

III. The export control regimes

SIBYLLE BAUER AND GIOVANNA MALETTA

In 2016, participants in the four multilateral export control regimes—the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG) and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies (Wassenaar Arrangement, WA)—updated their guidance on trade controls on goods and technologies that have uses in connection with chemical, biological, nuclear and conventional weapons.¹ These politically binding agreements (see table 15.3) operate by consensus and are implemented and enforced through national and regional laws.² The regimes also have an important norm-setting function as an ever-increasing number of non-members apply the regimes' control lists and standards.

Government representatives from policy, licensing, enforcement, technical and intelligence backgrounds meet annually in different groupings within the regimes and report to the respective plenary, which decides on list changes, and issues guidance and good practice documents. The regime chair rotates among participating states on an annual basis, except for the AG, which has since its establishment been chaired by Australia. The chairs of the various sub-bodies usually serve for a number of years and are agreed by consensus. The WA is the only regime with a standing permanent secretariat with a head and support staff.

Although the current terminology of the regimes remains focused on export controls, brokering, transit and trans-shipment are also increasingly being brought within the scope of controls and made the subject of expert group and plenary discussions, as are intangible transfers of technology and emerging technologies such as 3D printing, given that many exports are now transmitted rather than transported. The dominant cross-regime themes in 2016 were adjusting to technological developments, engagement with non-participating states and membership expansion. In 2016, India succeeded in joining the MTCR and continued its efforts to join the NSG in particular, but also the AG and the WA. None of the other regimes admitted new members.

¹ For brief descriptions and lists of the participating states in each of these regimes see annex B, section III, in this volume.

² They are also legally binding on the EU member states through the EU Dual-use Regulation, although not all of them participate in all the regimes. 'Council Regulation (EC) no. 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items', *Official Journal of the European Union*, L134, 29 May 2009.

Table 15.3. The four multilateral export control regimes and the Hague Code of Conduct

	Scope	No. of participants	2016 plenary	2016 Chair	Year established
Australia Group	Materials, technology and software that could contribute to chemical and biological weapons activities	42	6–10 June, Paris	Australia	1985
Missile Technology Control Regime	Unmanned aerial vehicles capable of delivering weapons of mass destruction	35	19–21 Oct., Busan, Republic of Korea	Republic of Korea	1987
The Hague Code of Conduct against Ballistic Missile Proliferation	Ballistic missiles able to carry weapons of mass destruction	138	2–3 June, Vienna	Kazakhstan	2002
Nuclear Suppliers Group	Nuclear and nuclear-related materials, software and technology	48	23–24 June, Seoul	Republic of Korea	1974
Wassenaar Arrangement	Conventional arms and dual-use goods and technologies	41	6–8 Dec., Vienna	Finland	1995

Sources: See various regime websites: Australia Group, <<http://www.australiagroup.net/en/>>; Missile Technology Control Regime, <<http://mtrc.info/>>; The Hague Code of Conduct against Ballistic Missile Proliferation, <<https://www.nonproliferation.eu/hcoc/>>; Nuclear Suppliers Group, <<http://www.nuclearsuppliersgroup.org/en/>>; and Wassenaar Arrangement, <<http://www.wassenaar.org/>>.

The Australia Group

The 42 AG participants seek to ‘allow exporting or transshipping countries to minimise the risk of assisting chemical and biological weapon (CBW) proliferation’.³ More specifically, the AG seeks to achieve this objective by ‘harmonising participating countries’ national export licensing measures’.⁴ Since its establishment after the use of chemical weapons in the 1980–88 Iran–Iraq War, its coverage has been expanded to materials, equipment and technology that can be used in connection with biological weapons. However, unlike the list annexed to the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (CWC), it covers both chemicals and production equipment and technology.

After nearly 30 years with no uses of chemical weapons, the 2016 AG plenary, as in 2015, reflected on the implications of the alleged and actual

³ The Australia Group, ‘The Australia Group: an introduction’, [n.d.].

