accidental, or deliberate in origin.

The release of the national strategy document made clear that, in addition to the ambitious nuclear nonproliferation and disarmament agenda laid out in President Obama’s Prague speech of April 5, 2009, the

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White House is seriously concerned about biological threats. Indeed, Tauscher's speech included the rather hyperbolic statement that "a major biological weapons attack on one of the world's major cities could cause as much death and economic and psychological damage as a nuclear attack."³ On a personal note, she recalled that as a member of Congress during the fall of 2001, when letters contaminated with anthrax bacterial spores were mailed to Senators Tom Daschle (D-S.D.) and Patrick Leahy (D-Vt.), she had experienced firsthand the pervasive fear and uncertainty caused by even a small-scale bioterrorist incident.

The decision by the Obama administration not to revive the protocol negotiations and to develop an alternative set of measures for addressing biological threats is the latest development in the long history of efforts to bolster the BWC. This article reviews the background of the decision, assesses the main elements of the new national strategy, and provides some suggestions for the way forward.

Historical Background

The BWC, which was opened for signature in 1972 and entered into force in 1975, bans the development, production, stockpiling, and transfer of biological and toxin warfare agents, as well as delivery systems specifically designed for their dispersal. At present, the convention has 163 states-parties and 13 signatories; 19 countries have neither signed nor ratified it. Although the BWC serves as the cornerstone of international efforts to prevent biological weapons proliferation and terrorism, it is widely considered a weak instrument. When the treaty was negotiated in the early 1970s, at the height of the Cold War, the Soviet Union and the United States had strong reservations about intrusive on-site inspections. As a result, the BWC was concluded and brought into force without formal verification or enforcement measures. Allegations of noncompliance can be pursued only through bilateral or multilateral consultations under Article 5 of the convention, or by a request that the UN Security

Council initiate an investigation under Article 6.⁴

Almost as soon as the ink was dry on the BWC, the Soviet Union exploited the treaty's lack of teeth by launching a major expansion of its clandestine biological warfare program. The United States suspected this activity was taking place, particularly after a suspicious outbreak of anthrax in Sverdlovsk in 1979, but as a permanent member of the UN Security Council, Moscow was in a position to veto an investigation under Article 6. The inability of the BWC to prevent or pursue serious violations by the Soviet Union and later by Saddam Hussein's Iraq gave rise to increased international pressures to strengthen the convention. At the third review conference of the BWC in 1991, several countries tried to launch a formal negotiation to bolster the treaty with a legally binding verification regime, but they failed to achieve consensus. The George H. W. Bush administration argued that verification was not possible with any degree of confidence because of



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Marius Grinius, Canadian permanent representative to the United Nations and the Conference on Disarmament, chairs a session of the annual meeting of states-parties to the Biological Weapons Convention (BWC) in Geneva December 9. At right is U.S. Undersecretary of State for Arms Control and International Security Ellen O. Tauscher, who announced a revised U.S. strategy for addressing biological weapons proliferation and terrorism.

the dual-use nature of biotechnological materials and equipment, which makes it easy to divert legitimate facilities such as vaccine plants to illicit production. As a compromise, the United States agreed to the creation of an ad hoc group of scientific experts from member states, charged with preparing a technical report on the feasibility of potential verification measures. This exercise, known as VEREX, produced rather inconclusive results but enabled proponents to keep the verification issue alive while awaiting a change in U.S. policy.

The election of Bill Clinton in 1992 led to a shift in the U.S. approach to the BWC. Although the Clinton administration shared the concerns of its predecessor about the verifiability of the BWC, it judged that a regime that did not meet the standard of effective verification could still help to deter violations and promote compliance by increasing the transparency of dual-use biological activities. In September 1994, at a special conference in Geneva ostensibly called to consider the VEREX report, BWC states-parties hammered out a negotiating mandate for a “legally binding instrument,” or compliance protocol, to augment the convention. In addition, the conference established a new negotiating forum called the Ad Hoc Group, open to all BWC members.

