Fissile material treaty: trust, but don't verify?

The dangers posed by contemporary non-conventional weapons necessitate prompt and vigorous action to dismantle arsenals and block the transfer, stockpiling and production of high enriched uranium and plutonium—the fissile material needed to build a nuclear weapon. Fittingly, the negotiation of a global, verifiable fissile material cut-off treaty (FMCT) has been a major non-proliferation priority at the Conference on Disarmament (CD) in Geneva, Switzerland, for more than a decade.

An FMCT would reinforce the 1968 Nuclear Non-Proliferation Treaty (NPT) and lock in the halt to the production of fissile material for weapons currently observed by the five established nuclear weapon states (China, France, Russia, the United Kingdom and the United States). Perhaps more significantly, a verifiable FMCT would limit the supply of bomb material available to NPT holdouts: India, its nuclear rival, Pakistan, and Israel. It would also help bring these states into the nonproliferation mainstream and enhance efforts to ensure that others comply with their treaty obligations.

Late last year a shift in China's stance raised hopes that the long-delayed talks might finally begin. But as the 2004 session of the CD draws to a close, it is a new and counterproductive US position that has become the latest obstacle. Although the administration of President George W. Bush says that it supports the negotiation of a treaty to end the production of fissile material for weapons purposes, it has indicated that it will oppose negotiations on an 'effectively verifiable' agreement.

The goal in past years has been to negotiate a global treaty with an effective verification regime directed at facilities that are capable of uranium enrichment and plutonium reprocessing. This could provide high confidence that no country is secretly producing bomb-grade nuclear material for weapons. According to the new US policy, such an inspection regime would be 'so extensive that it could compromise key signatories' core national security interests and so costly that many countries will be hesitant to accept it'.

No verification system is 100 per cent effective, nor is it free. But as diplomats from Australia, Canada, Japan and several European Union (EU) states have told US representatives in Geneva, achieving a focused verification system is technically feasible, politically possible and in everyone's primary interests. It would require reporting and allow for routine and, if necessary, challenge inspections at uranium enrichment and plutonium reprocessing facilities not already under International Atomic Energy Agency (IAEA) safeguards.

The result—capping the size of the world's arsenals—is well worth the price. As recent events in Iran, Iraq, North Korea and South Korea show, when international arms inspectors

In this issue . . .

Daryl Kimball examines the prospects for the negotiation of a fissile material cut-off treaty, while Angela Woodward looks at the UN Secretary-General's mechanism for investigating alleged use of chemical and biological weapons. Plus all of the usual features: Verification Watch, Science and Technology Scan, Peace Missions Monitor, Verification Quotes and VERTIC News and Events.

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Verification Research, Training and Information Centre (VERTIC)
Development House
56–64 Leonard Street
London EC2A 4JX
United Kingdom
tel +44 (0)20 7065 0880
fax +44 (0)20 7065 0890
e-mail info@vertic.org
website www.vertic.org

have the political and legal authority to visit relevant sites and investigate suspicious findings, they can detect and deter cheating and, if required, help mobilize international action against violators. The IAEA can visit and take measurements at nuclear facilities about which national intelligence agencies can only raise suspicions.

The Bush administration claims that it wants to accelerate the conclusion of a declaratory fissile material cut-off treaty by sidestepping difficult verification negotiations. In reality, the 'trust, but don't verify' policy is a body blow to the cause of controlling fissile material for weapons. The US position would require the 65 CD member states to reach consensus on a new mandate for negotiations, an exceedingly difficult task that will further postpone the start of FMCT talks well into 2005 or beyond. If Washington's aim is really a declaratory ban on fissile material production, this could more easily be accomplished by calling on all states to halt such production while talks on a verifiable treaty are completed.

The new US policy is yet another symptom of the Bush team's ideological opposition to multilateral arms control. It is another example of the shameful rejection of key disarmament commitments made at the 1995 and 2000 NPT Review Conferences, including a Comprehensive Nuclear Test Ban Treaty (CTBT). This is also not the first time the Bush administration has torpedoed verification provisions designed to improve compliance with arms control and disarmament agreements. In 2001 it blocked approval of a verification regime for the 1972 Biological Weapons Convention (BWC). In 2002 it declined to seek additional monitoring and inspection measures as part of its Strategic Offensive Reductions Treaty with Russia. Without better verification, illicit national biological weapons (BW) programmes may continue, and our knowledge of the size and security status of Russia's nuclear arsenal will be far less certain.

In February 2004 Bush said that he is committed to stopping weapons of mass destruction (WMD) 'at the source'. The US cannot achieve this objective by itself or without more new and verifiable initiatives, such as the FMCT. Tragically, the Bush approach denies the international community the chance to monitor and enforce more effectively compliance with the nonproliferation standards that are essential to global security.

Daryl Kimball
Executive Director, Arms Control Association, Washington, DC.
An earlier version of this article was published in the September 2004 issue of *Arms Control Today*.

Verification Quotes

'Repeatedly between 10:14 and 10:19, a lieutenant colonel at the White House relayed to the National Military Command Center that the Vice-President had confirmed fighters were cleared to engage inbound aircraft if they could verify that the aircraft were highjacked'.
The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States, W.W. Norton & Company, New York and London, 2004, p. 42.

'We believe Iraq had weapons of mass destruction based on the intelligence, and nothing has happened since which has altered the fact that we have strong intelligence that built a very powerful circumstantial case'.
Australian Prime Minister John Howard, quoted in Global Security Newswire, 7 July 2004, www.nti.org.

'I don't recognize myself in the play, however. Hare has made me look a little silly'.
Former chief UN weapons inspector Hans Blix in his review of David Hare's play *Stuff Happens, The Guardian,* G2, 14 September 2004, p. 4.