⁴ The Australia Group (note 3), p. 7.

use of chemical weapons in Iraq and Syria.⁵ As in 2015, specific concern was also expressed about chemical and biological weapon-related activities in the Democratic People's Republic of Korea (DPRK, or North Korea).⁶ The plenary made explicit links to the 1972 Biological and Toxin Weapons Convention (BTWC) and the CWC, which, together with the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, create the normative and international legal foundations for the objectives of the regime, and emphasized the Group's practical contributions to the implementation of the conventions. The AG plenary urged the November 2016 BTWC Review Conference to strengthen implementation of article III, which refers to the commitment of the states parties 'not to transfer to any recipient' and 'not to encourage' the production or acquisition of 'any of the agents, toxins, weapons, equipment or means of delivery specified in article I' of the BTWC. More specifically, the AG urged it to elaborate the 'elements necessary for the "effective national export controls systems" called for by the 8th Review Conference'. With the exception of a number of procedural issues, however, the Conference was unable to reach consensus on any draft decisions or proposals for an intersessional programme of work.⁷

In 2016 a new category of 'AG adherents' was created on the AG website, to complement the list of AG participants.⁸ As part of its engagement with non-participating states, in particular in Latin America and the Caribbean, the 2016 plenary decided to hold the next Intersessional Implementation Meeting, the New and Evolving Technologies Experts' Meeting and its Dialogue with Non-members in Argentina.⁹ It also agreed to strengthen outreach to relevant international forums and, more generally, to 'continue an active program of international outreach and engagement in 2016–17'. In addition, the AG made outreach visits to Hong Kong and Taiwan in 2016.

As a result of discussions on evolving threats and changes in procurement practices and technologies, it was agreed to focus on: emerging technologies, such as additive- or 3D-printing technology or advances in biotechnology; intangible transfers of technology through means such as cloud computing and sharing of know-how in person; procurement of items that are not included on the control lists; online procurement; trans-shipment; and impeding biological and chemical terrorism. A continued focus will be placed on outreach to industry and academia.

⁵ On allegations of chemical weapon use in Iraq and Syria see chapter 13, sections I and II, in this volume.

⁶ The Australia Group, 'Statement by the Chair of the 2016 Australia Group Plenary', Press release, 10 June 2016.

⁷ On the BTWC Review Conference see chapter 13, section IV, in this volume.

⁸ The Australia Group, 'Australia Group Adherents', [n.d.].

⁹ The Australia Group (note 6).

The EU hosted the AG's intersessional meeting on 1–2 February 2016 at the European Commission in Brussels. This was the first time that the EU had hosted a meeting of an export control regime. The meeting 'focused on adjustments to Australia Group control lists and on new challenges associated with synthetic biology', which was discussed further in the 2016 plenary meeting.¹⁰ The annual revision of the list of chemical and biological items by technical experts resulted in the addition, among other things, of the SARS-related coronavirus and a reconstructed 1918 influenza virus.

The Missile Technology Control Regime

The MTCR was established in 1987 to prevent the proliferation of unmanned systems capable of delivering nuclear weapons and unmanned aerial vehicles capable of delivering nuclear, biological or chemical weapons.¹¹ At its annual plenary meeting in Busan, Republic of Korea (South Korea), on 19–21 October 2016, the host country assumed the rotating Chair.¹² This was the second time an Asian country had hosted the plenary (the previous time was in 2004, also in South Korea).

India participated in an MTCR plenary for the first time, having joined the regime on 27 June 2016 after an intersessional silent procedure—the first new member since 2004.¹³ India had formally applied for MTCR membership in 2015 and invested considerable diplomatic effort to secure support, given that this required a consensus decision.¹⁴ These efforts gained momentum in early June 2016, when India also joined The Hague Code of Conduct against Ballistic Missile Proliferation (HCOB). Italy withdrew its objections to India's MTCR membership, which were reportedly linked to an unrelated matter.¹⁵ Allegations of a secret deal between India and Italy were denied by both governments but Italian support appeared to be contingent on positive progress on the Italian marines' dispute.¹⁶ India's interest in joining the MTCR can be attributed to a combination of factors, such as prestige, membership being a stepping stone to joining the NSG, which is a

¹⁰ European Commission, *EU P2P Newsletter*, no. 1, (Feb. 2016).

