



Trust and Verify

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French nuclear testing

At 23:29:57.8 GMT on 1 October France conducted the second of its nuclear test programme announced by President Chirac on 13 June. The test took place at location 22° 17' 13" S, 138° 47' 16" W at Fangataufa Atoll and the seismic event it caused measured 5.5 on the Richter Scale.

The French authorities have stated that this test was of the order of 100 kilotonnes. However, seismic data indicate that the test may have been less than two-thirds of this figure [see box on p.2].

Reduction in number of tests

On 24 October President Chirac announced that the number of tests in the current series is to be reduced to six, two of which have already been carried out.

This announcement was made the day before the Commission was to tell the European Parliament whether it was to take action against France.

Euratom Monitors

The three inspectors sent by the European Commission, acting as the executive body of Euratom — the European Atomic Energy Community, to inspect facilities at the Pacific Ocean test sites returned home reportedly dissatisfied with the access they were given. The inspectors arrived on site on 22 September.

The Commission has expressed concern that the French Government has been less than forthcoming over information that it feels it is entitled to receive.

On 25 October, the Commission announced that they had received sufficient information on certain health and safety issues such that no further action would be taken.

France—UK nuclear links?

Press reports have alleged that the UK was to receive data from the current series of French tests.

These allegations have prompted the following response from the British Ministry of Defence:

The UK has neither asked for, nor been offered, information or data resulting from the current French nuclear test programme.

While this denial covers direct exchange of weapons design information, other co-operation in nuclear-related matters is planned.

France, UK and US to join Rarotonga Treaty

On 20 October France, the United Kingdom and the United States announced that they would become parties to the protocols to the South Pacific Nuclear Free Zone Treaty (the Treaty of Rarotonga).

The announcements did not give a date for the adherence of the three states but stated that this would be in the first half of 1996.

The Union of Soviet Socialist Republics signed Protocols 2 and 3 on 15 December 1986 and China did so on 10 February 1987.

The text of the Protocols is reproduced on pages 3–4 of this issue.

VERTIC at the European Parliament

On Tuesday 17 October, the Director of VERTIC, Dr Patricia Lewis, gave evidence at a public hearing on nuclear tests held by the European Parliament in Brussels. The title of the evidence session was 'real tests versus simulations'.

Dr Lewis was scheduled to appear opposite Alain Barthoux, Director of Testing, Military Applications Directorate, Atomic Energy Commission, who did not attend.

British MEP Ken Collins, who was chairing the hearings, said 'If the director of testing deliberately fails to turn up and doesn't even notify us that he is refusing to come, one can only conclude that the shroud of secrecy is complete'.

Inhumane Weapons Convention Review Conference

The Review Conference of the Inhumane Weapons Convention met in Vienna from 25 September to 13 October. While it was able to agree a new protocol on control of blinding laser weapons, it could not reach agreement on further controls on anti-personnel mines.

The Review Conference has been suspended and will hold two further sessions. The first of these is to be held at Geneva during 15–19 January 1996 and will deal with the definitions, technical specifications and specific prohibitions of types of mines and potential circumstances for their use. The second session will be held at Geneva during 22 April–3 May, will deal with all other issues, including scope, implementation mechanisms and technical co-operation, with a view to adopting a complete text. It has also been indicated

that at the latter session, the Conference will seek to complete work begun on a declaration of principles.

Laser protocol

The Review Conference agreed a fourth Protocol to the Convention on the control of blinding laser weapons. The new Protocol does not cover all lasers which could cause blindness, and does not cover blindness caused by 'an incidental or collateral effect of the legitimate military employment of laser systems, including laser systems used against optical equipment'.

Permanent blindness is defined in the new Protocol as the 'irreversible and uncorrectable loss of vision which is seriously disabling with no prospect of recovery. Serious disability is equivalent to visual acuity of less than 20/200 Snellen measured using both eyes'.

The new protocol will enter into force after the deposit of the 20th instrument of ratification to it.

Officers of the Conference

The President of the Conference was Johan Molander (Sweden), who was assisted by 10 Vice-Presidents. Main Committee I was chaired by Tibor Toth (Hungary); Main Committee II by Jorge Morales (Cuba); Main Committee III by Wolfgang Hoffman (Germany); the Drafting Committee by Mark J. Moher (Canada); and the Credentials Committee by Zdzislaw Galicki (Poland).

It appears that these posts will be retained by their current holders when the Conference reconvenes.

Attendance

The following states parties attended the Review Conference: Australia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, China, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Finland, France, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Japan, Latvia, Liechtenstein, Mexico, Mongolia, Netherlands, New Zealand, Norway, Pakistan, Poland, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Ukraine, United Kingdom, United States and Uruguay.

