

The role of bilateral nuclear safeguards agreements

The concept of bilateral safeguards agreements originated in the 1950s. Generally these agreements can serve two purposes: to establish verification mechanisms, commonly known as 'nuclear safeguards'; and to create conditions for nuclear exports. Usually these purposes are linked—that is, the verification mechanism applies to nuclear items supplied under the agreement—but this is not always the case. Bilateral safeguards agreements can be used to set up verification arrangements of general application, rather than relating solely to supplied items—an example is the 1991 Agreement between Brazil and Argentina for the exclusively peaceful use of nuclear energy (the Guadalajara Agreement).

Today the need for bilateral nuclear verification arrangements has been largely superseded by International Atomic Energy Agency (IAEA) safeguards, although bilateral verification agreements could potentially have an important confidence-building role in specific regions, such as the Korean Peninsula or South Asia. Most current bilateral safeguards agreements assign the verification function to the IAEA, and deal primarily with conditions pertaining to nuclear supply. These are the focus of discussion here.

The requirement by nuclear suppliers for bilateral safeguards agreements is partly based on national policy, but also reflects the terms of Article III.2 of the 1968 Nuclear Non-Proliferation Treaty (NPT), which commits parties not to supply nuclear material or items to non-nuclear-weapon states except under IAEA safeguards. Bilateral safeguards agreements also reflect the practices agreed by the international suppliers' groups (the Zangger Committee and the Nuclear Suppliers Group).

Bilateral safeguards agreements cover two broad areas: the supply of specific items, such as facilities, equipment and technology; and the supply of nuclear material.

In the first case, most, if not all, technology suppliers require bilateral agreements. Consequently, there are many agreements of this kind. In the second case, which covers the supply of nuclear materials, the major bilateral agreement networks are operated by Australia, Canada and the United States. Australia and Canada together are responsible for some 65 per cent of current world uranium production. The US is no longer a major uranium producer, but attaches consent rights to nuclear material that it upgrades (particularly by enrichment). More than 80 per cent of uranium in the global civil nuclear industry is estimated to have US consent rights attached. One result is what is known as 'multi-labelling', under which Australian or Canadian obligated nuclear material upgraded in the US also attracts a US obligation. Although this appears to add a layer of complexity to certain uranium transfers, 'multi-labelling' is not a problem in practice.

In this issue . . .

John Carlson examines the role that bilateral nuclear safeguards can play in providing non-proliferation assurance, while Matt Peterson reviews the work of the Aceh Monitoring Mission and explores the EU's latest approach to monitoring peace agreements. Plus Verification Watch and VERTIC News and Events.

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Bilateral safeguards as the genesis of the current safeguards system

Prior to the development of IAEA safeguards, nuclear exporters could only gain assurance that the recipient was using the nuclear materials and items they supplied for exclusively peaceful purposes through bilateral agreements. As the principal leader in the nuclear technology field, the US led the way in the development of agreements of this kind. In the 1950s, following the launch of the Atoms for Peace programme, US legislation was changed to allow transfers, previously prohibited, of nuclear information, technology and materials. To ensure that transferred materials were used peacefully, the US proceeded to negotiate a series of bilateral nuclear cooperation agreements to provide a framework for supplying research reactors, fuel and other items.

These agreements included monitoring arrangements—the forerunner of current safeguards—under which reports were required on, for instance, supplied reactors. US inspectors could thereafter visit these facilities to confirm that they were used peacefully. By the time the IAEA was established, in 1957, the US had concluded more than 20 such agreements. Most of the US agreements anticipated that the safeguards function would be transferred to the IAEA in due course.

For completeness, mention should also be made of Euratom safeguards. Although regional rather than bilateral, they could be thought of as extended bilateral arrangements. Euratom safeguards pre-date the IAEA safeguards system, being based on the 1957 Euratom Treaty. The Euratom Safeguards Office applies inspection and other safeguards procedures, in recent years in collaboration with the IAEA. Other regional nuclear agreements—the Treaties of Tlatelolco (Latin America, 1967), Rarotonga (South Pacific, 1985), Bangkok (Southeast Asia, 1995), and Pelindaba (Africa, 1996)—all contain verification-related provisions, but in practice all have handed this function over to the IAEA.

The first IAEA safeguards procedures were initiated in 1959, to cover the transfer of a research reactor and its fuel to Japan. Subsequently, the IAEA's item-specific (or facility-specific) safeguards system developed successively, starting with research reactors. In developing the safeguards system, the IAEA built on the approach of the bilateral agreements, requiring declarations from the state that would then be verified through inspections. The safeguards function under the various bilateral agreements was gradually transferred to the IAEA, as anticipated. The current form of item-specific safeguards, set out in IAEA document INFCIRC/66/Rev.2., was established in 1968. This

is still employed today in the case of the non-NPT states, India, Israel and Pakistan, and is applied to specified facilities and materials in these countries.

From item-specific to comprehensive safeguards

What characterised these bilateral agreements and the first IAEA safeguards is that they were item-specific, that is, safeguards applied only to designated facilities and material. However, states were free to develop indigenous nuclear facilities entirely outside of the safeguards system and free of any peaceful use commitment. This was recognised as a limitation in the evolving non-proliferation regime. A key objective in the negotiation of the NPT was to bring all nuclear material and activities in a (non-nuclear-weapon) state under safeguards—what came to be termed 'full scope safeguards', or now 'comprehensive safeguards'. The NPT entered into force in 1970, and the IAEA's comprehensive safeguards system—set out in document INFCIRC/153—was agreed in 1972.