¹¹ For further details see the MTCR website, <<http://www.mtcr.info>>.

¹² MTCR, 'Public Statement from the Plenary Meeting of the Missile Technology Control Regime (MTCR)', Press release, Busan, 21 Oct. 2016.

¹³ MTCR, 'Chairs' statement on the accession of the Republic of India to the Missile Technology Control Regime (MTCR)', 27 June 2016; and Roy, S., 'After NSG upset, India set to become member of MTCR', *Indian Express*, 27 June 2016.

¹⁴ See Bauer, S., 'The export control regimes', *SIPRI Yearbook 2016*, pp. 758–67.

¹⁵ Indian Ministry of External Affairs, 'India joins Hague Code of Conduct', Press release, 2 June 2016; and *The Hindu*, 'India joins The Hague Code of Conduct', 3 June 2016.

¹⁶ First Post, 'India's MTCR entry thanks to a deal between Italy and Modi govt., says Congress', 27 June 2016; Roy (note 13); *Il Sole 24 Ore*, 'Italia e India: sui marò nessuna intesa segreta' [Italy and India: no secret deal on the Italian marines], 2 Jan. 2016; and Bhattacharjee, K., 'India joins Missile Technology Control Regime: top 5 things to know', *The Hindu*, 27 June 2016. See also Bauer (note 14).

key goal of the Indian Government, facilitated access to missile technology and increased leverage over China, which is not an MTCR member.

Some argue that India's accession to the MTCR includes the country in 'the global non-proliferation community' and will contribute to non-proliferation since the regime's rules will now also apply to India as a supplier of sensitive items.¹⁷ From a procurement perspective, however, being a member of the MTCR will not guarantee India access to sensitive technologies, because the other participating states can still refuse to export them according to the regime's guidelines, which 'do not distinguish between exports to Partners and exports to non-Partners'.¹⁸ Being an MTCR partner can nonetheless weigh in favour of the recipient country in the context of proliferation risk assessments.¹⁹ Some of the immediate consequences of Indian participation in the MTCR for example are likely to be the development of a 'joint venture' with Russia to produce BrahMos supersonic cruise missiles, and the opportunity to purchase surveillance drones from the United States and Arrow II missiles from Israel.²⁰

No decisions were taken on other pending applications at the 2016 plenary. In terms of engagement with non-participating states during 2016, the MTCR Chair led outreach missions to Kazakhstan (February), Oman (March), Israel (April), the United Arab Emirates (May) and Chile (September).²¹ Moreover, the Chair spoke at the High Level open debate of the Security Council at the conclusion of the 2016 Comprehensive Review of UN Security Council Resolution 1540 of 2004, which made dual-use trade controls a requirement for all UN member states.²² Since the 2015 plenary in Rotterdam, no other country has joined Estonia and Latvia in declaring unilateral adherence to the guidelines and the MTCR control list.

At the 2016 MTCR plenary the 35 participating states discussed and exchanged information on existing and potential missile proliferation developments since the Rotterdam plenary. North Korea was highlighted and concerns were reiterated regarding 'ongoing missile programs in the Middle

¹⁷ Biswas, A., 'India and the missile regime: India's long-awaited entry into the Missile Technology Control Regime is beneficial to both India and the international non-proliferation community', *Foreign Policy*, 18 Sep. 2015.

¹⁸ Davenport, K., 'India joins ballistic missile initiatives', *Arms Control Today*, July/Aug. 2016.

¹⁹ Biswas, A., 'India in the Missile Technology Control Regime: prospects and implications', ORF Occasional Paper no. 70 (Sep. 2015).

