

Sheriff or Cowboy?

US Compliance Dilemmas

Compliance with arms control agreements and norms can be maintained through co-operation or confrontation. Co-operative approaches require consultation and collective action, whereas confrontational approaches rely more heavily on sanctions and unilateral action. Confrontational approaches only rarely offer greater chances of near-term success in forcing compliance or punishing non-compliance than do co-operative approaches. But they run much greater risks of provoking non-compliance in the long run. They also make co-operative approaches more difficult by damaging credibility, alienating friendly and neutral parties and weakening, if not eliminating, incentives for hostile states to comply. Since confrontational approaches often require important elements of co-operation in order to achieve their aims, they can ultimately be self-defeating.

Recent US policy has emphasised co-operative approaches, as might be expected from an administration that came to power touting 'co-operative engagement', but confrontational approaches appear to be gaining favour. This is true partly because confrontation offers superficially attractive alternatives for opponents critical of co-operative policies. The resonance of the call for more confrontational approaches in the media and among the public can also be ascribed to an unavoidable frustration with the inherent limits on the ability of the United States and the international community to enforce compliance, whatever approach is adopted.

The United States has generally pursued the role of 'reluctant sheriff', rounding up or joining a posse to pursue those who do not comply with established norms or agreements. During the Clinton administration this prudent approach has been criticised by those who would like to see unilateral confrontation of apparently non-compliant adversaries or even neutral and friendly states, an approach that would transform the reluctant sheriff into a 'lonely cowboy'. Understandable frustration with the limitations of co-operative approaches is however as evident as the tendency to underestimate the risks of enforcing compliance. Although it is generally understood that US nuclear threats were responsible for China's decision to acquire nuclear weapons, the connection between the perceived arrogance of the United States and the acquisition of nuclear weapons by friendly or neutral states is often overlooked. Charles de Gaulle's decision that France acquire nuclear weapons can be traced directly to US intervention in the 1956 Suez Crisis. Indira Gandhi's decision that India acquire nuclear weapons had more to do with Nixon and Kissinger's high-handedness in 1971 than the threats arguably posed by China or Pakistan.

From this perspective the Clinton administration's acceptance of the framework negotiated by UN Secretary-General Kofi Annan and Iraqi President Saddam Hussein of the activities of the UN Special Commission on Iraq (UNSCOM) can have much broader implications for non-proliferation than are immediately apparent. While it may be true, as Annan has acknowledged, that force made the agreement possible, there can be little doubt that military action by the United States would have failed without the co-operation of friendly and neutral states. While the United States cannot have as a primary policy goal the elimination of perceptions that it is an arrogant power, any more than it can eliminate the tendency of some states to 'free-ride' by enjoying the benefits of US dominance without supporting it unabashedly, it should not undervalue international norms and its own credibility.

The good news in 1998 is that US policy has generally been successful both in securing compliance when it has been most important to do so and in preserving its credibility. Furthermore, the recent record is much better than if the administration had followed the recommendations of the opposition in the legislature and the press. Of course, there is always room for improvement and constructive criticism. The assessment offered

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below is meant as much to highlight traps that the administration has succeeded in avoiding as to draw attention to the shortcomings that are inevitable in policy formulation and execution.

Russia

The administration has continued its predecessor's policy of deep involvement with and encouragement of Russia as it struggles to cope with the legacies of the Soviet Union. In addition to financial support for a number of arms control and conversion activities, Russia has been admitted to the Missile Technology Control Regime (MTCR) and has been engaged in dialogue regarding the full range of its technology exports, from conventional weapons through civilian nuclear and space technology. US policy has successfully disrupted Russian supplies of conventional weapons to Iran, but not civilian nuclear technology. The success and significance of the effort to prevent transfer of Russian space launch technology to India is less clear, as is the extent of US efforts regarding the transfer of Russian conventional weapons to China. The opposition has been quick to call for the administration to impose sanctions on Russia for alleged co-operation with Iran's ballistic missile program and unconfirmed reports that it might supply supersonic anti-ship missiles to China. It has also forced the administration's hand with respect to Russian transfers to the Indian space program. Clinton's appointment of Frank Wisner and then Robert Gallucci to consult with Russian actors regarding MTCR compliance vis-à-vis Iran was a more appropriate response. Continuing questions about Russian compliance with the Biological Weapons Convention are less tractable by whatever means.