With the introduction of comprehensive safeguards in the 1970s, it might be thought that there were limited reasons for maintaining bilateral safeguards agreements. Yet, as will be discussed below, the IAEA's comprehensive safeguards do not cover all issues of interest or concern to supplier states. Consequently, in the 1970s, as adherence to the NPT was slow to spread, some nuclear suppliers looked to develop the bilateral mechanism further. In fact, it was not until 1995, in the lead-up to the NPT Review and Extension Conference, that the NPT became almost universal. Even so, some states with significant nuclear activities did not ratify the NPT until the late 1990s, and, as pointed out above, India, Israel and Pakistan remain outside it.

The continuance or introduction of bilateral safeguards agreements by certain states was also motivated, at least in part, by India's detonation of a 'peaceful nuclear explosive' in 1974. This was a major shock to the international community, especially to Canada, since the plutonium for this device had been produced using the Cirus research reactor that it had supplied in the 1950s. This led to a policy review by Canada and the development of detailed bilateral safeguards agreements to apply to future nuclear supply. Australia was not far behind: when the Australian government announced in 1977 that the country was prepared to enter the world market as a major uranium supplier, a detailed framework for bilateral safeguards agreements was unveiled, which was very similar to that of Canada.

Contemporary bilateral safeguards agreements: the Australian way

Since the Australian and Canadian approaches are very similar, and given that these in turn have been influenced by US practice, there is a large degree of commonality among the agreements of the three states. However, as the Australian agreements are most familiar to this author, they will serve to illustrate the general modus operandi of current bilateral safeguards agreements.

Australia's safeguards agreements aim to ensure:

- that Australian Obligated Nuclear Material (AONM) (that is, Australian uranium and nuclear material derived from it) is used for exclusively peaceful purposes and does not contribute to any military aim; and
- that AONM is appropriately accounted for as it moves through the nuclear fuel cycle.

In furtherance of these goals, Australia's agreements are designed to establish:

- legally binding peaceful use commitments for supplied material and items;
- consent rights on retransfers and certain activities; and
- a mechanism for identifying the material and items subject to the agreement.

With a specific exception (known as 'fallback safeguards'), the agreements do not provide for verification activities by the supplier state (in this case Australia). Instead, they operate on the understanding that IAEA safeguards apply. IAEA safeguards provide the technical verification in the state concerned and the bilateral agreement applies certain conditions to that part of the material in the state that is subject to bilateral obligations. In a nuclear-weapon state (NWS), the basic requirement is for 'obligated' material or items to be subject to the state's voluntary offer safeguards agreement (VOA) with the IAEA.

As regards nuclear material, the agreements' provisions apply to uranium imported from Australia and to subsequent generations of nuclear material produced from that uranium.

The principal provisions of Australia's bilateral agreements are as follows:

- AONM will be used only for peaceful purposes, and will not be used for any explosive or military purpose—the latter includes the creation of nuclear weapons, nuclear explosives, military propulsion systems and depleted uranium munitions, and the production of tritium for nuclear weapons;
- AONM is to be subject to the state's safeguards agreement with the IAEA;

- Australia's written consent will be required for the following actions:
 - ◆ transfers to third parties;
 - ◆ high enrichment (20 per cent or more U-235); and
 - ◆ reprocessing;
- fallback safeguards are to be utilized if IAEA safeguards cease to apply in the state concerned. If necessary this could involve safeguards procedures implemented by Australia;
- internationally agreed standards of physical security are to apply to nuclear material in the state concerned;
- detailed administrative arrangements are to be concluded between the implementing authority, the Australian Safeguards and Non-Proliferation Office (ASNO), and its counterpart, setting out the procedures to apply in accounting for, and reporting on, AONM; and
- there must be provision for the cessation of supply and the removal of AONM in the event of a breach of the agreement.

Currently Australia has 19 bilateral agreements, covering 36 countries plus Taiwan, China. The larger number of nations than agreements is due to the 1981 Australia/Euratom agreement, which covers all members of the European Union (EU). In addition, Australia has separate agreements with various EU states.

In the case of non-nuclear-weapon states, Australia will conclude an agreement only with a state in good standing under the NPT. Although the IAEA does not distinguish AONM from other nuclear material, the fact that comprehensive safeguards apply to all nuclear material in the country provides the basic assurance that the peaceful use commitment under the bilateral agreement is being met.

Australia has bilateral agreements with four of the nuclear-weapon states: France, Russia, the United Kingdom and the US. The agreement with Russia covers processing on behalf of third nations, but not use in Russia. Australia is presently discussing a possible agreement with China. As comprehensive safeguards do not apply to NWS, confidence that the agreement will be honoured is based on judgment, taking into account a number of considerations, including:

- the willingness of the state to make a legal commitment at treaty-level that AONM will be used for exclusively peaceful purposes;
- the safeguards arrangements that would apply—monitoring of AONM in a NWS is based on safeguards procedures applied at facilities where it is handled, in accordance with the state's safeguards agreement with the IAEA and administrative

arrangements concluded with Australia. ASNO cross-checks reports on AONM provided by the state for consistency with information from the IAEA and other sources; and

- the factual circumstances underpinning the agreement, that is:
 - ◆ Australian uranium is not supplied for unspecified uses—rather, it is bought by power utilities for electricity generation, and the facilities in which AONM is processed and utilized would be consistent with this;
 - ◆ the degree of separation of military and civil fuel cycles; and
 - ◆ whether production of fissile material for nuclear weapons has ceased. In this regard, four of the five NWS have announced a moratorium on fissile production for weapons, and such production ceased in the 1980s or 1990s. China has not made any formal announcement, but there are indications that it concluded fissile production for weapons in the early 1990s.