As Kenneth D. Ward, who served as deputy head of the U.S. delegation to the Ad Hoc Group, has observed, the mandate for the protocol negotiations “underscored the divergent, if not antithetical, negotiating objectives of the participating states.”⁵ The mandate had four elements, of which the first two—“measures to promote compliance” and “confidence-building and transparency measures”—addressed the arms control goals of the Western Group, which included the United States, Canada, Western Europe, Australia, and Japan. But the second two elements of the mandate were highly problematic. As its price for supporting the protocol negotiation, Russia insisted that key terms in the BWC be defined narrowly in an apparent effort to limit the prohibitions of the convention and thereby create “safe harbors” for illicit biological weapons activities. In addition, China, India, Iran, and Pakistan demanded that the protocol end all national export controls on materials and



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Former Senator Bob Graham (D-Fla.), chairman of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, speaks at a press conference releasing the commission's report in Washington December 3, 2008. The report concluded that “the U.S. decision in 2001 to withdraw from the BWC Protocol negotiations was fundamentally sound and that the next administration should reject any efforts to restart them.”

equipment related to biological weapons, on the grounds that such controls “discriminated” against developing countries.

Beyond the serious flaws in the negotiating mandate, the Ad Hoc Group struggled with the intractable nature of the biological weapons problem. Unlike chemical weapons, which must be produced and delivered in large quantities to have a significant military effect, the efficient dispersal of a few kilograms of a biological agent, such as the dried spores of the anthrax bacterium, over a troop concentration or a major city could sicken or kill many thousands of people. The limited quantities of biological agent required for a devastating attack could be produced with small-scale equipment, occupying perhaps only a single room, and nearly all such equipment is dual-use and available throughout the world. Advances in fermentation technology have also eliminated the need to stockpile bio-warfare agents. Instead, a legitimate production facility, such as a vaccine plant, could be commandeered to grow seed cultures into militarily significant quantities of agent within a period of weeks. Given these technical realities, the detection of illicit biological weapons activities poses daunting challenges for any conceivable monitoring regime.

Faced with such challenges, U.S. gov-

ernment agencies split into two opposing camps. The first camp sought to emulate the extensive verification system in the Chemical Weapons Convention (CWC), which had been concluded a few years earlier. The European Union (EU) also embraced this approach and called for a highly ambitious set of measures, including the mandatory declaration of a wide array of dual-use biological facilities, random on-site visits to check the accuracy of the declarations, a strong mechanism for challenge investigations to pursue undeclared sites suspected of violations, and a large technical secretariat to implement these measures. The second camp within the U.S. government viewed the CWC as an inappropriate model because of the unique characteristics of biological weapons. These agencies sought a modest protocol that included limited declarations, a strong mechanism for challenge investigations, and a relatively small implementing organization. The Pentagon, in particular, opposed opening up sensitive biodefense research facilities to routine international inspection. Another obstacle was the failure of the Clinton administration to engage effectively with the U.S. pharmaceutical and biotechnology industries, which feared that on-site visits would compromise valuable trade secrets.

The struggle between the two contending approaches to the BWC protocol lasted from 1995 until 2000, when the United States agreed to support a broader declaration package that included large-scale producers of biological products, along with random visits to declared facilities to increase transparency. However, even these concessions failed to produce a workable compromise with the EU, which continued to push for the pure CWC model and was supported in this effort by like-minded elements within the U.S. government. Ward contends that internal dissension prevented Washington from playing a leadership role in the protocol negotiations, while the divisions within the Western Group “precluded any forceful, collective attempt to counter the efforts of those countries determined to use the BWC protocol to undermine the convention.”⁶

In March 2001, Ad Hoc Group Chairman Tibor Tóth introduced a proposed compromise text of the BWC protocol that was designed to bridge the remaining differences and launch the endgame of the negotiation. Although this tactic had worked effectively in the past for the CWC and the Comprehensive Test Ban Treaty, the response from states participating in the Ad Hoc Group was decidedly negative. At the next negotiating session, China, Russia, and other countries refused to accept the chairman’s compromise text unless their demands were met. Thus, the only way to reach consensus was for the United States and other Western Group countries to accept elements in the BWC protocol that would seriously undermine the central prohibitions of the convention itself. U.S. experts were divided on the merits of the protocol even without concessions to China, Russia, and others.⁷