'North American temperature changes from 1950 to 1999 were unlikely to be due only to natural climate variations'.
Our Changing Planet, a report by the US Climate Change Science Program and the Subcommittee on Global Change Research, the closest the Bush administration has come to admitting global warming is not a natural phenomenon, quoted in *Time,* 12 September 2004, p. 15.

'I don't think we did'.
President George W. Bush, on his administration's apparent change of heart on global warming, quoted in *Time,* 12 September 2004, p. 15.

'Practical monitoring and evaluation', 'Basic monitoring and evaluation' and 'Further monitoring and evaluation'.
Titles of publications available from the Charities Evaluation Services, London, www.ces-vol.org.uk.

'Of all the organizations that were looking at Iraq's weapons capability, the group that got closest to the truth were the UN inspectors—by a long shot'.
Jon Wolfsthal, a weapons expert at the Carnegie Endowment for International Peace, quoted in Bill Nichols, 'UN weapons inspector sees vindication in US frustration', *USA Today,* 2 March 2004, www.usatoday.com.

'Election observation offers as much human as procedural interest for me. It's a better way to see and understand a new country than if I were a mere tourist just visiting the main attractions'.
Bojana Asanovic, observer from the OSCE's Office for Democratic Institutions and Human Rights, quoted in Mikhail Evstafiev, 'Observing Russia's Duma elections is a hard day's night', *OSCE Magazine,* March 2004, p. 19.

'Throw a stick for a dog to fetch, and after 10 times the dog will say "Get it yourself buddy". Rats will keep working as long as they want food'.
Frank Weetjens, of Belgian demining organization APOPO, on the effectiveness of his squad of 16 mine-detecting giant pouched rats in Mozambique, quoted in 'Land mines found at the twitch of a whisker', *International Herald Tribune,* 19 May 2004, p. 2.

BW: revisiting the UN mechanism

The United Nations (UN) Secretary-General's mechanism for investigating alleged use of chemical or biological weapons (CBW) has been neglected since it was last invoked in 1992. A comprehensive BW verification regime was expected to supplant its BW function once a verification protocol for the BWC was adopted, just as its chemical weapons (CW) role was largely superseded by the 1993 Chemical Weapons Convention (CWC). The mechanism, which applies to all UN member states, not just CBW treaty parties, has thus not been re-examined since the guidelines for its operation were agreed in 1989. Meanwhile, the advances in BW verification procedures and technologies achieved by the United Nations Special Commission (UNSCOM) and the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC) in Iraq, as well as innovations envisaged by the protocol negotiators, have not been exploited in order to improve the existing mechanism. Lastly, BWC states parties are considering the issue of 'investigations' in the 2004 sessions of their 'new process' of annual meetings, thereby putting efforts to enhance the mechanism's effectiveness firmly back on the agenda.

Origins and current state of the mechanism

The UN Secretary-General has long been presumed to have authority under the organization's charter to engage in fact-finding vis-à-vis potential challenges to international peace and security. The General Assembly specifically endorsed this power in respect of investigations of alleged CBW use in resolutions 37/98D and 42/37C of 1982 and 1987 respectively, which established a virtual 'mechanism' for such purposes. It intended this to be a provisional arrangement to verify compliance with the 1925 Geneva Protocol, prohibiting the use of CBW, until the CWC could be agreed and the BWC's meagre compliance mechanisms strengthened. The Security Council endorsed the mechanism in resolution 620 of August 1988.

The mechanism was first used to investigate allegations of CW use, involving toxic agents that may also be classified as BW, in Afghanistan, Cambodia and Laos in 1981 and 1982. Unfortunately the fact-finding teams were refused access by these states to conduct on-site verification tasks and had to rely primarily on interviews and blood samples from alleged victims in neighbouring countries, along with analysis of environmental samples obtained from alleged attack sites by third parties. The failure of the teams to determine whether toxin weapons had been employed was attributed to their inability to gain timely access to the alleged attack sites and victims in the country in question. The mechanism has since been used to investigate alleged CW use by Iran and Iraq between 1984 and 1988 and by Azerbaijan and Mozambique in 1992.

The mechanism's guidelines

The problems encountered in launching and conducting the early investigations prompted the General Assembly to request the formulation of guidelines to assist the Secretary-General and the inspection teams. These guidelines were completed by a group of experts in 1984. Following the investigations in Iran and Iraq, however, the General Assembly requested that 'further technical guidelines and procedures' be developed. These were finalized in 1989 and employed in Azerbaijan and Mozambique in 1992. The guidelines highlight the need to negotiate rapidly on-site access to the alleged attack area for the investigation team.

Experts and labs

Successive General Assembly resolutions called on UN member states to provide the Secretary-General with the names and details of experts who might serve on investigation missions and laboratories that might conduct sample analysis. The UN Department for Disarmament Affairs (DDA), which coordinates the Secretary-General's responsibilities under the mechanism, is tasked with compiling and maintaining the lists of experts and laboratories. Despite a request for updates in early 2004, most states have not responded. The lists have thus not been revised since 1989. In any event, there is little point in modifying them until the guidelines have been revised and enhanced, especially to provide details of experts' relevant skills sets and the accreditation criteria for laboratories.

Proposals for developing the mechanism

Many states and non-governmental organizations (NGOs) have used the opportunity afforded by the July 2004 BWC Experts Meeting to consider how the guidelines might be improved.

Some states parties submitted working papers to the meeting, noting gaps in the current guidelines and areas that would benefit from improvements. In particular, the UK's working paper of 23 July identified areas that would enhance the mechanism's capability to verify BW use, especially in light of the evolution of BW verification practices. Suggested revisions centre on four themes:

- the experts who might serve on investigation teams;
- the array of equipment needed;
- the laboratories that would conduct sample analysis; and
- the range of verification techniques and activities required for BW-specific investigations.