Is there still a place for bilateral safeguards agreements today?

With the overwhelming majority of states now party to the NPT, and with all non-nuclear-weapon states that are party to the NPT and have significant nuclear activities covered by comprehensive safeguards, it could be argued that bilateral agreements are no longer necessary. However, bilateral safeguards constitute an important complement to comprehensive safeguards, and cover some issues that comprehensive safeguards do not. For a start, the NWS are not subject to comprehensive IAEA safeguards, so bilateral agreements are the only way of applying peaceful use conditions to the supply of nuclear material and items to them.

Supplier states naturally reserve the right to be selective in who they will furnish. Not only will Australia not conclude an agreement with a nation in poor non-proliferation standing, but it is also determined to ensure there are no secondary transfers of AONM to such a country. Hence, the requirement

in Australia's agreements for prior consent for retransfers is very important. Bilateral agreements are the only way to control retransfers, since there is no comparable mechanism under IAEA safeguards.

Australia is also keen to limit the spread of proliferation-sensitive technologies (such as uranium enrichment and reprocessing technology), and to make certain that sensitive materials—high enriched uranium (HEU) and separated plutonium—are held appropriately. Australia takes into account both the security (physical protection) standards that will apply to sensitive materials and whether there are any policy concerns about having such materials in the particular state. Accordingly, the requirement for prior consent for high enrichment and reprocessing is also very important—and again there is no comparable mechanism under IAEA safeguards.

Conclusion

Contemporary bilateral safeguards agreements relate more to conditions of nuclear supply than to verification, taking advantage of IAEA safeguards as an essential foundation. Bilateral agreements, though, make a major contribution to establishing the international confidence and stability that are essential for nuclear cooperation and supply. Historically bilateral safeguards agreements have fulfilled an important need in international nuclear relations, and they can be expected to continue to do so.

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Other VERTIC publications on related themes include:

- Andreas Persbo, 'An overview of the evolution, operation and status of nuclear safeguards', ODI, London, October 2005;
- Kenneth Boutin, '93+10': Strengthened Safeguards a decade on', VERTIC Brief, No. 2, VERTIC, London, April 2004;
- David Fischer, 'Nuclear safeguards: evolution and future', *Verification Yearbook 2000*, VERTIC, London, 2000.

The Aceh Monitoring Mission: a new verification role for the EU?

On 15 August 2005, the government of Indonesia (GOI) and the Free Aceh Movement (GAM) signed a Memorandum of Understanding (MOU), effectively ending one of the longest armed conflicts in Asia. Under the peace agreement, facilitated by the Crisis Management Initiative (CMI), an independent Finnish non-governmental organization (NGO), the parties agreed on substantial autonomy for Aceh. In addition, the MOU called for an immediate ceasefire, declared an amnesty for GAM forces, provided for the demobilization of weapons and the reintegration of GAM troops into society, directed the withdrawal of non-local GOI police and military personnel from Aceh, and charted significant political and legal changes to be enacted by the GOI.

The MOU also specified that an Aceh Monitoring Mission (AMM), established by the EU and several members of the Association of Southeast Asian Nations (ASEAN) (Brunei, Malaysia, the Philippines, Singapore and Thailand), would monitor implementation of the peace agreement. The AMM is designed to respond maximally to the needs of the former adversaries. It is intended to make available the most credible verification possible without exacerbating tensions over a possible 'internationalization' of the Aceh conflict. Compared to many traditional observation missions, the AMM constitutes a flexible approach to verification. Following operations in Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Georgia and the Democratic Republic of the Congo, this is the first EU European Security and Defence Policy (ESDP) mission in Asia.

Pieter Feith of the EU Council Secretariat leads the AMM. Lieutenant-General Nipat Thonglek, former Deputy Director of the Policy and Planning Division of Thailand's Ministry of Defence, acts as principal deputy. Presently, the AMM comprises some 230 unarmed personnel (130 from European countries and 100 from ASEAN states). They are distributed in mixed teams throughout 11 district offices and four mobile decommissioning teams, with an operational headquarters in Banda Aceh. The mission is a civilian one funded through the EU Common Foreign and Security Policy (CFSP) and contributions from EU and ASEAN participating states. The budget is around €15 million. The mission's mandate expires on 15 March 2006.

Striving to find the neutral third party

At first sight, the choice of the EU, instead of the United Nations (UN), as external monitor of the Aceh peace agreement seems remarkable, especially given the UN's intense engagement in Indonesia on a range of issues, including peace operations. In 1999, the UN Security Council (UNSC) authorized an Australian-led force to intervene militarily in the then-Indonesian province of East Timor. Subsequently, the UN assumed legal authority for East Timor and facilitated the establishment of a sovereign state virtually from the ground up. UN agencies have also been active in rebuilding Aceh following the tsunami of 24 December 2004. Yet, despite such intervention, the UNSC has largely steered clear of the Aceh conflict—for example, there is no UNSC resolution explicitly authorizing the AMM. Instead, the UN has assumed an unofficial role in the peace process, with UN agencies quietly assisting the GOI with implementing the MOU, but playing no part in the monitoring process.