In view of this situation, on July 25, 2001, the recently installed administration of President George W. Bush, which had inherited the draft protocol from its predecessor, rejected the chairman’s text and abruptly withdrew from the Ad Hoc Group, triggering the breakdown of the talks. Although the administration was widely criticized for this action, Ward contends that the flawed negotiating mandate had doomed the BWC protocol to failure. “Blaming the United States as the proximate cause for the collapse of the negotiations,”

he concludes, “provided a convenient scapegoat for many... to conceal their own culpability for the impasse.”⁸

A year and a half after the failure to conclude the compliance protocol, BWC member states agreed in December 2002 to launch an “intersessional work program” of annual meetings of experts and states-parties prior to the next scheduled review conference in 2006. At the insistence of the United States, the work program focused narrowly on topics related to BWC national implementation and the prevention of bioterrorism, including penal legislation, the security of pathogen collections, investigations of alleged use of biological weapons, infectious-disease surveillance, and scientific codes of conduct. The annual meetings were limited to exchanges of information, with no effort to identify “best practices” or to develop agreed guidelines for BWC implementation.⁹

Despite its modest objectives, the intersessional work program proved useful in a number of ways. It kept the attention of the international community focused on practical measures to implement and strengthen the BWC, gradually healed the bruised feelings caused by the Bush administration’s undiplomatic rejection of the draft protocol, and engaged a variety of civil society organizations in the BWC process, including national academies of science and the International Committee

of the Red Cross. In recognition of these achievements, the 2006 BWC review conference renewed the intersessional work program for another four years, until the next review conference in 2011. Even so, many of the topics of the annual meetings are being discussed for the second time, and it is increasingly clear that the process is reaching the end of its useful life and will have to be replaced by a new and more ambitious approach.

Although the Ad Hoc Group has been inactive since August 2001, it continues to exist legally, as does its negotiating mandate. In late 2007, India, Iran, Pakistan, and Russia called for resuming the BWC protocol negotiations, but any effort to revive the talks would almost certainly require a return to the flawed mandate. These concerns, combined with the technical difficulty of distinguishing between legitimate and illicit biological activities, led the Obama administration to conclude that the costs of reviving the protocol outweighed the benefits.

A Multifaceted Approach

As an alternative to a formal BWC verification regime, the Obama administration has proposed a new national strategy to counter a broad array of biological threats, natural as well as deliberate. Interagency policy development was coordinated over a period of



A bomb squad officer gets into his suit during a simulated biological attack in New Jersey in April 2005.

Stan Honda/AFP/Getty Images

several months by members of the National Security Council staff, who held a series of consultative meetings with U.S. government officials as well as with outside scientists, academics, and non-governmental organizations. Setting out broad principles, the strategy document does not delineate agency roles and missions or ask Congress for the additional resources needed to carry out the proposed activities. Indeed, the document states that “[t]he implementation of this

osecurity policies focused on mitigating the consequences of a biological attack through a major investment in threat-assessment research, early-detection systems such as BioWatch, the development of medical countermeasures under Project BioShield, and other domestic preparedness measures, the Obama strategy places a far greater emphasis on prevention. A major thrust involves strengthening global infectious-disease surveillance by increasing the capac-

member states to acquire by 2012 the capability to detect, report, and respond to outbreaks of infectious disease on their territories that have the potential to spread across international borders. The U.S. government plans to hold a two-day meeting in May 2010, under the auspices of the BWC intersessional process, at which countries can share information on offers of assistance for IHR implementation. A follow-on meeting in August will build on these discussions

Whereas the Bush administration’s biosecurity policies focused on mitigating the consequences of a biological attack, the Obama strategy places a far greater emphasis on prevention.