The guidelines could be amended to highlight additional skills needed by rostered experts. States parties should also be encouraged to provide regular updates of the details of their experts, so that sufficient numbers can be deployed at short notice. Furthermore, the list of equipment for BW verification should be updated regularly to take account of developments in verification technologies and procedures.

Consideration could also be given to whether the UN should purchase verification equipment or whether on-site inspection and logistical hardware should be pooled with that of standing international verification organizations. Standards and criteria could be developed for certifying laboratories nominated by member states to carry out sample analysis. The type of information that might be provided to support a request for an investigation could be expanded to include epidemiological data. The procedures for conducting interviews could also be revised to be of more relevance to a BW investigation than a CW one and the range of potential interviewees could be widened. Analytical techniques and sampling equipment could be modified to be more appropriate for BW-specific investigations.

Collated proposals by states parties have been appended to the final report of the Experts Meeting. These will be considered at the Meeting of States Parties in Geneva from 6–10 December 2004, which is charged with promoting common understandings and taking effective action on the investigation issue. This might take the form of recommending to the General Assembly that it establish a group of experts to review and update the mechanism guidelines, although it should be encouraged to do this regardless of the outcome of the December meeting.

Angela Woodward, VERTIC Arms Control and Disarmament Researcher (Chemical and Biological)

Clinton the verifier

"'So when will we get the pictures from the missiles?" the President asked me. "Well, we don't get pictures from the missiles, sir, but we will have bomb damage images from satellites available to show you first thing in the morning", I explained. "Tomorrow morning? I'm going on TV in an hour to say we blew up this building—I want to know first what we did. Why don't the missiles have cameras in them?" the President insisted. "Well, if the missiles communicated, someone might see them coming or interfere with them. But we know how many we fired and when, so we can calculate how many will hit and when—". "We can't communicate with the missiles? What if I wanted to turn them back?" the President asked. "You don't want to sir, do you? . . . because you can't … there is no mechanism to . . ." I stammered. "No I don't, but I do want to know for certain that we blew this place up before I go telling the world that I did"'.

I went back to [National Security Adviser Anthony] Lake's office with the news. Admiral Bill Studeman, the number two man at CIA, began making calls. Satellites were redirected. 'We got nothin" he reported. 'The missiles should have hit several minutes ago, but nothing we have can tell us that . . . not for a while'. A glum mood settled over the office as we wondered how we would get the President to go on national television. Then, as we talked, he did it . . . Clinton read the short statement and then, almost immediately, showed up in Lake's office with Vice President Al Gore. 'We thought you were not going to go on', Lake confessed. 'We thought you needed proof that the missiles hit'.

Gore urged the President to tell us something that the two highest leaders in the land clearly found funny. 'Okay, okay', Clinton agreed. 'I needed relative certainty that the missiles had hit and none of you guys could give me that . . . so I called CNN . . . they didn't have anybody in Baghdad tonight, but their cameraman in their Jordan bureau had a cousin or some relative who lived near the intelligence headquarters, so they called him'. Most of the room looked horrified. 'The cousin said, yeah, the whole place blew up. He was certain . . . so I figured we had relative certainty'.

Source Richard Clarke, *Against All Enemies: Inside America's War on Terror*, Free Press, New York, 2004, pp. 83–84.

Verification Watch

I spy UNMOVIC

UNMOVIC continues to be denied on-site access in Iraq to verify WMD disarmament by the country or to implement its programme of Reinforced Ongoing Monitoring and Verification (R-OMV). Nonetheless it is busily performing R-OMV via commercially available satellite imagery and other remote monitoring techniques and on-site activities in other states. In its most recent report to the UN Security Council, UNMOVIC noted 'the systematic removal' of items subject to UN monitoring from a number of Iraqi sites that may affect its ability to assess properly Iraq's weapons capabilities. As satellite images have revealed, the Al-Samoud missile factory, where many dual-use items subject to UN monitoring were located—such as SA-2 missile engines—has been completely 'razed'. Also, the images show that two sites subject to CW-related monitoring, known as Fallujah 2 and Fallujah 3, have been emptied and destroyed. The location of most of the equipment and materials from these sites is currently unknown.

The commission has investigated items that have been exported from Iraq as scrap metal. With the cooperation of the Jordanian national authorities, an UNMOVIC team travelled to Jordan in early June where it visited scrapyards and trading companies to conduct inspections and hold interviews with relevant personnel. It found 20 SA-2 missile engines and other materials tagged for monitoring by UNMOVIC during its on-site inspections in Iraq between 27 November 2002 and 17 March 2003. Scrapyard managers in Jordan estimated that 60,000 tons of scrap metal, stainless steel and other alloys passed through the country from Iraq in 2003; an additional 70,000 tons was recorded up to June 2004. It was claimed, moreover, that high-quality industrial production equipment from facilities all over Iraq had been purchased, dismantled and moved out of the country, all of which, according to UNMOVIC, could fall under its monitoring mandate.

In early July the Netherlands acquired information that a Rotterdam scrap company had received 22 SA-2 missile engines in a shipment from Turkey. UNMOVIC reported that Turkish customs officials had said that scrap metal from Iraq was transported through Turkey under seal to customs clearing yards and then on to foreign markets. The commission will observe the destruction of the missile engines found in Jordan and the Netherlands, as well as other tagged material and equipment that had been subject to monitoring in Iraq.

Sources 'Iraq shipped banned missile engines out of country shortly after war, UNMOVIC says', Global Security Newswire, 8 September, 2004, www.nti.org; 'Eighteenth quarterly report on the activities of UNMOVIC', UN document S/2004/693, 27 August 2004, www.unmovic.org.

North Korean mushroom cloud: a load of hot air?