The UN's position has been determined in part by its standing in Indonesian society. Following the intervention in East Timor, many Indonesians disputed the UN's independence and impartiality; the GOI, therefore, has been doing all it can to ensure that the Aceh peace process is perceived as a wholly local affair. Due to the stance and perception of the parties involved, the UN has not been viewed as the optimally neutral third party. In fact, the GOI has asked UN agencies, as well as other international organizations working in Aceh, to operate discretely and not to display their official insignia.

However, and unlike UN involvement, the engagement of the EU and its ASEAN partners has been sought and welcomed by both parties. The deployment of the AMM followed an official invitation from the GOI addressed to the EU and the five ASEAN contributing countries. The GAM leadership has also expressed its full support for such a mission. Furthermore, on 16 August 2005, Indonesian President Susilo Bambang Yudhoyono expressly stated that 'the presence of foreign monitors from the EU and ASEAN to monitor the implementation of the Memorandum of Understanding is not foreign interference in our domestic affairs'. Although the choice and characterization of the EU monitoring mission by the GOI may be due in part to Indonesia's difficult relationship with the UN, it is also a result of

EU efforts to establish itself as an impartial independent observer, willing to address the concerns of the former belligerents. This can be seen through an examination of the AMM's mandate and methodology.

Responsibilities of the AMM

The EU Council Joint Action 2005/643/CFSP established the AMM on 9 September 2005. Under this arrangement, the EU leads the AMM; associated ASEAN countries take part through the framework provided by the EU. Although the Joint Action constitutes the legal authority for the EU's involvement in the AMM, the mission's mandate is taken almost verbatim from the peace agreement itself. The EU has taken on the role accorded to it by the parties themselves and has done so following their request to participate.

The AMM became fully operational on 15 September 2005. Its overall mission is to monitor implementation of the commitments entered into by GAM and the GOI. The mission also has eight specific tasks:

1. to monitor the demobilization of GAM and to monitor and assist with the decommissioning and destruction of its weapons, ammunition and explosives;
2. to monitor the relocation of non-organic (non-local) military forces and non-organic police troops;
3. to monitor the reintegration of active GAM members;
4. to monitor the human rights situation and to provide assistance in this field in the context of the responsibilities set out in points 1, 2 and 3;
5. to monitor the process of legislation change;
6. to rule on disputed amnesty cases;
7. to investigate and rule on complaints and alleged violations of the MOU; and
8. to establish and maintain liaison and ensure good cooperation with the parties.

Naturally, the AMM will not take on facilitation or negotiation roles that go beyond its mandate. Should such action be required during the implementation process, it will be the responsibility of the two parties and the original facilitator: the CMI.

Differences between EU and UN monitoring approaches

What are the advantages of having a European Union monitoring mission? What would a comparably sized United Nations mission look like? While the EU's approach, under the AMM, has many similarities with comparably sized UN observation

missions, there are a number of areas of significant difference. These similarities and differences are explored below.

First, the close match between the AMM's mandate and the wishes of the parties, represented by the MOU, is in marked contrast to the mandates of a number of UN observation missions of a similar size. While some, such as the United Nations Mission of Observers in Tajikistan (UNMOT), are based on the express will of the parties involved, others are not. For example, the United Nations Iraq–Kuwait Observation Mission (UNIKOM) monitored a demilitarized zone established by the UN itself under a coercive Chapter VII mandate. Similarly, for the United Nations Iraq–Iran Military Observer Group (UNIIMOG), the UNSC first demanded that the parties commit to a ceasefire, and then created the mission to observe it. Even in the case of UNMOT, the Security Council made the continuation of the mission conditional on external criteria set by the UNSC itself, rather than by the parties. By contrast, the AMM's mandate merely commits the EU to an evaluation of the mission and lists no conditions for an extension of the mandate.

The AMM exhibits similar flexibility when it comes to personnel. Although the EU Joint Action sets out a specific mission structure, it does not specify precise staffing levels. Rather, it builds flexibility directly into the mandate by stating that staffing levels will be 'consistent' with the mission's mandate and structure. As above, UN missions fall on a continuum when it comes to the specification of mission strength. Some operations, such as the United Nations Observer Mission in Georgia (UNOMIG), specify precise staffing levels directly in the Security Council mandate. Even those UNSC resolutions establishing a mission that do not explicitly state a maximum mission strength, often include a reference to a UN Secretary-General report, which in turn does specify precise staffing levels.

In terms of the speed and flexibility of personnel deployment, the AMM stands up well to the UN's best practices. Although the AMM did not officially commence until 15 September 2005, 80 EU and ASEAN observers were dispatched one month earlier, following the signing of the MOU. This 'Initial Monitoring Presence' was requested by both parties, and was seen as an early demonstration of EU and ASEAN commitment to the peace process and an important confidence-building element. While such flexibility in advance deployment has occurred in UN missions, such as UNMOT—the UN dispatched an advance team of monitors prior to full deployment based on recommendations by the president of the UNSC—in other cases, including UNOMIG, a Security Council resolution was required to authorize the advance deployment.