Strategy, specific actions to be taken by Federal entities, and their specific measures of performance and effectiveness will be directed separately.”¹⁰

The national strategy is designed to counter both state-run biological warfare programs and efforts by terrorist organizations such as al Qaeda to acquire biological weapons. For the United States, bioterrorism is arguably a greater concern because dramatic advances in the life sciences could increase the ability of small groups and individuals to cause significant harm. In the not-too-distant future, for example, sophisticated terrorists might exploit gene-synthesis technology to recreate deadly viruses in the laboratory, thereby circumventing the strict controls on access to “select agents” of bioterrorism concern.¹¹ To guard against the misuse of the life sciences for hostile purposes, the national strategy sets out seven objectives, the first letters of which spell out the word PROTECT: (1) Promote global health security, (2) Reinforce norms of safe and responsible conduct, (3) Obtain timely and accurate insight on current and emerging risks, (4) Take reasonable steps to reduce the potential for exploitation, (5) Expand the U.S. capability to prevent, attribute, and apprehend, (6) Communicate effectively with all stakeholders, and (7) Transform the international dialogue on biological threats.¹²

Whereas the Bush administration’s bi-

ity of countries to detect outbreaks and rapidly contain them close to the source, thereby reducing their public health impact. According to the strategy document, this capability is “among the most effective ways to deter a deliberate attack and to minimize the consequences should an attack occur.”¹³

In another notable departure from past policy, the Obama strategy addresses the full spectrum of biological risks, extending from natural outbreaks of infectious disease, through laboratory accidents, to intentional state or terrorist use of biological weapons. This effort to integrate public health concerns into national security planning represents a paradigm shift from the 1990s, when natural and deliberate outbreaks were addressed in separate forums. Indeed, the World Health Organization (WHO) focused narrowly on the public health consequences of bioterrorism and shied away from the security dimensions for fear of becoming politically tainted.

Underlining the Obama administration’s holistic approach to biological threats, Tauscher announced that the U.S. Centers for Disease Control and Prevention (CDC) will establish the first WHO collaborating center devoted to assisting developing countries to implement the 2005 revision of the International Health Regulations (IHR). These strengthened rules require all WHO

by examining new technologies and approaches to building core national capacities for disease surveillance.

Other elements of the Obama administration’s strategy to manage biological risks include securing collections of dangerous pathogens and toxins in partner countries and regions, establishing and reinforcing norms against the misuse of the life sciences for harmful purposes, and restricting access to “dual-use information of concern” derived from legitimate biomedical research. According to Tauscher, the strategy “strikes a balance between supporting scientific progress and curbing and stopping the potential for abuse.”¹⁴ On November 27, for example, the U.S. Department of Health and Human Services published in the *Federal Register* a set of draft biosecurity guidelines for the gene-synthesis industry. These voluntary guidelines for screening customers and DNA sequence orders are designed to prevent states or terrorist groups from ordering genetic material coding for dangerous pathogens and toxins over the Internet. At the same time, the guidelines avoid imposing burdensome regulations that could impede legitimate scientific research or handicap U.S. gene-synthesis companies vis-à-vis their foreign competitors.¹⁵

Although none of the individual elements in the Obama administration’s strategy are new, taken together they pro-

vide a comprehensive and coherent approach to countering biological threats.

Strengthening the BWC

The portion of the U.S. strategy document devoted to “revitalizing” the BWC notes that the convention is “the central international forum dedicated to mitigating risks posed by the development and use of biological weapons.”¹⁶ In her speech in Geneva, Tauscher noted the critical importance for building confidence in BWC compliance of increasing the transparency of biodefense activities, which have expanded dramatically in recent years and could potentially serve as a cover for illicit biological weapons development. Nevertheless, the only tangible steps toward greater U.S. transparency mentioned in the speech were pledges to invite the 2010 chairman of the BWC intersessional meetings to visit the National Interagency Biodefense Campus at Fort Detrick in Maryland and to “work toward” posting future U.S. confidence-building-measure (CBM) declarations of data relevant to BWC compliance on a publicly accessible Web site, while encouraging other member states to follow suit.¹⁷ These token gestures are unlikely to satisfy international pressures for greater transparency of the massive U.S. biodefense program, which has spent roughly \$50 billion since 2001. So far, the Obama administration has not taken steps to cut back the bloated biodefense research enterprise, which poses serious security risks of its own, including possible insider threats.¹⁸ Indeed, the FBI now believes that the perpetrator of the 2001 anthrax letter attacks, which triggered the spending boom, was a U.S. government microbiologist working at Fort Detrick in the Army’s premier biodefense laboratory.