China

The administration has pursued a policy of engagement with China that seeks to manage its emergence in the international system without unnecessarily antagonising it. An important component of this approach has been a process of socialisation regarding arms control and non-proliferation norms. China has made important progress on both fronts, partly because of US policy. Among these, China's participation in the Nuclear Non-Proliferation Treaty (NPT), the Comprehensive Test Ban Treaty (CTBT) and the Chemical Weapons Convention (CWC) is most significant, but the gradual improvement in China's non-proliferation behaviour is also notable. Despite criticism from the opposition, the US has used sanctions selectively. It did not,

for example, attempt to isolate China at the CTBT negotiations. One false move was the *Yinhe* incident, in which the US Navy stopped a Chinese freighter on the high seas for allegedly carrying chemicals that it was feared might be used by an Iranian entity to make a chemical warfare agent. US observers apparently still do not adequately appreciate the significance of Chinese outrage at the incident. No chemicals were found when the ship was searched. The type of chemicals allegedly on board would, in any event, have had legitimate civilian applications. The US government never formally apologised for its confrontational and clumsy actions.

Iraq

The Clinton administration inherited a difficult situation from its predecessor. From the end of hostilities in 1991 the coercive leverage available to secure continued Iraqi compliance with UN Security Council resolutions was bound to dissipate. International support for military action has weakened, while popular understanding of the US government's reluctance to risk US or Iraqi lives has increased. In the circumstances, the inspection regime has held up remarkably well, partly because of effective US diplomacy, while demonstrating how difficult it can be to see through to a satisfactory conclusion even a broadly accepted sanctions regime grounded in a clear mandate. There have been a couple of false moves, however.

First, the US use of cruise missiles against Iraq in response to an alleged assassination plot against former President George Bush served to legitimise the use of missiles as a tool of denial or retribution, a practice in the region that states should be working to undermine. Second, Secretary of State Madeleine Albright's statement in 1997 that the United States will oppose lifting sanctions on Iraq until the current government is replaced, regardless of its compliance with Security Council resolutions, made co-operation more difficult during the 1998 inspection crisis. These comparatively minor mistakes pale in comparison with the opposition's eagerness to launch a major war against Iraq with or without international support, even after the UN Secretary-General had negotiated a viable inspection package.

North Korea

The administration's approach to North Korea was strongly affected by the positions of partners in the region. Despite a widespread perception

VeriFact

By 11 June 1998 the Inspectorate of the Organization for the Prohibition of Chemical Weapons (OPCW) had completed 221 inspections in 25 countries, bringing the number of inspection days to 15,335 since inspections began.

OPCW Synthesis, no. 3/1998, June 1998, p. 6.

that US policy was allowing China, Japan and South Korea to free-ride, the administration took their concerns seriously and withstood considerable domestic pressure for unilateral military action. Although, according to some accounts, some in the administration succumbed to the war fever that infected the opposition and many in the press in 1994, US diplomacy eventually produced a workable framework agreement without provoking North Korea or undermining Washington's leadership position in the region.

Iran

In contrast with the areas discussed so far, the Clinton administration has seemed eager to sanction Iran as aggressively as called for by the opposition, rather than exercising its options more selectively. This approach has alienated partners in Europe without effectively disarming critics. The non-proliferation successes that the United States has enjoyed vis-à-vis Iran have not been the result of sanctions or other punitive legislation. Still, the administration has resisted calls for military action against civilian nuclear sites and has fostered the perception in the West that force will only be an option of last resort against Iran. Further, it appears that US assessments of Iranian compliance with non-proliferation norms are being reconsidered with an eye to more effective implementation of related agreements and regimes. The official US reaction to Israeli charges that Iran is developing long-range ballistic missiles with Russian help was appropriately measured and bodes well for co-operative implementation of the MTCR in the future without hasty resort to sanctions. Finally, US officials acknowledge that they have never specified which weapons Iran may acquire legitimately. The United States' blanket hostility to Iran has meant that all transfers to that country have been opposed—whether unconventional weapons, conventional weapons that threaten US forces, conventional weapons needed for defence against Iraq or even civilian economic activity unrelated to military preparations. US responses to the election of Seyed Mohammad Khatami as President have been appropriately positive but measured, while the apparent emphasis on normalising relations when Khatami's limited political capital could be spent more significantly in other areas is bemusing.