In terms of the nature of personnel, the EU approach in this mission differs from standard UN practice. The AMM consists of civilian experts from EU member states, Norway, Switzerland and the ASEAN countries. It is headed by a civilian seconded from the EU's Council Secretariat, who reports to the EU's Political and Security Committee, which has overall strategic control over the mission. As per the MOU, all mission personnel are unarmed, and security is provided by the GOI. The civilian nature of the AMM stands in contrast to UN observation missions, which to date have involved predominantly military personnel (mainly unarmed).

The AMM is carefully crafted to allay any concerns over foreign meddling in Indonesian domestic affairs. A good indicator of this intent is mission attire. AMM personnel wear white Polo shirts with 'AMM' monogrammed on the sleeve, and do not display patches or other markings to identify their nationality. These uniforms are in line with the GOI request that all international organizations in Aceh refrain from exhibiting their organizational insignia. Again, this aspect of the AMM contrasts with the UN and with previous EU operations.

The EU's current mission has a highly flexible and adaptable operational capacity. UN missions can be more inflexible due to the involvement of the UNSC. In the case of the AMM, the EU is willing to go to great lengths to accommodate the wishes of its hosts. Acknowledging this level of concern for local interests brings out one more crucial point of comparison. Unlike the UN, the EU cannot authorize any infringement on the sovereignty of other states. As noted above, the GOI is well aware of that. In East Timor, a purely political UN mission developed into a full-scale coercive intervention, resulting in the transfer of the province from Indonesian to UN control, and then to full independence. Although the Treaty of the European Union allows for peace enforcement deployments, the EU cannot lawfully deploy without either an invitation from the host state or authorization by the UNSC.

Ramifications for the future

As of early 2006, the AMM is proceeding well, with good progress being made in decommissioning and relocation

activities. On 19 December 2005, Feith reported the completion of the fourth and last decommissioning phase and declared that GAM had met its MOU obligations. Shortly thereafter, on 29 December 2005, Indonesian troops left Aceh, in accordance with the deadline stipulated in the MOU. Indonesian police officers were required to leave before the end of 2005, but departed on 4 January 2006. The slight delay, reported to the AMM, was due to technical problems with transport vessels.

The success or failure of the AMM will have ramifications that extend beyond Indonesia. If the European Union is able to monitor implementation of the Aceh peace agreement to the satisfaction of the parties, this will further bolster its credibility as an independent and impartial monitor. Indeed, the employment of the low profile, invitation-only format of the AMM model underlines the EU's potential and willingness to act in instances where concerns over state sovereignty are heightened. Interest in the EU playing the role of third-party neutral in such circumstances already appears to be spreading. In November 2005, an EU monitoring team was dispatched, at the request of Israel and the Palestinian Authority (PA), to oversee the operation of the Rafah crossing point between the Gaza Strip and Egypt. One of the tasks of that mission is to monitor, verify and evaluate the PA's performance with regard to implementation of the so-called Agreed Principles for Rafah Crossing.

Despite the potentially positive aspects of the AMM format of peace agreement verification, the low profile, invitation-only approach also has its limitations. Under such mandates, EU staff may well not be equipped or trained to defend themselves or civilians in the case of a sudden resumption of hostilities. Therefore, the deployment of such missions requires a relative calm in the area of operations. The Aceh model is not suitable for peace enforcement or peacemaking operations, even where EU personnel would play supporting parts. Despite these important limitations, however, the course of events in Aceh will be scrutinized widely and will have no doubt great influence on the EU's future role in peace agreement verification.

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Forthcoming VERTIC peace and human security programme publication:

- Andrew Piner, 'Verification of an Israeli-Palestinian final status agreement', VERTIC Brief, early March 2006.



Iran moves closer to the brink

On 7 January 2006, Iran requested that the International Atomic Energy Agency remove specified seals at the uranium enrichment facility at Natanz and at two related storage and testing locations: the Pars Trash Company in Tehran and the Farayand Technique in Esfahan. The seals covered P-1 centrifuge components, maraging steel, high strength aluminium and centrifuge quality control and manufacturing equipment. Seals were also removed from two cylinders containing uranium hexafluoride located at Natanz and from some process hardware situated at the Pilot Fuel Enrichment Plant (PFEP), Natanz.

According to Iran, the intended scale of the 'research and development' is small and will be carried out at the PFEP. Iran has also informed the agency that it plans to install small-scale gas ultra-centrifuge cascades at the PFEP and that, during this 'research and development', UF_6 gas will be fed into these cascades for research purposes. In addition, Iran indicated that these activities may involve, inter alia, the manufacturing of a limited number of new components, currently planned only for P-1 centrifuges. The cascade hall and the UF_6 feed and withdrawal stations at the PFEP will remain covered by IAEA containment and surveillance measures.

IAEA Director General Mohamed ElBaradei has expressed serious concern about Iran's decision to unravel the suspension of enrichment-related activities requested by the IAEA Board of Governors before the agency has clarified the nature of the country's nuclear programme. Although the IAEA has been investigating Iran's nuclear programme for three years, a number of important issues relevant to its nature and scope remain outstanding due to the less than full and prompt transparency on the part of Iran. Unresolved questions remain concerning the nature and scope of Iran's P-2 centrifuge programme and the presence of low enriched uranium and high enriched uranium contamination identified at various locations in Iran.