The administration’s approach to addressing allegations of noncompliance with the BWC also seems inadequate. According to the most recent Department of State arms control compliance report, published in 2005, four BWC member states—China, Iran, North Korea, and Russia—have violated their treaty commitments. Tauscher’s speech called for “pursuing compliance diplomacy to address concerns.” It is difficult to assess the effectiveness of this measure, which is normally carried out through confidential diplomatic channels. However, the experience with the U.S.-British-Russian Trilateral Agreement of 1992, under which Washington and London failed to persuade Moscow to

come clean about the Soviet biological weapons program, is not encouraging.¹⁹

Another shortcoming of the Obama strategy document is that it does not directly address the “institutional deficit” of the BWC. Whereas the CWC has a highly effective implementing body in the Organization for the Prohibition of Chemical Weapons, the BWC lacks even a small professional secretariat. Although the 2006 review conference established an Implementation Support Unit consisting of three people at the UN Office in Geneva, this entity has limited capacity and a temporary mandate that must be renewed by member states at the next BWC review conference in 2011. The Graham-Talent commission recommended that the United States “support an appropriate increase in the size and stature of the...Implementation Support Unit...so that it can function as an effective facilitator and coordinator for an expanded set of BWC activities and initiatives.”²⁰ It is unclear, however, if the Obama administration will follow this advice and seek to expand the role of the unit.

With respect to the intersessional process, Tauscher called for the development of a “reinvigorated, comprehensive work program” for the five-year period following the 2011 review conference, including “a rigorous, comprehensive program of cooperation, information exchange, and coordination.”²¹ Topics that she suggested might be addressed during the next cycle of annual meetings include revising the CBM data-declaration forms to improve their effectiveness and working to achieve universal adherence to the BWC, which, with 163 states-parties, lags far behind the nuclear Nonproliferation Treaty (189 parties) and the CWC (188 parties). Tauscher also proposed making the BWC “the premier forum for discussion of the full range of biological threats—including bioterrorism—and mutually agreeable steps states can take for risk management.”²² For example, she announced that the FBI and the CDC have developed best practices for the conduct of joint criminal and epidemiological investigations of suspected biological incidents, to be presented at the BWC experts meeting in August 2010. The United States also plans to hold a workshop after the experts meeting at which interested countries can share information on biological risk-management training, standards, and needs.

Overall, the specific measures in the Obama strategy that are designed to ad-

dress BWC compliance concerns—voluntary measures to increase transparency, revised forms for CBM data exchanges, bilateral compliance diplomacy, and a revamped intersessional work program—appear too weak to make much of a difference. Bolder, more meaningful transparency measures are clearly needed.

A Way Forward

To its credit, the Obama administration’s new strategy recognizes the threat posed by biological weapons in the hands of state and nonstate actors and lays out a comprehensive and cooperative approach for countering the full spectrum of biological risks. Yet despite the existence of the strategy document, it remains to be seen if the administration will give the biological weapons threat the priority it deserves and whether, in a budget-constrained environment, Congress will allocate sufficient funds for the measures needed to implement the strategy effectively. Such measures would include a global pathogen surveillance bill and assistance to developing countries for IHR implementation.

Having paid lip service to the biological threat, will the Obama administration now take concrete action or will it resume the exclusive focus on the nuclear weapons agenda that characterized its first year in office? How will the White House choose to balance the greater likelihood of biological terrorism against the greater devastation of nuclear terrorism?

A key step forward would be a “Prague II” speech by the president that underlines the salience of the biological weapons threat and the recognition that major outbreaks of infectious disease, whether natural or deliberate, endanger U.S. and international security. Such a speech would also reinforce the strategy document by setting out a concrete set of policy initiatives, while making clear that the administration is willing to allocate appropriate political and budgetary resources to the development of effective preventive measures.

With respect to strengthening the BWC, the Obama administration’s reluctance to return to the protocol is understandable, given that the flawed negotiating mandate still exists and the spread of dual-use biotechnological capabilities around the globe has exacerbated the difficulty of distinguishing illicit from legitimate biological activities. Nevertheless, the recognition that traditional verification is unrealistic

in the biological weapons context is not an excuse for inaction. To move beyond the legacy of the failed protocol, the administration must think seriously about building confidence in BWC compliance through meaningful transparency measures.