²⁰ Rajeshwari, A., 'What is MTCR and how India can benefit from it', *Times of India*, 7 June 2016; and Mishra, A., 'India joins MTCR: 7 things the country stands to gain', *Economic Times*, 27 June 2016.

²¹ See the Chair's report on each mission, available on the MTCR website <<http://mtcr.info/category/news/>>.

²² United Nations, 'Security Council adopts Resolution 2325 (2016), calling for framework to keep terrorists, other non-state actors from acquiring weapons of mass destruction', Meetings coverage and press releases, SC/12628, 15 Dec. 2016.

East, Northeast Asia, and South Asia'.²³ This was reinforced by a North Korean missile launch during the week preceding the plenary. In the plenary opening speech, the acting Foreign Minister of South Korea, Lim Sungnam, urged participating states to prevent North Korea from advancing its missile capacity and made specific proposals in this regard, such as: (a) to strengthen 'efforts to close the loopholes in the field of export control', which should include North Korea's attempts to procure 'below-threshold items'; and (b) to adopt a 'holistic approach', that entails 'sharing relevant information and promoting exchanges with other export control mechanisms and international consultative bodies'.²⁴ The usually technical MTCR meetings, which tend to be rather invisible in the news media, were referred to on the local evening news.²⁵

As in previous years, the Technical Experts Meeting, the Licensing and Enforcement Experts Meeting and the Information Exchange Meeting met jointly, bringing together the different expert perspectives on issues such as 3D-printing technology—which was considered to pose 'a major challenge to international export control efforts' owing to the potential to increase the speed and ease of spread of sensitive technology—and enhanced technology transfers by electronic means, which are difficult to control.²⁶

The 2017–18 Chairmanship will be held jointly by Iceland and Ireland, building on the new model of joint Chairmanships created in 2015–16 and thus far not replicated by other regimes, which gives smaller countries an opportunity to participate in a chairing role.

The Hague Code of Conduct against Ballistic Missile Proliferation

The MTCR is complemented by The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC), which originated in the MTCR in 2002 but has developed into a separate initiative comprising 138 countries. India joined in June 2016 (see above).²⁷ Annual meetings take place in Vienna; the most recent took place on 2–3 June 2016, with 72 registered delegations.²⁸ Kazakhstan took over as Chair from Canada. It outlined among its objectives

²³ Missile Technology Control Regime, 'Public statement from the Plenary Meeting of the Missile Technology Control Regime', Busan, 21 Oct. 2016.

²⁴ Ministry of Foreign Affairs of the Republic of Korea, 'First Vice Foreign Minister delivers a special address at the 30th MTCR Plenary Meeting', Press release, 19 Oct. 2016.

²⁵ Arirang News, 'Vice foreign minister says N. Korea is biggest threat to Missile Technology Control Regime', 19 Oct. 2016.

²⁶ MTCR (note 23); and Kelley, R., 'Is three-dimensional (3D) printing a nuclear proliferation tool?', *EU Non-Proliferation Paper*, no. 54 (Feb. 2017).

²⁷ Indian Ministry of External Affairs (note 15).

²⁸ The Hague Code of Conduct (HCOC), '15th Regular meeting of the subscribing states to The Hague Code of Conduct against Ballistic Missile Proliferation', Press release by HCOC subscribing states.

‘outreach activities for advancing the process of HCOC universalization’.²⁹ Poland was approved as the Chair for the period 2017–18.