ElBaradei expressed the opinion that maintaining the suspension of enrichment processes, resuming the dialogue with all concerned parties and ensuring the necessary degree of cooperation and transparency in dealings with the IAEA were conditions for a comprehensive and equitable solution that would guarantee Iran's right to engage in peaceful nuclear activities while assuring the international community of the peaceful nature of its nuclear programme.

The E-3 (France, Germany and the UK) has reacted with profound concern to the recent announcements by the Iranian government, and a US government spokesperson has stated that if Iran continues on its present course, there will be no choice but to refer the matter to the UNSC for possible sanctions. The outcome of such a referral, however, is unclear, as it would depend on the positions of the other permanent members of the Security Council.

Sources: IAEA reports by the Director General on 'Implementation of the NPT safeguards agreement in the Islamic Republic of Iran', www.iaea.org; IAEA, 'Iran begins removal of IAEA seals at enrichment-related locations', Press Release 2006/02, 10 January 2006, www.iaea.org; German Ministry of Foreign Affairs, 'E3/EU statement on the Iran nuclear issue, Berlin', 12 January 2006, www.auswaertiges-amt.de; French Ministry of Foreign Affairs, 'Statements made by the Ministry of Foreign Affairs spokesperson', 4 January 2006, www.diplomatie.gouv.fr; Russian Ministry of Foreign Affairs, Press Release No. 10, 10 January 2006, www.ln.mid.ru; Chinese Ministry of Foreign Affairs, 'Spokesman Kong Quan's regular press conference', 10 January 2006, www.fmprc.gov.cn; Associated Press, 'Iran defiant as sanctions from west likely', 11 January 2006, www.ap.org.

Climate change advances

The eleventh Conference of Parties (COP) to the 1992 United Nations Framework Convention on Climate Change (UNFCCC) took place between 28 November and 9 December 2005, in Montreal, Canada, in conjunction with the first Meeting of Parties (MOP) to the 1997 Kyoto Protocol. Decisions taken at this COP/MOP meeting represent a significant step forward in global efforts to tackle climate change, particularly with regard to bringing the Kyoto Protocol 'online'.

The Kyoto Protocol provides the framework for the international community—albeit with some notable exceptions, such as Australia and the US—to address climate change by establishing emissions reduction targets and timetables, a set of economic instruments and a wide-ranging verification system, including monitoring, reporting, review processes and compliance procedures.

Although the Kyoto Protocol entered into force on 16 February 2005 it was not until the COP/MOP that it was made fully operational as a result of the adoption of the so-called Marrakesh Accords—the protocol's 'rule book'—which provide details on how it will be implemented.

Furthermore, COP/MOP 1 also adopted the procedures and mechanisms required to ensure compliance under the protocol. States parties also agreed to commence ‘consideration’ of the issue of an amendment to the protocol intended to strengthen further these compliance procedures and mechanisms. (For a detailed analysis of this issue see ‘Adoption of the procedures and mechanisms relating to compliance: a guide’, VERTIC Brief, No. 5, which was launched at COP/MOP 1.)

Looking to the future, parties to the protocol agreed to start discussions on commitments for industrialized parties beyond 2012, which sees the end of the first Kyoto Protocol commitment period.

The next edition of *Trust and Verify* will contain an in depth review of the COP/MOP and analyze its implications for verification in this area.

Tenth session of the Conference of States Parties to the CWC

From 7–11 November 2005, states parties to the 1993 Chemical Weapons Convention (CWC) convened the tenth session of the Conference of States Parties (CSP-10) in The Hague, Netherlands.

National implementation was an important item of business, with the deadline for the Article VII Plan of Action coinciding with this conference session. The Plan of Action was originally adopted at the conference’s eighth session in 2003 and called for full implementation of Article VII—which concerns the implementation of specific legislative measures at the national level—by the conference’s tenth session.

Under the CWC, states parties are required to inform the Organisation for the Prohibition of Chemical Weapons (OPCW) of the progress made in fulfilling key obligations, particularly the establishment of a National Authority and the legislative and administrative measures undertaken to implement the convention. At the time the Plan of Action was adopted approximately 19 per cent of states parties had not established a National Authority, 39 per cent had not submitted their national implementation legislation and 67 per cent had not filed comprehensive implementation legislation. As of the time of CSP-10, these figures stood at approximately 16, 40 and 66 per cent, respectively.

When considering true levels of action, however, two points of significance should be noted. First, in the initial two-year period of the Plan of Action, membership of the CWC increased from 155 to 174 states parties. Second, in an OPCW note to the conference it was reported that 107 states parties had requested

assistance under the Plan of Action during its initial period, which they received from the OPCW Secretariat. Forms of assistance included technical-assistance visits, legislative assistance, and regional, sub-regional and thematic workshops and training courses.

What this indicates is that the plan is working and that progress has been made, although not to the timelines required. It is for this reason that states parties at CSP-10 decided to grant in effect a one-year extension to the implementation deadline initially set in the Plan of Action, but with some qualifications.

Under the ‘follow-up’ to the Plan of Action, states parties were urged to inform the OPCW of the designation or establishment of a National Authority by the time of the Executive Council’s forty-fifth session in May 2006, and of the steps they have taken to enact legislation (covering all key areas) by the time of the Executive Council’s forty-seventh session in November 2006. According to the renewed schedule, all parties are to be in full compliance by CSP-11, which has been pushed back to December 2006 so that the council has time to review information received at its forty-seventh session.