Whether North Korea is developing or producing nuclear weapons has been a key issue on the international agenda for some time. Concerns have not been lessened by its 2003 decision to withdraw from the NPT and to prohibit IAEA inspectors from entering the country. Some states have articulated a worst case scenario, in which the reclusive nation already maintains a small nuclear arsenal.

For a brief moment in September, it seemed like the pessimists were right. On 9 September, coinciding with the fifty-sixth anniversary of the founding of North Korea, a large mushroom-shaped cloud was sighted over its territory, close to the border with China. Observers immediately started to contemplate whether this was the telltale mark of a nuclear test. The North Korean authorities quickly declared that the explosion was nothing but the removal of a mountain as part of a large hydro-electric project.

Most nuclear analysts, including VERTIC's, now agree that the explosion was a conventional one, not a nuclear test. Although the CTBTO's International Monitoring System (IMS) would have detected and identified the event, it is unable officially to disclose its analysis or make a public pronouncement on it as the CTBT has not yet entered into force. In any event North Korea is not even a treaty signatory, a fact that rankles, since it is one of the countries that must sign and ratify the accord before it can enter into force. For its part, the IAEA, via its Director General Mohamed ElBaradei, has simply stated that the agency believes that this was not a nuclear explosion.

Meanwhile, the US has urged North Korea to honour its commitment to participate in the fourth round of the so-called six-party talks (involving China, Japan, North Korea, Russia, South Korea and the US) on North Korea's nuclear activities,

which are scheduled to be held before the end of September 2004. Three rounds of six-party talks have so far been held in Beijing, China, but negotiators have reportedly made little progress. North Korea may decide not to continue to participate in this process. Following the revelation that South Korea conducted secret plutonium and uranium experiments in 1982 and 2000, the North has accused the US of trying to use the talks to disarm it vis-à-vis the South, rather than to promote a nuclear-free peninsula. An IAEA verification team has arrived in South Korea to investigate the extent of South Korea's past experiments. The results are expected by November.

Sources 'IAEA chief says cannot rule out Korea nuke blast', Reuters, 19 September 2004, www.reuters.com; 'North Korea says it won't give up nuclear development', Associated Press, 20 September 2004, www.ap.org; 'Earth fully covered by nuclear test surveillance system, official says', Global Security Newswire, 17 September 2004, www.nti.org; Joseph Cirincione and Joshua Williams, 'Detecting nuclear tests', Carnegie Endowment for International Peace, NPP Analysis, September 2004, www. carnegieendowment.org.

The IAEA gets tougher with Iran

On 13–18 September 2004 the IAEA Board of Governors met in Vienna, Austria, to consider, among other things, yet another report on Iran's nuclear activities. From the outset, the US wanted the board to adopt a resolution providing a trigger mechanism, whereby Iran's case would immediately be transferred to the UN Security Council if it failed to cooperate fully with IAEA inspectors by a deadline of 31 October 2004. It had seemed that the so-called European troika of France, Germany and the UK would support the US position: the Europeans had become disillusioned with Iran after its decision to backtrack somewhat on a troika-brokered agreement to suspend its uranium enrichment programme. On 17 September, however, these three states circulated a draft board resolution endorsing a stronger approach to dealing with alleged Iranian infringements of its safeguards agreement, but which left out the trigger mechanism.

In the end, the board adopted a resolution 'considering it necessary' for Iran to suspend all uranium enrichment-related activities—including construction of centrifuge equipment—and to grant IAEA inspectors unrestricted access to any further information needed. Instead of a deadline, the resolution called on Iran to clarify any 'outstanding issues' in advance of the next board meeting in November. At that time, the Board of Governors may decide whether or not the Iranian nuclear dossier should be referred to the Security Council for its consideration. In advance of the November meeting, IAEA Director General ElBaradei is required to provide the board with a report on implementation by Iran of the resolution, as well as a recapitulation of the past two years of nuclear inspections in the country.

As expected, the Iranian government criticized the resolution's call for a freeze on the country's uranium enrichment activities. Hasan Rowhani, Secretary of the Supreme National Security Council, asserted that Iran is committed to the suspension of 'actual enrichment'—the injection of uranium gas into centrifuges—but that it has made 'no decision to expand the suspension' by stopping centrifuge equipment assembly lines. He also threatened that Iran will cease provisionally applying its additional protocol if the IAEA sends its case to the Security Council. Iran has signed an additional protocol to its safeguards agreement, but it is still awaiting ratification by the Majlis (parliament). The additional protocol allows improved IAEA access to Iran's nuclear facilities.

Sources 'Iran nuclear resolution "agreed"', BBC News, 17 September 2004, www.news.bbc.co.uk; 'Iran rejects call for uranium enrichment freeze', *New York Times,* 19 September 2004, www.nytimes.com; 'Nuclear talks stall as US hardens line on Tehran', *The Guardian,* 16 September 2004, www.guardian.co.uk; 'Resolution adopted by the board on 18 September, 2004', IAEA, www.iaea.or.at.

Congo expelled from diamond scheme for non-compliance

The Republic of Congo—not to be confused with the Democratic Republic of the Congo (DRC)—has been excluded from the Kimberley Process Certification Scheme, agreed on 5 November 2002, after investigators found that it had failed to prevent diamonds from other African countries being smuggled on to its territory and entering the legitimate world market. The Kimberley Process was set up to stop illicit diamond sales being used to finance armed conflict. The suspension prevents the Congo from trading with other members of the process—some 43 states, which are responsible for over 98 per cent of global diamond trading. Grounds for the suspension arose from a large discrepancy between the state's domestic diamond production and its exports. Information found in the nation's annual report, a requirement of the scheme, led to the investigation into its diamond trade controls. Tim Martin, Chairman of the Kimberley Process, announced that the Congo would only be allowed to rejoin the scheme when it can fully implement its obligations.