South Asia

Finally, in the case of South Asia, the Clinton administration has turned a blind eye to academic fashion and rightly continues to base policy on the assumption that war is possible in South Asia and could escalate to nuclear use. While accepting

that the Indian and Pakistani nuclear options are unlikely to be rolled back in the near term, Clinton administration policy has emphasised acceptance of norms relating to ballistic missiles, production of fissile materials, and nuclear testing. The administration's emphasis on missiles as potentially the most de-stabilising delivery systems has led it to underestimate the risks involved in transfers of conventional capabilities associated with combat aircraft, an oversight that could ultimately make the policy self-defeating. India's efforts to develop a conventional counterforce capability undercut Pakistani restraint, especially with respect to deployment of nuclear ballistic missiles, but there is no sign that the Clinton administration has begun pressuring other states, especially France and Israel, to join its embargo on co-operation related to military technology imposed after the May nuclear tests. While South Asia is of peripheral US interest and not very responsive to US initiatives, the risks of a humanitarian catastrophe may be higher than anywhere else, mainly because of Pakistan's apparent reliance on a policy of deterrence through nuclear volatility. Clinton had no choice but to apply sanctions in response to the nuclear tests in May since they were mandated by US law.

Conclusion

Two patterns are discernible in this brief evaluation. First, Clinton administration policy has been consistently more prudent than the alternatives put forward by its critics and has been at its best when the stakes were highest. While no 'A's can be awarded, it may be that compliance is a policy area that requires solid implementation rather than inspired feats. For the Republicans, the fact that their stated approaches to dealing with compliance risk failure in every area of concern suggests either that for the sake of politics they advocate measures they know to be inadvisable, or that they need to thoroughly re-evaluate their foreign policy approach. Second, the administration's policies have run into their greatest problems because of the opposition, including unhelpful legislation sponsored by them. In other cases, Clinton's signature 'triangulation' approach to decision-making, in which he is nearly always prepared to split the difference, has led to inconsistent compromises with the opposition that weaken co-operative approaches without strengthening either coercive leverage or relations with the opposition.

Dr Eric Arnett, *Leader of the Project on Military Technology, Stockholm International Peace Research Institute (SIPRI), Sweden.*

British Strategic Defence Review

The Secretary of State for Defence, the Rt. Hon. George Robertson, MP, presented the Strategic Defence Review (SDR) to a joint session of Parliament on 8 July. The SDR provides a 'road map' for reforming, restructuring and improving the British national defence structure. At least three areas of the report have verification implications: those relating to arms control, nuclear weapons proliferation and fissile material stocks.

Building on the expertise of the Atomic Weapons Establishment (AWE) at Aldermaston, a new programme will be launched specialising in the verification of nuclear weapon reductions. An 18-month study to assess the necessary skills, technologies and techniques and discover what is already available in the country will launch the programme. Other verification-related initiatives include greater UK involvement in implementation of the 1992 Open Skies Treaty, including the provision of an Andover aircraft for overflights and assistance to other signatories and potential signatories, and additional training for UK personnel in arms control inspection techniques.

As a result of the SDR, the United Kingdom became the first nuclear weapon state to achieve transparency in fissile materials by releasing all details of defence stocks. The document further announced that the UK would no longer withdraw fissile material from safeguarded stocks for nuclear weapons as allowed under the Nuclear Non-Proliferation Treaty. All future withdrawals will be small quantities unsuitable for nuclear weapons and the details of each withdrawal will be made public. All future reprocessing will be done under safeguards and details of all past defence fissile production will be released in a report to be published by 2000.