Furthermore, all states concerned were urged to devise a realistic plan containing target dates for when they expect to have met their obligations under Article VII—in line with the final deadline of CSP-11—which was to be submitted to the OPCW preferably by the end of 2005. In addition, states were asked to inform the OPCW of difficulties they may have in adopting the required national implementation measures and to provide details of their assistance requirements, also by the end of 2005 preferably.

In the meantime, as an extra impetus, the conference decided that, under the follow-up plan, the contact information for each National Authority will be published on the OPCW website. This will be alongside information concerning entry into force of the CWC for that state party—establishment or designation of a National Authority generally represents the first stage in implementing the CWC at the national level. For the 27 states parties that have yet to do this, the website will serve as a specific indicator of progress made on this front by each party.

Sources: ‘Plan of Action regarding the implementation of Article VII obligations’, C-8/DEC.16, 24 October 2003, www.opcw.org; *Report on the Plan of Action regarding the implementation of Article VII obligations*, C-10/DG.4/Rev.1, 2 November 2005; ‘Follow-up to the Plan of Action regarding the implementation of Article VII obligations’, C-10/DEC/CRP.15, 15 November 2005.

IAEA General Conference convenes

More than 100 states attended the forty-ninth General Conference of the IAEA held in Vienna, Austria, from 26–30 September 2005. The meeting brought agency member states together to consider and approve the organization's programme and budget. The meeting also discussed a number of challenges facing the IAEA today.

Reviewing the Additional Protocol and safeguards integration

At the time of the conference, 67 states had brought their Additional Protocols into force, compared to 59 in 2004. While this was a welcome development, and constituted evidence that the agency's safeguards implementation plan was helping to bring about steady progress towards universalization, some 70 states, including several with significant nuclear activities, had still to sign. Moreover, 37 NPT states parties had yet to bring the treaty's required Comprehensive Safeguards Agreement into force. The General Conference acknowledged this, and although it welcomed recent progress, it called for all states concerned to sign their Additional Protocol promptly.

Meanwhile, the agency is continuing its important work to develop so-called Integrated Safeguards (which combine measures of Comprehensive Safeguards Agreements and Additional Protocols). Reviews of the safeguards programme carried out during 2003–04 found that Integrated Safeguards offer the best opportunity to increase the effectiveness and cost-efficiency of the safeguards system as a whole. In 2004, Integrated Safeguards were implemented in Australia, Indonesia and Norway and were initiated in Hungary, Japan and Uzbekistan. However, as implementation of Integrated Safeguards was initiated in only one state with a large nuclear fuel cycle (Japan), the savings resulting from implementation were modest. The General Conference requested the Secretariat to continue to extend the implementation of Integrated Safeguards on a priority basis. It also urged it to continue to study the extent to which the credible assurance of the absence of undeclared nuclear material and activities in a state as a whole could lead to a corresponding reduction both in the current level of verification efforts vis-à-vis declared nuclear material in that state and in the costs associated with such efforts.

Intensification of verification activities expected

The IAEA foresees an intensification of a number of verification activities in the next two years. Among other things, the agency highlighted the implementation of Additional Protocols and the anticipated reorientation of Euratom in its budget plans.

Additional Protocols are being implemented in an increasing number of states. Initial declarations will require a significant effort in terms of verification, analysis and evaluation to enable the IAEA to implement Integrated Safeguards at a later stage. The organization also expects its verification activities in Euratom states (which host a large number of nuclear facilities) to rise significantly, since Euratom is expected to change its mission and role with regard to the nuclear non-proliferation regime. For these reasons, inter alia, the proposed budget for 2006 reflected an increase of some €5 million over that of 2005.

Considerable extra-budgetary funds will also be directed towards the provision of safeguards instrumentation (€5.9 million for 2006–07). Extra-budgetary funds also will be directed towards verification activities in the five NWS (€1.8 million for 2006–07). In terms of development and support, the IAEA budget provides for a significant rise in information support for the strengthened safeguards system (around €1.5 million). This augmentation reflects the increased importance attached to the collection and analysis of open-source information, including satellite imagery. On its final day, the General Conference earmarked approximately €106 million for the agency's work on nuclear verification. The regular budget appropriations were around €274 million.

Looking at states of concern

The conference noted with serious concern the North Korean statement of 10 February 2005, in which it announced that it had manufactured nuclear weapons. It endorsed the Secretariat's efforts to apply comprehensive nuclear safeguards in North Korea and welcomed promising developments in the six-party talks. While Iran featured prominently in the plenary, the conference did not take a specific decision on its nuclear programme.

Sources: IAEA General Conference, 'Regular budget appropriations for 2006', GC(49)/RES/5, September 2005, www.iaea.org; IAEA General Conference, 'The agency's programme and budget 2006–2007', GC(49)/2, July 2005, www.iaea.org; IAEA General Conference, 'Strengthening the effectiveness and improving the efficiency of the safeguards system including implementation of Additional Protocols', GC(49)/9, 22 July 2005, www.iaea.org; IAEA General Conference, 'Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Additional Protocol', GC(49)/RES/13, www.iaea.org; IAEA General Conference, 'Implementation of the NPT safeguards agreement between the agency and the Democratic People's Republic of Korea', GC(49)/RES/14, www.iaea.org. See also Jill N. Cooley, 'Integrated nuclear safeguards: genesis and evolution', *Verification Yearbook 2003*, VERTIC, London, December 2003, pp. 29–44.