Sources 'Congo excluded from the diamond trade', BBC News, 10 July 2004, www.bbc.co.uk; 'Congo-Brazzaville faces expulsion from diamond monitoring pact', UN Wire, 28 May 2004, www.unwire.org; 'The Kimberley

Process gets some teeth: the Republic of Congo is removed from the Kimberley Process for failing to combat the trade in conflict diamonds', Global Witness Press Release, 9 July 2004, www.globalwitness.org.

The ICC's first case: Ugandan rebels

The International Criminal Court (ICC), based in The Hague, Netherlands, has initiated its first prosecution, which will be a test case for the body established by the 1998 Rome Statute. Proceedings began on 29 July against the Lord's Resistance Army (LRA), a Ugandan rebel group. An ICC investigation team will reportedly be sent to Uganda 'soon'. Since it began its campaign against the Ugandan government in 1986, the LRA is alleged to have committed serious human rights violations against civilians, including summary executions, torture and mutilation, recruitment of child soldiers, sexual abuse and forced displacement. According to reports submitted to the ICC, children comprise over 85 per cent of the LRA's forces, most of whom were abducted or coerced into joining. The Ugandan case was referred to the ICC in December 2003 by Ugandan President Yoweri Museveni. The first case was supposed to have been the Democratic Republic of the Congo, but this has been postponed, while investigations continue.

Sources 'Statement by the prosecutor related to crimes committed in Barlonya camp in Uganda', 23 February 2004, www.icc-cpi.int; 'First International Criminal Court case targets Uganda's rebels', UN Wire, 30 January 2004, www.unwire.org; 'Paper on some policy issues before the Office of the Prosecutor. Annex: Referrals and Communications', 2003, www.icc-cpi.int; 'Background information on the situation in Uganda', 2004, www.icc-cpi.int; 'ICC opens war crimes probe in northern Uganda', UN Wire, 30 July 2004, www.unwire.org.

CITES: elephantine monitoring flaws

Implementation of a 2002 decision by the parties to the 1973 Convention on Trade in Endangered Species (CITES) approving sales of ivory from elephants that have died naturally and as a result of official culls in Botswana, Namibia and South Africa is proving difficult to monitor. The sales were to be allowed from May 2004, but only if effective systems for monitoring the illegal ivory trade and poaching were in place. Although the southern African states wanted to begin sales as scheduled, seven other African nations, led by Kenya, asked the CITES Secretariat to cancel them, claiming that there were serious deficiencies in the policing system that would lead to increased poaching and illegal ivory sales. The CITES Secretariat itself says that its network for monitoring poaching has not yet gathered sufficiently accurate statistics from states' reporting systems to allow the approved trade to commence. Furthermore, while the proceeds of CITES-approved ivory sales must be used for elephant and community conservation, Kenya has pointed out that Botswana and Namibia have still to provide an official audit on the use of earnings from a previous approved ivory transaction in 1999. The convention's Standing Committee announced that much more work needs to be done before trade can begin.

Sources 'Ivory sale fuels illegal trade fears', *New Scientist,* 20 March 2004, p. 10; 'Flouting UN treaty, three African nations plan ivory sale', UN Wire, 25 March 2004, www.unwire.org; 'CITES gets tough with ivory traders', *ECO²TERRA Intl,* 23 March 2004, www.ecoterra.info.

Climate change takes centre stage

In recent weeks there have been significant announcements at the highest levels on climate change, although sadly not all pulling in the same direction. A US report of 25 August, which received input from 13 government agencies and the endorsement of Donald Evans, US Secretary of Commerce, Spencer Abraham, US Secretary of Energy, and John H. Marburger, III, Science Adviser to the President, states that global warming over the past 30 years can only be explained by taking man-made greenhouse gas (GHG) emissions into account. The Bush administration has, up to this point, underscored uncertainties in climate science, using this as a reason for not being willing to accept binding emissions limits. The report should not be seen, though, as a 'state of the science' summary of the administration's views and, as yet, has not elicited any major policy shift.

The Bush administration's current policy is to increase scientific research, use voluntary reductions by industry and achieve an 18 per cent cut in emissions intensity within 10 years—measures most environmental analysts view as inadequate. In contrast, Senator John Kerry has long acknowledged human contributions to global warming and has pledged a US return to international climate change negotiations and measures to halt pollution if he is elected president in November. However, Kerry has yet to announce his support for emissions reduction targets. A return to the international climate change negotiations by a Democratic administration would, therefore, not necessarily mean that the US would ratify the 1997 Kyoto Protocol as it stands.

Across the Atlantic the climate change debate is on a different track, as both UK Prime Minister Tony Blair and Leader of the Conservative Party Michael Howard vie to put forward the strongest climate change policy. A speech by Blair, delivered on 15 September, emphasized urgency on the issue of climate

change, including the need to speed up the introduction of new clean technology to help the UK meet its emissions reduction targets, and to engage populous countries like China and India in emissions reductions. Blair said that climate change would be a priority during the British presidency of the Group of Eight industrialized nations and the EU in 2005. Howard, who delivered his speech the day before Blair, maligned the Labour Party government's lack of progress in implementing effective emissions reduction policies and outlined the Conservative Party's proposed initiatives, also stressing the need to re-engage the US.

Meanwhile, Russian President Vladimir Putin has instructed his cabinet ministers to draft ratification documents for the Kyoto Protocol as soon as possible. This is the most positive sign yet that Russia will ratify the protocol and thereby bring it into force. However, the ratification process involves several steps and some elements of government may still attempt to block it. Climate change is thus currently big news around the world, but whether strong intentions produce action remains to be seen.