Representatives of the following states attended the Review Conference as observers: Albania, Angola, Argentina, Bolivia, Brazil, Burundi, Cambodia, Chile, Colombia, Egypt, Ethiopia, Gabon, Holy See, Iceland, Indonesia, Iran, Jordan, Libya, Luxembourg, Morocco, Mozambique, Nicaragua, Oman, Paraguay, Peru, Philippines, Portugal, Republic of Korea, Republic of Moldova, Romania, Saudi Arabia, Singapore, South Africa, Sudan, Syria, Thailand, Turkey, United Republic of Tanzania, Venezuela and Viet Nam. [Brazil, Romania and South Africa have ratified the Convention, but it has not yet entered into force for them.]

Some 114 individuals from 76 non-governmental organizations also attended the Review Conference.

Intangible technologies

The policy of controlling 'intangible technologies' — information carried in people's heads (see *Trust & Verify*, No. 36, March/April 1993 & No. 50, September

France's second test: smaller than claimed or seismic oddity?

The French authorities have stated that the test conducted at Fangataufa Atoll on 1 October was of the order of 100 kilotonnes. However, seismic data indicate that the test may have been less than two-thirds of this figure. The seismic event it caused measured 5.5 on the Richter Scale.

This in itself is curious because earlier tests of quite different yields at Fangataufa have also measured around 5.5 on the Richter Scale.

Fangataufa and Moruroa Atolls are about 40 km apart and would, in normal circumstances, be expected to be geologically similar.

The test of 5 September at Moruroa Atoll (acknowledged as under 20 kilotonnes by the French authorities) caused an event at 4.8 on the Richter Scale.

Although a variation of depth between the two recent tests may have had an impact on the signals, if the second test were 100 kt — i.e., over five times the yield of the first — then a much larger difference in seismic magnitude would be expected.

The seismic wave for the second test indicates a yield of some 30–60 kt for that test device.

More data needed

A step that France could take to lead to greater confidence in the verification regime for a comprehensive test ban would be to release some more detailed data about previous tests.

In July this year, the Direction des Centres d'Experimentations Nucleaires and the Commissariat à l'Energie Atomique published some details of its tests at Moruroa and Fangataufa.

However, the underground test yields fell into three broad yield categories: below 5 kt; below 20 kt; and below 150 kt. While this broad data may be of some help to seismologists, more precise yield and location (including depth) data on some tests would be far more useful and would enable scientists to increase the accuracy of detection systems.

In 1989, the Soviet Union released detailed data about approximately 100 underground tests and the United States did so for many underground tests prior to 1970. Were France to contribute such information about some of its underground tests, verification experts would be able similarly to build up a better picture for these and geologically-similar potential test sites.

Such information — relating to, among other things, depth of burial, rock type and physical properties, precise location, detonation time and explosive yield — for a wide range of yields and at all representative sites at Moruroa (rim and lagoon) and Fangataufa, gives scientific experts involved in establishing a CTB verification system a significantly more detailed picture of what might be detectable at these sites under a CTB.

Such transparency facilitates verification procedures that will enhance confidence in compliance among all parties to a comprehensive test ban.

1994) — in the United Kingdom in order to stop the spread of weapons of mass destruction has finished its first year of implementation.

The Students Vetting Scheme has received about 30 referrals, none of which required further action. Officials have indicated that the scheme is to be reviewed.

VERTIC News

ACRONYM Consortium

The Acronym Consortium, the collaborative effort between VERTIC and three other British NGOs to monitor and report on the Conference on Disarmament (CD) in Geneva, is to be dissolved at the end of October.

Rebecca Johnson, who has been based in Geneva, will continue to report on CD events and negotiations for the newly-formed Disarmament Intelligence Review.

Although the ACRONYM Consortium will cease to exist, the series of 'Red' (ACRONYM) Reports will continue. Report number 7, on the NPT Conference,

and number 8, on the latest CD session, are now available.

Earlier ACRONYM reports are available on the World Wide Web via the Dfax home page at URL:
<http://www.gn.apc.org/dfax/>

New e-mail addresses

As the quantity of electronic mail handled by VERTIC has increased, additional e-mail accounts have been opened. They are listed below.

General enquiries and publications distribution: (Tiffany Edwards and Nicola Moran)

vertic@gn.apc.org

Arms Control and Disarmament: (Patricia Lewis and Suzanna van Moyland)

verticacd@gn.apc.org

Environment: (John Lanchbery and Andrea Moran)

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Conflicts and Confidence Building: (Dennis Sammut)

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Trust & Verify: (Richard Guthrie)

vertictv@gn.apc.org

Verification yearbooks: (J.B. Poole and Richard Guthrie)

bagwax@gn.apc.org or vertictv@gn.apc.org

The Protocols to the Treaty of Rarotonga

PROTOCOL 1

The Parties to this Protocol

Noting the South Pacific Nuclear Free Zone Treaty (the Treaty)

Have agreed as follows:

Article 1

Each Party undertakes to apply, in respect of the territories for which it is internationally responsible situated within the South Pacific Nuclear Free Zone, the prohibitions contained in Articles 3, 5 and 6, in so far as they relate to the manufacture, stationing and testing of any nuclear explosive device within those territories, and the safeguards specified in Article 8(2)(c) and Annex 2 of the Treaty.