The Nuclear Suppliers Group

The NSG aims to prevent the proliferation of nuclear weapons by controlling transfers of nuclear and nuclear-related material, equipment, software and technology.³⁰ South Korea took over the Chair of the NSG (the first country to chair both the MTCR and the NSG at the same time, and thus a step towards enhancing the synergies between the regimes) and will hand over to Switzerland for 2017–18. The NSG Consultative Group and Information Exchange Meeting continued to be chaired by the USA and the Technical Experts Group by Sweden.³¹

The NSG held extraordinary plenaries on 21 January and 26 April, the first following the 16 January announcement of the Implementation Day of the Joint Comprehensive Plan of Action (JCPOA).³² A third extraordinary plenary meeting was reportedly held on 9 June in Vienna with the ‘NSG Participation Process to review submissions for participation by non-NPT [Nuclear Non-Proliferation Treaty] states’ listed as an agenda item.³³ At its regular plenary on 23–24 June 2016, the NSG ‘expressed interest in continuing to be briefed by the Procurement Working Group coordinator on the procurement channel established under the JCPOA and UNSCR [UN Security Council Resolution] 2231 (2015) as appropriate’.³⁴

The regular plenary brought together the 48 participating states, as well as the European Commission and the Chair of the Zangger Committee, both of which are permanent observers.³⁵ The 2016 plenary statement highlighted proliferation concerns about North Korea and especially the nuclear test of 6 January 2016. The plenary statement also referred explicitly to a discussion on the NSG’s relationship with India.

During the plenary meeting, discussions continued on enhanced outreach, involving ‘a dedicated response to non-NSG partners seeking assistance and practical experience on developing, updating, strengthening and implementing national export control systems’. However, no specific steps

²⁹ HCOC (note 28).

³⁰ NSG, ‘Public statement: Plenary Meeting of the Nuclear Suppliers Group’, Seoul, 23–24 June 2016.

³¹ NSG, ‘Organisation’, <<http://www.nuclearsuppliersgroup.org/en/organisation-information>>.

³² On the implementation of the JCPOA see chapter 12, section IV, in this volume.

³³ Kimball, D. G., ‘Nuclear suppliers divided on Indian bid’, *Arms Control Today*, vol. 46, no. 6 (July/Aug 2016).

³⁴ NSG (note 30).

³⁵ For a brief description of the Zangger Committee see annex B, section III, in this volume; and the Zangger Committee website, <<http://www.zanggercommittee.org>>.

or decisions on how to implement this were mentioned.³⁶ The Chair also spoke at the High Level open debate of the UN Security Council in December 2016, among other things, stating with reference to the NSG Guidelines that he ‘welcomed voluntary adherence’ to ‘ensure that they remained relevant amid emerging and evolving technologies and reflected the growing and globalizing supply chain’.³⁷

India and Pakistan

The 2016 plenary also discussed engagement with non-NSG governments and the plenary statement explicitly referred to a discussion on the NSG’s relationship with India. The 2016 plenary discussed the ‘Technical, Legal and Political Aspects of the Participation of non-NPT States in the NSG’, which include most notably India and Pakistan.³⁸

Several NSG members continued to expand their civilian nuclear trade with India. In November 2016, Japan finalized an Agreement for Cooperation in the Peaceful Uses of Nuclear Energy with India, following on from the preliminary memorandum on cooperation signed in December 2015.³⁹ Several other countries had already resumed or entered into nuclear commerce with India following the 2008 India-specific NSG exemption from longstanding NSG Guidelines barring nuclear trade with states that do not allow comprehensive International Atomic Energy Agency (IAEA) safeguards for all their nuclear facilities. The deal with Japan brought the total number of such agreements with India to 14.⁴⁰

In 2016, India continued diplomatic efforts to persuade sceptical countries such as China of its case for NSG membership. These countries see India’s continued refusal to sign the NPT as a barrier to NSG membership, since NSG membership requires that a participating state is a member in good standing with the NPT.⁴¹ In this context, in advance of the 2016 plenary India made high-level visits to Switzerland and Mexico, and met with the Chinese President Xi Jinping in the sidelines of the Shanghai Cooperation Organization meeting in Uzbekistan in June 2016.⁴² Notwithstanding all

³⁶ NSG (note 30).

³⁷ United Nations (note 22).

³⁸ NSG (note 30).