Source 'Is Bush warming to global warming?', *New Scientist,* 4 September 2004, p. 3; 'Bush's U-turn', *New Scientist,* 4 September 2004, p. 5; 'US report, in shift, turns focus to greenhouse gases', *New York Times,* 26 August 2004, www.nytimes.com; 'US election', *Nature,* www.nature.com; 'PM speech on climate change', 14 September 2004, www.number-10.gov.uk; 'Achieving a more sustainable way of life', Michael Howard speech at an environment forum hosted by the Green Alliance and Environmental Resources Management, 13 September 2004, www.conservatives.com; 'Blair bangs the drum on climate change', *ENDS Environment Daily,* 15 September 2004, www.environmentdaily.com; 'Russia takes first step towards joining Kyoto Treaty', *Los Angeles Times,* 24 September 2004, www.latimes.com.

Open Skies: clear or cloudy?

Open Skies: A Cooperative Approach to Military Transparency and Confidence Building
Pál Dunay, Márton Krasznai, Hartwig Spitzer, Rafael Wiemker and William Wynne
Published by the United Nations Institute for Disarmament Research (UNIDIR), Geneva, 2004
ISBN 92-9045-164-5
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This book is the product of a five-year research project by American, German and Hungarian experts. It reviews the Open Skies Treaty, which entered into force in January 2002, and which allows member states to observe each others' territory through the use of unarmed aerial observation flights. The objective of the treaty is to promote openness and transparency and to support the monitoring and verification of existing arms control agreements.

The book is very informative, covering traditional issues like the distribution of flight quotas, sensor upgrades and cooperation among member states in sharing Open Skies aircraft, as well as current issues, such as the use of Open Skies for disaster relief and crisis management purposes. The book also provides additional insights into how the Open Skies Treaty has been and might be used by other states as a model for their own regional confidence-building regimes. The text highlights the Hungarian-Romanian bilateral agreement on Open Skies and assesses prospects for its application in South Asia, for example.

The downside to this book may have less to do with the content than the subject. The Open Skies regime has been criticized by several states for being outdated and unnecessary, because of the radical changes to the international system since the end of the Cold War. The regime was devised primarily to verify arms control agreements between the North Atlantic Treaty Organisation (NATO) and former members of the Warsaw Pact. Today, this purpose is irrelevant, not least because of the number of Warsaw Pact members that have joined NATO.

Nevertheless, the book provides the reader with a comprehensive and up to date account of the Open Skies regime. It is an objective reference work for all those interested in Open Skies and its future. It is also timely, since the First Open Skies Review Conference is to be held in February 2005. Hopefully it will become standard reading for all of the delegates in Vienna.

Erik Asplund, VERTIC intern

Science & Technology Scan

Satellite system to lower climate uncertainties

The *Aura* satellite was launched by the US National Aeronautics and Space Administration (NASA) on 15 July from Vandenberg Air Force Base in California. Its task is to distinguish between industrial and natural causes of ozone depletion and climate change. *Aura* is one of six satellites that will advance knowledge of weather and climate systems and improve capacity to predict climate change and deal with its effects. Dubbed the A-Train, the six satellites will form part of the Global Observing System (GOS) (see *Trust & Verify*, no. 112).

. . . and plankton can help predict marine impacts

Tracking the distribution of plankton could assist with assessing climate change and provide early warning of changes in marine and freshwater systems. Chris Reid, Director of the UK-based Sir Alister Hardy Foundation for Ocean Science, has proposed gathering more data on plankton, which can then be used to create an index charting the effect of climate change on aquatic systems.

Sources 'The big sniff', *Aviation Week & Space Technology*, 14 June 2004, pp. 46–48; 'Takin' the A-Train', *Aviation Week & Space Technology*, 14 June 2004, pp. 50–51; 'Plankton provide route to monitoring climate', *Nature*, vol. 430, no. 6999, 29 July 2004, p. 496.

Seismic network exceeds deployment goal

The Global Seismographic Network (GSN) is a network of seismic sensors set up by Incorporated Research Institutions for Seismology (IRIS), based in Washington, DC. Over 50 GSN sensor sites are included in the Auxiliary Network of the International Monitoring System of the nascent CTBTO, which can be called on to provide additional seismic data to clarify the nature of underground events detected by the primary network. The design goal of the GSN was to deploy 128 seismic recording stations evenly across the earth's surface. On 12 August 2004, however, IRIS announced that no less than 136 stations are now operating, spanning the globe. Since all GSN data are freely available on the internet both in real time and in archives, this is good news not only for seismologists but also for verification of the CTBT.

Sources Rhett Butler et al, 'The Global Seismographic Network surpasses its design goal', American Geophysical Union, vol. 85, no. 23, 8 June 2004, pp. 225 and 229; 'Global Seismographic Network (GSN)', Incorporated Research Institutions for Seismology, www.iris.edu/about/GSN/.

Bioterrorism sourcing

The American Phytopathological Society is considering undertaking research to develop ways to determine the origins of microbes used to attack crops. Such microbes are easy and relatively safe to handle and could be used by terrorists to cause severe economic and social disruption by attacking agriculture. The work seeks to combine forensic and plant sciences in order to trace the provenance of pathogens and to identify the perpetrator in bioterrorism cases. It would supplement initiatives currently being pursued by the US Department of Agriculture and the National Plant Diagnostic Network to prevent bioterrorism, but the products of the research could take a number of years to become available.

Source 'US specialists prepare to merge forensic, agricultural sciences to deter bioterrorism', Global Security Newswire, 26 July 2004, www.nti.org.

VERTIC has moved!