The UN Special Commission for Iraq (UNSCOM)

Recent surveillance aircraft photographs and satellite images have convinced the US that Iraq has concealed further aspects of its weapons programmes from UN inspectors. The images are inconsistent with long-standing Iraqi claims that it destroyed all its Scud missile launchers. New evidence uncovered by UNSCOM has also revealed inconsistencies regarding quantities and locations of Iraqi VX, a chemical warfare agent. The US Army Laboratory at Aberdeen Proving Ground in Maryland made the discovery from

testing swabs from warhead fragments recovered from a destruction pit in Taji, Iraq in March. During an otherwise productive meeting with UNSCOM officials on 16 June, Iraqi officials denied the discovery when confronted with the evidence. The Iraqis again claimed they had been unable to weaponize the nerve agent. Iraq has admitted having made 3.9 tonnes of VX while conducting research into weaponizing it, but claims to have destroyed the entire stockpile in secret. Since the Iraqis objected to the tests having taken place in American laboratories, UNSCOM has distributed additional warhead fragments to laboratories in France and Switzerland for further testing.

Unilateral Opt-Out from Chemical Weapons Convention provisions

The US Senate approved legislation in May that would severely limit US obligations under the Chemical Weapons Convention (CWC). The law would limit the number of inspections per year that the US would accept, restrict the locations at which suspect samples from US sites could be tested and give the President the unilateral right to block surprise inspections on national security grounds. Since the CWC does not allow unilateral opting out of treaty obligations, the law would put the US in violation of the treaty once the President ratified it. It is difficult to see how the President could ratify the CWC in these circumstances.

US Intelligence Under Fire

The United States intelligence community has been the focus of extensive ridicule since its failure to detect India's preparations for its 11 May nuclear tests. The tests caught the CIA and other agencies completely by surprise. Members of Congress called the incident a 'colossal failure' and demanded a thorough inquiry. As a result, CIA Director George Tenet appointed Admiral David Jeremiah, a former commander of US forces in the Pacific, to investigate CIA's operations. The report, much to Tenet's dismay, revealed that the failure to recognise India's test preparations was not due to a lack of information, but an overwhelming amount of it. US spy satellites, for instance, produce so much information in a single day that it is difficult for overworked and in some cases inexperienced analysts to view it all. Signs of India's test preparations were thus either overlooked or left unanalysed. The situation reflects an imbalance between limited human resources and the vast array of information technologies and other intelligence instruments

operated by the United States. US intelligence officials also reportedly misread India's intentions, believing that it would 'behave as we behave', despite statements by India's new leadership suggesting otherwise. The CIA has now started a massive recruitment drive for new 'case officers', marking a dramatic shift in the US intelligence approach. The CIA wants to increase its use of spies inside foreign governments, as well as improve its use of technical intelligence, while it scrambles to recoup its credibility.

Verification Quote

I think the biggest hurdle for the test ban, in the final analysis, will be the verification issue, rather than reliability and safety concerns. Unfortunately, the intelligence community is the most uncertain in its support for the treaty...the performance of the intelligence community in the case of the recent Novaya Zemlya earthquake [in Russia] was very disturbing, and even now it has not come out unambiguously in identifying it as an earthquake. The community's inflexibility in dealing with an obvious earthquake does not build confidence in its ability to deal objectively with future verification problems.

Spurgeon M. Keeny, Jr., President, Arms Control Association, in a presentation to the Association's annual membership meeting entitled 'Advancing the Arms Control Agenda: Pitfalls and Possibilities', 18 February 1998, reproduced in *Arms Control Today*, Jan./Feb. 1998, p. 12.

Science and Technology Developments

Researchers at Sandia National Laboratories in Albuquerque, New Mexico, funded by the US Department of Energy, are developing a hand-size computer device that will detect chemical warfare agents and explosives. These new minute chemistry laboratories should make detection of chemical agents safer and easier. They could be attached to an unmanned vehicle and sent to survey a battlefield or testing ground to verify whether chemical weapons are being used or

developed. Researchers hope to make the device available within three years and an improved model within five to ten years that can identify several hundred gases and liquids.