The goal of U.S. policy toward the BWC should be to persuade the other states-parties to abandon the existing negotiating mandate and start over with a clean slate. Because of the technical differences between biological and chemical weapons, the CWC verification system, which focuses primarily on routine inspections of declared dual-use industry facilities, is clearly an inappropriate model for the BWC. In contrast, a transparency regime that includes "consultative visits" under Article 5 to biological facilities of concern, initiated at the request of a BWC member state, could play a significant role in deterring violations and building confidence in compliance. Such a mechanism would have to be carefully designed to avoid the pitfalls encountered with challenge inspections under the CWC. By requiring that a country requesting a challenge inspection provide evidence of an outright treaty violation by another member state, the CWC negotiators set the political bar too high, with the result that this key verification mechanism has never been used in the dozen years since the treaty entered into force.

In addition to devising a BWC transparency regime that includes a procedure for conducting site visits under Article 5 to address compliance concerns, it would be desirable for the member states to strengthen the existing mechanism under which the UN Secretary-General can launch field investigations of the alleged use of biological weapons and suspicious outbreaks of disease.²³ Another possible area for international cooperation would involve increasing the capability of BWC member states to investigate incidents of bioterrorism by employing the new discipline of microbial forensics. Recent advances in this field, spurred by the FBI's seven-year investigation of the 2001 anthrax letter attacks, have led to the development of highly sensitive and specific assays that can determine the genetic, chemical, and physical properties of a pathogen or toxin agent used in a biological attack and assist in the process of attribution, or identifying those responsible.²⁴ Under the auspices of the BWC, member states might collaborate

in developing strain collections and sharing microbial forensic techniques so that in the event of a bioterrorist incident, it is possible to trace the agent back to the source and, ideally, finger the perpetrators. In addition, because sampling and analysis would play a key role in any UN field investigation of alleged biological weapons use, the United States should make some of its expertise in microbial forensics available to the UN Office for Disarmament Affairs.²⁵

The BWC's preamble declares that the states-parties "are determined... to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons, [and] convinced that such use would be repugnant to the conscience of mankind and that no effort should be spared to minimize this risk." Although the new strategy to counter biological threats is an important first step, it remains to be seen if the Obama administration and the Congress are prepared to follow through by taking the concrete actions needed to achieve biosecurity without verification. **ACT**

ENDNOTES

1. Ellen O. Tauscher, Address to the annual meeting of the states parties to the Biological Weapons Convention, Geneva, December 9, 2009, p. 4 (hereafter Tauscher BWC address), www.state.gov/t/us/133335.htm.
2. Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, "World at Risk," December 2008, p. 41, www.preventwmd.gov/report/.
3. Tauscher BWC address, p. 1.
4. Article 5 provides that member states "undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention. Consultation and cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter." Article 6 provides that "any State Party to this Convention which finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all possible evidence confirming its validity, as well as a request for its consideration by the Security Council. . . . The Security Council shall inform the States Parties to the Convention of the results of the investigation."
5. Kenneth D. Ward, "The BWC Protocol: Mandate for Failure," *Nonproliferation Review*, Vol. 11, No. 2

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7. See the analyses in *Arms Control Today*, May 2001, pp. 14-27, www.armscontrol.org/epublish/1/v31n4.
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17. Tauscher BWC address, p. 5.
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20. Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, "World at Risk," p. 42.
21. Tauscher BWC address, p. 4.
22. *Ibid.*, p. 6.
23. Jonathan B. Tucker, "Multilateral Approaches to the Investigation and Attribution of Biological Weapons Use," in Anne L. Clunan, Peter R. Lavoy, and Susan B. Martin, eds., *Terrorism, War, or Disease?: Unraveling the Use of Biological Weapons* (Stanford, CA: Stanford University Press, 2008), pp. 269-292.
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25. Jonathan B. Tucker and Gregory D. Koblentz, "The Four Faces of Microbial Forensics," *Biosecurity and Bioterrorism*, Vol. 7, No. 4 (December 2009), pp. 389-397.