VERTIC opened the doors of its new headquarters on 4 October. It is now based at Development House, 56–64 Leonard Street, London EC2A 4JX. The switchboard number is +44 (0)20 7065 0880. E-mail addresses for VERTIC staff remain the same. In addition to giving VERTIC access to the common services and meeting spaces shared among the various NGO tenants at Development House (the latest project of Ethical Properties), the new premises afford VERTIC much needed additional workspace for permanent and temporary staff and visiting associates, plus improved research facilities. The location is easily accessible by public transport, including Old Street, Moorgate and Barbican underground stations and Liverpool Street Station (mainline and tube). See the VERTIC website for further details and a map. VERTIC is grateful for additional support of £9,555 from the Joseph Rowntree Charitable Trust to assist it with the move.

VERTIC News & Events

Blix Commission invites studies from VERTIC

The Weapons of Mass Destruction Commission, informally known as the Blix Commission after its Chairman, Hans Blix, has commissioned VERTIC to produce three studies on:

- options for a standing UN WMD verification body, making use of the extant capacities of UNMOVIC;
- possible means of enhancing state capacity to implement national measures against WMD, as required of all UN member states by Security Council resolution 1540 of April 2004—this paper will draw on VERTIC's current global survey of such legislation; and
- the shape of a future BW verification mechanism, exploiting VERTIC's current project on BW verification tools and mechanisms in cases of serious alleged non-compliance.

The three papers, which are to be completed at various times over the next six months, will inform the commission's own deliberations on these and other WMD-related matters.

Board changes

VERTIC is pleased to announce that Nicholas Sims joined its Board of Directors in September. Mr Sims is Reader in International Relations at the London School of Economics and Political Science (LSE). Among other subjects, he has written extensively about arms control and disarmament and is one of the foremost authorities on the history of the negotiation and implementation of the BWC. Mr Sims replaces Professor Bhupendra Jasani, who served on the board for four years. VERTIC is grateful for his contribution to its work.

New nuclear researcher appointed

VERTIC is delighted to welcome Andreas Persbo as its new Arms Control and Disarmament Researcher (Nuclear). Andreas, a court-qualified Swedish lawyer, who holds an LLM in public international law and European human rights from Stockholm University, Sweden, previously worked for the British American Security Information Council (BASIC) in London. He has also worked for the Swedish National Courts Administration and was an intern with the UN Department for Disarmament Affairs for three months in 2000. In the early 1990s Andreas was a peacekeeper with the United Nations Protection Force (UNPROFOR) in former Yugoslavia and the United Nations Interim Force in Lebanon (UNIFIL).

Staff news

TREVOR FINDLAY met with Ibrahim Abdul-Hak Neto of the Brazilian embassy on 12 August to discuss the future of UNMOVIC and Brazil's policy on the Additional Protocol. On 18 August he met with David Wolfe, Director of the Oppenheimer Institute, in London. He met with UNMOVIC Executive Chairman Hans Blix at the World Nuclear Institute's annual conference in London on 10 September. He gave interviews to *New Scientist* and *Nature* on the suspected North Korean nuclear test on 13 September and was quoted in articles for their online editions. Trevor participated in a meeting at the UK Foreign and Commonwealth Office (FCO) on 17 September between FCO officials, academics and NGOs on future cooperation. During the period Trevor also chaired the selection panel for the nuclear researcher position and edited chapters for the *Verification Yearbook 2004*.

BENJAMIN ARMBRUSTER conducted research on the future of UNMOVIC. He also helped update the VERTIC style guide and assisted Jane Awford with inputting data for the Verification Organizations Directory (VOD) and reorganizing the VERTIC library. Along with Angela Woodward and Erik Asplund, he attended the All-Party Parliamentary Group meeting, addressed by Hans Blix, at the House of Commons on 7 September. Benjamin concluded his internship in late September. VERTIC is grateful for his contribution and wishes him well in the future.

ERIK ASPLUND has been researching the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) and the Open Skies Treaty as part of a study on the current state of multilateral verification for Foreign Affairs Canada. He has also helped to compile entries for the VOD and to update the VERTIC contacts database.

JANE AWFORD reorganized VERTIC's library ahead of the move to its new premises, updated the VERTIC brochure and contin-

Peace Missions Monitor

Sudan: less cooperation, more monitoring

On 30 July the UN Security Council gave the Sudanese government 30 days to demonstrate its commitment to ending the violence in Darfur, the large arid region of western Sudan, by disarming the Janjaweed militia and bringing its members to justice. The violence, spawned by the government-backed Janjaweed militia, has reportedly so far resulted in over 50,000 deaths and more than one million persons being displaced. On 1 September, as a consequence of findings by the Joint Implementation Mechanism (JIM), a UN–Sudan fact-finding mission in the war-torn region (see *Trust & Verify,* no. 115), UN Secretary-General Kofi Annan claimed that the government has not adhered to its promise to rein in the militia. He asserted that civilians in Darfur are being 'terrorized and traumatized' and urged the deployment of an expanded international peacekeeping force. The UN has since prepared a blueprint for supplementing the 380 African Union (AU) peace monitors and troops already in Darfur. A force of up to 3,000 is being considered, with Nigeria and Rwanda initially offering to send around 1,000 troops each.

US Secretary of State Colin Powell and the European Parliament have labelled the situation in Darfur 'genocide'. Under the 1948 Genocide Convention, such a declaration is meant to trigger an automatic international response. On 18 September the Security Council passed a new resolution (1564) on Sudan, threatening sanctions against its leaders and oil industry if the government fails to curb ethnic violence. The resolution mandates the Secretary-General to establish an international commission charged with determining whether the violence in Darfur does indeed constitute genocide. It also calls on UN member states to provide additional troops to help supplement the AU monitoring presence. Jan Pronk, the UN Secretary-General's Special Representative for Sudan, believes that a force of 5,000 monitors and troops is necessary.