³⁹ World Nuclear News, ‘Japan–India nuclear cooperation agreement signed’, 11 Nov. 2016.

⁴⁰ On the Indian exemption see Anthony, I. and Bauer, S., ‘Controls on security-related international transfers’, *SIPRI Yearbook 2009*, pp. 467–71. The countries that have civil nuclear cooperation agreements with India are: Australia, Argentina, Canada, the Czech Republic, France, Japan, Kazakhstan, Mongolia, Namibia, Russia, South Korea, the UK and the USA. World Nuclear Association, ‘Nuclear power in India (updated Mar. 2017)’.

⁴¹ First Post, ‘PM Modi to embark on crucial five-nation tour from Saturday’, 3 June 2016.

⁴² *Indian Express*, ‘PM Modi in Switzerland: meeting of minds on black money, tax evasion, says MEA’, 7 June 2016; *Indian Express*, ‘PM Modi gets Mexico’s support for NSG membership bid; ends his five-nation tour’, Reuters; and *India Today*, ‘Modi in Tashkent today to push for NSG diplomacy with China’, 23 June 2016.

these efforts, a coalition of countries led by China blocked India's application for NSG membership at the 2016 plenary.⁴³ Although India's application had the support of the majority of NSG members, it lacked the mandatory requirement of consensus within the NSG. The countries that reportedly voted against India's application were: Austria, Brazil, China, Ireland, New Zealand, Switzerland and Turkey.⁴⁴

China reportedly insisted that any 'concession' applied to India should also be extended to Pakistan. Beijing may also be unwilling to see its strategic rival in the region gain a political, economic and strategic advantage through NSG membership. More generally, the countries opposed to India's membership are reluctant to set a precedent of a non-NPT state joining the NSG.⁴⁵ Nonetheless, India continued its nuclear diplomacy after the NSG plenary, raising the issue of NSG membership during visits to Brazil, Japan, New Zealand, South Africa and the UK.⁴⁶

The current Chair of the NSG, Ambassador Song Young-wan, mandated his predecessor, Ambassador Rafael Mariano Grossi, to consult with members on a possible solution to the membership applications of India and Pakistan.⁴⁷ The issue was discussed at an NSG meeting in Vienna on 16 November, and on 6 December Ambassador Grossi circulated a 'revised version of a draft "Exchange of Notes" for Non-NPT applicants'.⁴⁸ NSG participants met again later in December to discuss the draft and, more specifically, 'nine general commitments'.⁴⁹ These commitments would require non-NPT states joining the NSG to clearly separate current and future civilian nuclear facilities from non-civilian facilities; to declare to the IAEA all current and future civilian nuclear facilities and submit these to IAEA safeguards and an additional protocol; not to use items obtained directly or indirectly from an NSG member in unsafeguarded facilities or activities; not to conduct a

⁴³ Balachandran, M., 'China has foiled India's bid to join the Nuclear Suppliers Group', *Quartz India*, 24 June 2016. See also Bauer, S. and Bromley, M., 'The export control regimes', *SIPRI Yearbook 2015*, pp. 630–40.

⁴⁴ Shubhajit, R., 'PM Modi opens a window, NSG doors still shut; 7 nations hold out at Seoul', *Indian Express*, 24 June 2016.

⁴⁵ Balachandran (note 43).

⁴⁶ 'South Africa backs India's bid to join Nuclear Suppliers Group', Narendra Modi website, 8 July 2016; 'We see Japan as a natural partner in our journey of becoming a major centre of manufacturing, investments & knowledge industries: PM Modi', Narendra Modi website, 11 Nov. 2016; 'Press statement by Prime Minister during visit of Prime Minister of New Zealand to India', Narendra Modi website, 26 Oct. 2016; 'Bilaterally and multilaterally, partnership between India and Brazil is filled with possibilities that we are keen to harvest: PM Modi', Narendra Modi website, 17 Oct. 2016; and 'India-UK partnership is nurtured by our shared values and people-to-people linkages: PM Modi', Narendra Modi website, 7 Nov. 2016.