The Lawrence Livermore Laboratory in California is developing two types of fully automated biodetectors, capable of retrieving samples and detecting biological agents. The first is called a flow cytometer, otherwise known as a miniFlo. It uses an immunoassay system to observe the surface of cells and analyses proteins and other materials located there, while a portable PCR (polymerase chain reaction) unit identifies the DNA inside the cell. These two devices, used in tandem, can process data much faster than the usual laboratory mechanisms and still remain highly sensitive, reducing the risk of false alarms. They promise to be useful in detecting testing or use of biological weapons.

The Krypton Verification Project at the Technical University (Technische Universität) in Darmstadt, Germany has reportedly made great strides in its studies of krypton-85 detection. Tracing levels of krypton-85 in the atmosphere is the best way of remotely detecting illicit plutonium separation at a nuclear fuel reprocessing plant. Krypton-85 is released by the dissolution of spent fuel elements at such plants. Using a reprocessing plant at Karlsruhe as a case study, the research showed that even with a single sampling station close to a reprocessing facility, located in the direction of the prevailing winds, a detection probability of 90% was achievable. Such detection methods promise to make verification of non-production of plutonium less intrusive—and less dependent on the co-operation of plant operators in cases where suspicious activities are taking place.

Compiled by T. Andrew Caswell and Andrea Lupo

Verification Bytes

- on 11 June the International Atomic Energy Agency (IAEA) Board of Governors approved Additional Protocols for tighter nuclear safeguards in 15 more non-nuclear weapon states (NNWS): Canada, the 13 non-nuclear weapon states of the European Union (EU) and Ghana. Seven NNWS have already signed theirs. At the same time Additional Protocols for three nuclear weapon states (NWS), France, the UK and the US, were also approved
- Australia has been invited by Papua New Guinea (PNG) to lead the Peace Monitoring Group on Bougainville which has been monitoring compliance with a truce agreement between the PNG government and the Bougainville Revolutionary Army (BRA) since December last year
- CNN and *Time* magazine have retracted allegations that the US used Sarin nerve agent to kill US defectors in Laos during the Vietnam War; such use would have been in violation of the 1925 Geneva Protocol except that the US did not sign the Protocol until 1975
- a new international monitoring mission was established in July, comprised of diplomats accredited to Belgrade, to monitor the situation in Kosovo in Yugoslavia (Serbia and Montenegro)—without a cease-fire or peace agreement in place.

Positions Available

RESEARCHER/SENIOR RESEARCHER—VERIFICATION SCIENCE AND TECHNOLOGY

Applications are invited for a senior researcher to conduct policy-relevant research into the scientific and technological aspects of the verification and monitoring of international agreements, notably in the areas of arms control, disarmament and peace agreements. You should have a higher degree in science or technology, such as physics, chemistry, biology, nuclear engineering or seismology, or equivalent experience in these fields. You should also have a wide-ranging interest in scientific and technological developments outside your area of expertise and a demonstrated interest in the implications of such developments for international politics, including verification. Proficiency in English and ability to write for a generalist audience are essential.

A two-year contract will be offered initially, with the possibility of extension depending on performance and funding. The salary range for a researcher is £15,000 to £21,000; for a senior researcher £21,000 to £30,000. The closing date for applications is 21 September 1998.

RESEARCHER—VERIFICATION OF ENVIRONMENTAL AGREEMENTS

Applications are invited for a researcher to conduct policy-relevant research into the verification and monitoring of international environmental agreements, notably the 1992 Climate Change Convention and its Kyoto Protocol. You should have a higher degree in environmental or other physical sciences, economics or other relevant field, or equivalent experience. A demonstrated interest in international environmental politics, proficiency in English and an ability to write for a generalist audience are essential. Experience in policy co-ordination and in international fora would be an advantage.

A two-year contract will be offered initially, with the possibility of extension depending on performance and funding. The salary range is £15,000 to £21,000. The closing date for applications is 14 September 1998.

Applicants should send a letter addressing the selection criteria, nominating 3 referees and providing a curriculum vitae. Faxed or emailed applications will not be accepted. For job descriptions and selection criteria see VERTIC's website or contact VERTIC's Administrator.

VERTIC is an equal opportunity employer.