Sources 'Sudan anger over genocide claim', BBC News, 14 September 2004, www.news.bbc.co.uk; 'Nigeria seeks to send up to 1,500 troops to Darfur', Reuters, 17 August 2004, www.alertnet.org; 'Annan says Sudan hasn't curbed militias; urges more monitors', *New York Times,* 2 September 2004, www.nytimes.com; 'EU assembly calls Darfur crisis genocide', Reuters, 16 September 2004, www.alertnet.org; 'Authority is approved for sanctions against Sudan', *New York Times,* 19 September 2004, www.nytimes.com.

Côte d'Ivoire: ending the north–south divide?

On 4 April 2004 the United Nations Operation in Côte d'Ivoire (UNOCI) replaced the United Nations Mission in Cote d'Ivoire (MINUCI), as well as the Economic Community of West African States (ECOWAS), as the principle peacekeeping authority in Côte d'Ivoire. Although UN Security Council resolution 1528 of 27 February 2004 authorized a UN force of 6,240, to date only 5,844 peacekeepers have arrived. Most of the troops are stationed in the buffer zone between the rebel-held north and government-controlled south.

UNOCI's mandate is principally to facilitate implementation of the Linus-Marcoussis Agreement, the peace accord signed by Ivorian political forces in January 2003. UNOCI will, in particular, seek to monitor and promote compliance with the disarmament, demobilization and reintegration programme (DDR). The disarmament of 30,000 former northern rebels is set to begin in mid-October and is intended to be complete before elections scheduled for 2005. The UN Secretary-General has hinted that Côte d'Ivoire may face UN sanctions if the conflicting parties do not stick to the agreement. Along with the AU and ECOWAS, he will receive regular progress reports in order to verify implementation.

Sources Lara Pawson, 'Ivory Coast's difficult disarmament', BBC News, 17 March 2004, www.news.bbc.co.uk; 'Ivorian foes clinch peace deal', BBC News, 31 July 2004, www.news.bbc.co.uk; 'Ivorian rebels rejoin government', BBC News, 9 August 2004, www.news.bbc.co.uk; 'Partisan political posturing is hurting Côte d'Ivoire, report to UN warns', UN News Service, 14 September 2004, www.un.org; 'Partisan political posturing is hurting Côte d'Ivoire, report to UN warns', UN News Service, 14 September 2004, www.un.org.

Haiti: reluctant volunteers

On 10 September 2004 the UN Security Council urged states that have pledged troops for the United Nations Stabilization Mission in Haiti (MINUSTAH) to 'do their utmost to expedite the early deployment of their personnel'. The Brazilian-led MINUSTAH took over peacekeeping operations on 1 June 2004 from the US-led Multilateral Interim Force. To date only 2,989 of 6,700 UN authorized peacekeepers have been deployed to the small Caribbean country. MINUSTAH's mandate is to support the transitional government, ensure a stable and secure environment in which free and fair municipal, parliamentary and presidential elections can take place in 2005 and to monitor and verify the smooth implementation of the national DDR programme. Initial DDR objectives are the disarming of illegal armed groups and the acceleration of the training of professional national police officers by MINUSTAH. The Security Council's plea for additional troops has been prompted by concern about illegal armed groups performing unauthorized law enforcement functions throughout the country, involving, for instance, the taking over of police stations.

Sources 'Haiti must disarm illegal groups', AP World News, 10 September 2004, www.fortmilltimes.com; 'Haiti: UN calls for urgently disbanding illegal armed groups threatening stability', UN Wire, 10 September 2004, www.unwire.org; 'UN warning over Haiti's militias', BBC News, 10 September 2004, www.news.bbc.co.uk.

ued to work on the VOD. She also administered the application process for the 2004 VERTIC Science Fellowship and is preparing the advertising campaign and launch of the *Verification Yearbook 2004*.

BEN HANDLEY has been supervising the relocation of VERTIC's office, attending meetings between the new tenants and Ethical Properties. Ben has also overseen the installation of new telecommunications, internet and e-mail systems at Development House. He continued to manage the day-to-day administration of the centre and in early August prepared financial reports for the board meeting in September.

LARRY MACFAUL attended a UN meeting on Annex I (developed countries) National Communications in Dublin, Ireland, on 29–30 September. He continues to work on national systems for GHG monitoring and emissions trading issues, as well as on other monitoring questions connected to climate change. He has submitted the first draft of his chapter on GHG monitoring for the *Verification Yearbook 2004*.

ANGELA WOODWARD met with Chris Harland of the International Committee of the Red Cross (ICRC) Legal Advisory Service at VERTIC on 2 August to discuss their respective projects on national implementation of humanitarian law. On 8 September she met with Nicholas Sims to discuss BW arms control. Angela gave a presentation on 'Options for strengthening the BWC beyond the 6th Review Conference' at the Geneva Forum seminar on 'The BTWC new process: mid-term assessment and prospects for 2006 and beyond', held in Geneva on 23 September. Angela submitted an article to the *INESAP Bulletin* on monitoring Security Council resolution 1540 and continued to assist with the editing of chapters for the *Verification Yearbook 2004,* in addition to researching and writing VERTIC's study on BW verification, which will be launched in November 2004.

building trust through verification

VERTIC is the Verification Research, Training and Information Centre, an independent, non-profit making, non-governmental organisation. Its mission is to promote effective and efficient verification as a means of ensuring confidence in the implementation of international agreements and intra-national agreements with international involvement. VERTIC aims to achieve its mission through research, training, dissemination of information, and interaction with the relevant political, diplomatic, technical, scientific and non-governmental communities.

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EDITOR Trevor Findlay.
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VERTIC
Development House
56–64 Leonard Street
London EC2A 4JX
United Kingdom

tel +44 (0)20 7065 0880
fax +44 (0)20 7065 0890
e-mail info@vertic.org
website www.vertic.org

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