WMD national implementation measures project seminars in London and Geneva

VERTIC held seminars in London and Geneva, Switzerland, in late 2005, the first two of six events under its 'Building capacity to implement nuclear and biological weapons treaties, norms and related UN Security Council resolutions' project. Funded in the initial stage by the UK government's Global Opportunities Fund, this project is designed to improve national implementation of weapons of mass destruction (WMD) treaties and norms, especially those controlling nuclear and biological weapons, as the OPCW actively promotes national implementation of the CWC.

VERTIC's project is intended to:

- raise awareness of national implementation requirements among states, civil society, regional organizations and relevant international bodies;
- increase awareness of national systems necessary to ensure timely and effective national implementation; and
- enhance the capacity of states to implement effective national measures (in particular, criminal law, export controls, bio-safety/bio-security measures and nuclear safety and security initiatives).

VERTIC's planned activities under the project include three awareness-raising seminars on the margins of major treaty conferences in Geneva (see below), New York and Vienna. VERTIC will also hold two regional workshops for states in 2006, probably in the Middle East and Southeast Asia.

On 29 November 2005, VERTIC invited 14 expert representatives from international organizations, government ministries and civil society to a closed seminar in London, to discuss the training materials it is developing as a core element of the project. These will include:

- a guide to national implementation measures for nuclear, biological and chemical weapons treaties and related UNSC resolutions;
- model laws and legislative provisions; and
- a CD-ROM with treaty texts and reference materials.

The materials will be widely distributed to states and available for download free from a WMD national implementation measures website to be developed and maintained by VERTIC. Under a future project, VERTIC also intends to develop a database of national implementing measures based on the results of a global assessment survey.

Errata and update

Trust & Verify ran an article on the Small Quantities Protocol (SQP) in its July–September 2005 issue. Unfortunately, this article contained some incorrect information. Specifically, while the US had concerns about the SQP in general, it did not oppose, as reported, the approval of Saudi Arabia's SQP at the 16 June meeting of the IAEA Board of Governors.

The discussion on the function of the SQP also needs to be clarified: under an SQP, states are only required to declare the introduction of materials into a facility in advance. They are not compelled, as stated in the article, to declare the facility itself. The article should also have mentioned that the IAEA still may evaluate open-source information on a state's nuclear activities.

Finally, the article should have said that the Board of Governors has the legal right to refuse approval of any safeguards agreement, including SQPs.

The editor of *Trust & Verify* strives to provide accurate information to readers and therefore apologizes for any mischaracterization of the operation of the SQP. VERTIC is grateful to the *Trust & Verify* readership for pointing out factual inconsistencies in reporting and encourages readers to continue to do so, should the need arise.

On 20 September 2005, subsequent to the publication of the article, the IAEA Board of Governors decided that SQPs should remain part of the safeguards system. However, it approved a modification of the standardized SQP text, which had the effect of making an SQP unavailable to a state with a planned or existing facility. The decision also required states to provide initial reports on nuclear material and early design information and to allow inspections. All states with existing SQPs that already have a facility, or have taken the decision to build a facility or have authorized the construction of one, are now called upon to rescind their SQPs. States that continue to qualify for an SQP under the revised conditions are invited to amend their existing SQPs in accordance with the modified text.

On 9 December 2005, VERTIC held an awareness-raising seminar on 'Technical assistance for BWC implementation' on the margins of the 2006 Meeting of States Parties to the 1972 Biological Weapons Convention (BWC) in Geneva. Angela Woodward, VERTIC's Deputy Director and Arms Control and Disarmament Researcher (Chemical and Biological), described the project and the 'Biological and Toxin Weapons Crimes Act', a model law developed by VERTIC and the International Committee of the Red Cross. Andreas Persbo, VERTIC's Arms Control and Disarmament Researcher (Nuclear), examined the role of technical assistance in the adoption of appropriate and effective national measures. Adrian Baciu, Coordinator of the BioTerrorism Prevention Programme at the International Criminal Police Organization (Interpol), discussed 'Bio-terrorism prevention through international cooperation', highlighting Interpol's project to provide technical assistance and training for law enforcement in this regard. Some 50 people attended the seminar at the Palais des Nations in Geneva.

International interest in WMD national implementation measures is particularly high following the passing of UN Security Council Resolution (UNSCR) 1540 in April 2004. This resolution reiterates the need for states parties to establish effective domestic controls to comply with WMD treaties and calls on all states to adopt and enforce laws to effectively prevent non-state actors from proliferating nuclear, chemical and biological weapons, related materials and delivery systems.

Presentations from both seminars are available under the 'What's new' section on the VERTIC website.

Ford Foundation awards VERTIC grant to assess UNSCR 1540

The Ford Foundation recently awarded VERTIC a grant of US\$125,000 to undertake research to assess how effectively states are implementing their obligations under UNSCR 1540. Michael Crowley, Angela Woodward and Andreas Persbo will lead the project.

building trust through verification

VERTIC is the Verification Research, Training and Information Centre, an independent, non-profit making, non-governmental organization. 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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