VERTIC News

Conference on 'The Verification Revolution: Human and Technical Dimensions', 5-7 March 1999

VERTIC will hold a conference in co-operation with Wilton Park, an Executive Agency of the British Foreign and Commonwealth Office, in March 1999 on the theme 'The Verification Revolution: Human and Technical Dimensions'. The conference will examine the striking developments that have occurred since the end of the Cold War in verifying and monitoring arms control and disarmament agreements.

The experience of establishing major new verification organisations like the Organization for the Prohibition of Chemical Weapons (OPCW), the change of philosophy towards

nuclear safeguards by the International Atomic Energy Agency (IAEA), the record of the UN Special Commission on Iraq (UNSCOM) and improvements in remote monitoring will be among the developments covered. For further information contact VERTIC or Wilton Park Conferences, Wiston House, Steyning, West Sussex, BH44 3DZ, UK. Tel: +44 (0) 1903 817772, fax: +44 (0) 1903 815931, email: wilton@pavilion.co.uk

New Grants and Other Support

VERTIC has received the following three new grants since May: £140,000 over three years from the Joseph Rowntree Charitable Trust for general support and re-development; \$US25,000 from the Ploughshares Fund, San Francisco for an extension

of VERTIC's 'Getting to Zero' project; and \$US10,000 from an anonymous donor through the Rockefeller Family Philanthropic Offices, New York to recruit a new environment researcher.

Trevor Findlay's participation in the 20th Annual Meeting of the European Safeguards Research and Development Association (ESARDA) in Helsinki, Finland, was generously funded by the Institut de Protection et de Sûreté Nucleaire (Nuclear Protection and Safety Institute) of France. John Lanchbery's participation in three meetings relating to climate change in Bonn and Brussels in June and July was funded by the European Commission.

VERTIC is extremely grateful for the support from these organisations.

Verification Organisations Directory

VERTIC has begun compiling a directory of all verification organisations and agencies, whether multilateral, regional or national. Non-governmental organisations with specific projects on verification will also be included. The Directory will be published later this year. Should you wish your organisation to be included please forward the details to VERTIC's Administrator on the enclosed form.

New Interns

Two additional interns joined VERTIC in July for several weeks' work experience. T. Andrew Caswell, a student in political science from Bethany College, West Virginia, is helping compile the Verification Organisations Directory and assisting with office tasks. Vicky Melton, a student in international economics and political science at the University of California, Los Angeles, is assisting with research on peace operations and helping reorganise VERTIC's library.

Seminar on Indian and Pakistani Nuclear Tests

VERTIC held a successful seminar on 18 June in co-operation with the Centre for Defence Studies (CDS) at King's College, London and the UK Council for Arms Control, on the implications of the May nuclear tests conducted by India and Pakistan. The speakers were Dr Chris Smith of CDS, Suzanna van Moyland of VERTIC and John Edmonds, former UK test ban negotiator and member of VERTIC's Board of Directors. Over 30 people attended, including representatives of the Indian and Chinese missions in London, and the discussion was intense and prolonged.

Annual General Meetings

Both the VERTIC Company and the VERTIC Charitable Trust held their Annual General

Meetings on 30 June 1998. They received a report from the Executive Director on the first 6 months of his tenure, approved audited accounts for the financial year 1 November 1996-31 October 1997 and received draft annual reports for the years 1995-7. Both bodies also approved the proposed merger of the company and the trust into a single charitable company.

Annual Reports 1995-1997

VERTIC's Annual Reports for the years 1995-1997 have been finalised. Limited copies are now available on request.

Staff News

Trevor Findlay travelled to the United States twice, in April and May, to raise funds for VERTIC, visiting San Francisco, Boston, Washington DC and New York. In addition he participated in the 8th Annual International Arms Control Conference held by the Co-operative Monitoring Centre (CMC) at the Sandia National Laboratories from 3-5 April in Albuquerque, New Mexico. He also attended a one-day briefing at the CMC on its activities and a similar briefing at the US On-Site Inspection Agency (OSIA) in Washington DC. In New York he met with the heads of UNSCOM and the UN Department for Disarmament Affairs as well as the UN's Civilian Police (CivPol) unit.