Article 2

Each Party may, by written notification to the depository, indicate its acceptance from the date of such notification of any alteration to its obligations under this Protocol brought about by the entry into force of an amendment to the Treaty pursuant to Article 11 of the Treaty.

Article 3

This Protocol shall be open for signature by the French Republic, the United Kingdom of Great Britain and Northern Ireland and the United States of America.

Article 4

This Protocol shall be subject to ratification.

Article 5

This Protocol is of a permanent nature and shall remain in force indefinitely, provided that each Party shall, in exercising its national sovereignty, have a right to withdraw from this Protocol if it decides that extraordinary events, related to the subject matter of this Protocol, have jeopardized its supreme interests. It shall give notice of such withdrawal to the depository three months in advance. Such notice

shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

Article 6

This Protocol shall enter into force for each State on the date of its deposit with the depository of its instrument of ratification.

IN WITNESS WHEREOF the undersigned, being duly authorised by their Governments, have signed this Protocol.

DONE at Suva, this Eighth day of August, One thousand nine hundred and eighty-six, in a single original in the English language.

PROTOCOL 2

The Parties to this Protocol

Noting the South Pacific Nuclear Free Zone Treaty (the Treaty)

Have agreed as follows:

Article 1

Each Party further undertakes not to use or threaten to use any nuclear explosive device against:

- (a) Parties to the Treaty; or
- (b) any territory within the South Pacific Nuclear Free Zone for which a State that has become a Party to Protocol 1 is internationally responsible.

Article 2

Each Party undertakes not to contribute to any act which constitutes a violation of the Treaty, or to any act of another Party to a Protocol which constitutes a violation of a Protocol.

Article 3

Each Party may, by written notification to the depository, indicate its acceptance from the date of such notification of any alteration to its obligations under this Protocol brought about by the entry into force of an amendment to the Treaty pursuant to Article 11 of the Treaty or by the extension of the

South Pacific Nuclear Free Zone pursuant to Article 12(3) of the Treaty.

Article 4

This Protocol shall be open for signature by the French Republic, the People's Republic of China, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America.

Article 5

This Protocol shall be subject to ratification.

Article 6

This Protocol is of a permanent nature and shall remain in force indefinitely, provided that each Party shall, in exercising its national sovereignty, have a right to withdraw from this Protocol if it decides that extraordinary events, related to the subject matter of this Protocol, have jeopardized its supreme interests. It shall give notice of such withdrawal to the depositary three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

Article 7

This Protocol shall enter into force for each State on the date of its deposit with the depositary of its instrument of ratification.

IN WITNESS WHEREOF the undersigned, being duly authorised by their Governments, have signed this Protocol.

DONE at Suva, this Eighth day of August, One thousand nine hundred and eighty-six, in a single original in the English language.

PROTOCOL 3

The Parties to this Protocol
Noting the South Pacific Nuclear Free Zone Treaty (the Treaty)
Have agreed as follows:

Article 1

Each party undertakes not to test any nuclear explosive device anywhere within the South Pacific Nuclear Free Zone.

Article 2

Each Party may, by written notification to the depositary, indicate its acceptance from the date of such notification of any alteration to its obligation under this Protocol brought about by the entry into force of an amendment to the Treaty pursuant to Article 11 of the Treaty or by the extension of the South Pacific Nuclear Free Zone pursuant to Article 12(3) of the Treaty.

Article 3

This Protocol shall be open for signature by the French Republic, the People's Republic of China, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland and the United States of America.

Article 4

This Protocol shall be subject to ratification.

Article 5

This Protocol is of a permanent nature and shall remain in force indefinitely, provided that each Party shall, in exercising its national sovereignty, have a right to withdraw from this Protocol if it decides that extraordinary events, related to the subject matter of this Protocol, have jeopardized its supreme interests. It shall give notice of such withdrawal to the depositary three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

Article 6

This Protocol shall enter into force for each State on the date of its deposit with the depositary of its instrument of ratification.

IN WITNESS WHEREOF the undersigned, being duly authorised by their Governments, have signed this Protocol.

DONE at Suva, this Eighth day of August, One thousand nine hundred and eighty-six, in a single original in the English language.

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Trust & Verify

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What is VERTIC?

VERTIC is an independent organization aiming to research and provide information on the role of

verification technology and methods in present and future arms control and environmental agreements.

VERTIC co-ordinates six working groups comprising 50 consultants worldwide.

VERTIC is the major source of information on verification for scientists, policy makers and the press.

VERTIC is funded primarily by grants from foundations and trusts and its independence is monitored by an Oversight and Advisory Committee.

Other publications

In addition to *Trust & Verify*, VERTIC publishes the *Verification* (formerly *Verification Report*) series of yearbooks and a variety of research reports each year. Details of VERTIC publications are available on request.

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