From 11-15 May he attended the 20th Annual Meeting of the European Safeguards Research and Development Association (ESARDA) in Helsinki, Finland, where he presented a paper on 'Verification Regimes: Commonality, Difference and Synergies'. From 27-30 April he gave a seminar on 'Trends in Peacekeeping' and conducted a case study on the Rwanda peacekeeping operation at the Lester B. Pearson Canadian International Peacekeeping Training Centre at Clementsport, Nova Scotia. On 9 June he participated in a briefing at the Foreign and Commonwealth Office (FCO) on the activities of the Organization for Security and Co-operation in Europe (OSCE) and on 15 July in an all-day meeting organised by the Mountbatten Centre for International Studies, University of Southampton and the FCO at the Foreign Office on nuclear non-proliferation issues. On 25 June he gave a presentation on the Indian and Pakistani nuclear tests as part of a briefing for MPs and Lords at the Houses of Parliament organised by the International Security Information Service (ISIS). Finally, he participated in several seminars at King's College, one on 19 May on open sources in IAEA safeguards and two organised in co-operation with the Arms Control Council on the Indian and Pakistani nuclear tests, on 18 June, and on Northern Ireland decommissioning, on 16 July.

John Lanchbery attended four meetings during the period: a meeting of the Subsidiary Bodies to the Convention on Climate Change in Bonn from 2-12 June; a VERTIC/FZ Jülich workshop on verification held in conjunction with this meeting; a European Commission Workshop on Emissions Trading in International Climate Protection held in Bonn from 25-26 June; and a European Commission meeting on Emissions Trading in Brussels in July. His written work included a paper on emissions trading for the UN Conference on Trade and Development (UNCTAD); VERTIC *Implementation Matters* 98/1, a briefing paper for the June meetings of the Subsidiary Bodies to the Climate Convention; a series of papers in support of work for the Secretariat to the Climate Convention which will be published as UN documentation in November; a paper for the VERTIC/FZ Jülich workshop; a paper on emissions trading for a German NGO grouping in Bonn; a paper for a EC meeting in Brussels in July and a chapter on long-term trends in implementation review mechanisms for a forthcoming Massachusetts Institute of Technology (MIT)/International Institute for Applied Systems Analysis (IIASA) book.

John, who ran VERTIC's environment project for 7 years, left on 3 July to take up a position at the

Royal Society for the Protection of Birds (RSPB). VERTIC expresses its gratitude for his hard work in establishing and sustaining the organisation's reputation in the environmental area and wishes him well in his new job.

Suzanna van Moyland co-authored with Roger Clark of Leeds University an article, 'The Paper Trail', concerning seismic and other verification aspects of India's nuclear tests, for the July edition of the *Bulletin of the Atomic Scientists*. The article was previewed in the *Financial Times*. She also did 22 radio and TV interviews relating to the nuclear tests in South Asia, including for CNN and the BBC, and was quoted in UK newspapers and in *New Scientist*. On 18 June, at the seminar on 'Nuclear Weapons in South Asia', she gave a presentation on 'Verification and Technical Implications of Nuclear Testing by India and Pakistan'. She also wrote an article for the June edition of *Disarmament Diplomacy* entitled 'Progress on Protocols: The IAEA's Strengthened [Nuclear] Safeguards Programme' and revised an existing VERTIC Briefing Paper on the IAEA programme which takes into account the latest developments and will be published shortly as VERTIC Briefing Paper 98/1.



VERTIC is the Verification Technology Information Centre, an independent, non-profit making, non-governmental organisation whose mission is to promote effective and efficient verification as a means of ensuring confidence in the implementation of treaties or other agreements which have international or national security implications. VERTIC aims to achieve its mission by means of research, training, dissemination of information and interaction with the relevant political, diplomatic, technical and scientific communities. A Board of Directors is responsible for general oversight of VERTIC's operations. VERTIC is funded primarily by grants from foundations and trusts, currently the Ford Foundation, the John Merck Fund, the Joseph Rowntree Charitable Trust, the Ploughshares Fund, the Rockefeller Family Philanthropic Offices and the W. Alton Jones Foundation.

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