⁴⁷ The Wire, 'New draft proposal on NSG membership unlikely to please India', 12 Dec. 2016.

⁴⁸ Kimball, D. G., 'NSG membership proposal would undermine nonproliferation', *Arms Control Now*, 21 Dec. 2016.

⁴⁹ Kimball (note 48).

nuclear explosive test; and to support the Comprehensive Nuclear-Test-Ban Treaty (but stopping short of requiring signature).⁵⁰

Controversy continued over China's supply of nuclear technology to Pakistan. With particular reference to 'Beijing's decision to continue selling nuclear reactors to Pakistan in contravention of the Nuclear Suppliers Group', a US-based non-governmental organization argued that 'Pakistan, which is neither an NPT member nor under full-scope IAEA safeguards, is therefore ineligible to receive such assistance under NSG rules'.⁵¹ China argues that its nuclear cooperation with Pakistan is bilateral and covered by a general and generic agreement with Pakistan that was signed prior to China joining the NSG in 2004 and 'grandfathered' under the NSG's provisions. China also argues that its support with building new nuclear power plants in Pakistan is consistent with international law because the new plants will be under full IAEA safeguards and oversight.⁵² Meanwhile, in December 2016 a new nuclear power plant built with Chinese support was inaugurated in Chashma, Pakistan.⁵³

The Wassenaar Arrangement

The WA promotes 'transparency and greater responsibility' regarding transfers of conventional arms and related dual-use goods and technologies.⁵⁴ More specifically, it seeks to prevent 'destabilising accumulations' of such items and their acquisition by terrorists.⁵⁵ The usual working groups met during the year to prepare for the annual plenary, as well as a number of working groups created specifically for the 2016 internal assessment of the WA's functioning. The plenary was held on 6–8 December 2016 in Vienna—where it meets every year—with Finland holding the rotating Chair.⁵⁶ France will take over the Chair for 2017.

⁵⁰ Davenport, K., 'Export group mulls membership terms', *Arms Control Today*, vol. 47, no. 1 (Jan./Feb. 2017); Tirone, J., 'India stokes nuclear weapon concern in bid for atomic cartel', Bloomberg, 20 Dec. 2016.

⁵¹ Philipp, E. and Davenport, K., *Assessing Progress on Nuclear Nonproliferation and Disarmament: Updated Report Card, 2013–2016* (Arms Control Association: Washington, DC, July 2016), p. 19; and *Indian Express*, 'China continues to sell nuclear reactors to Pakistan, says report', 1 Aug. 2016. On this issue see also previous volumes of the SIPRI Yearbook: 2011, pp. 432–34; 2012, pp. 384–85; 2013, pp. 453–55; 2014, pp. 466–69; 2015, pp. 635–36; and 2015, pp. 764–65.

⁵² *Indian Express*, 'China says its nuclear cooperation with Pakistan under NSG norms', 4 Aug. 2016.

⁵³ Gul, A., 'Pakistan opens new nuclear plant built with China's help', *Voanews*, 28 Dec. 2016.

⁵⁴ For a brief description of the Wassenaar Arrangement see annex B, section III, in this volume; and the Wassenaar Arrangement website, <<http://www.wassenaar.org/>>.

⁵⁵ Wassenaar Arrangement, 'Guidelines and procedures, including the initial elements', Dec. 2011.

⁵⁶ Wassenaar Arrangement, 'Statement issued by the Plenary Chair on 2016 outcomes of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies', Vienna, 8 Dec. 2016.

The 2016 plenary updated its best practice documents on arms brokering legislation (2003) and on enforcement (2000). The main substantive additions to the former were: references to international agreements such as the ATT; clarifying the need for definitions in the legislation and adding optional elements such as extending brokering controls to WA dual-use items (in addition to munitions); provisions that encourage timely and regular information exchange among licensing and enforcement experts on implementation experience; and periodic review of progress with implementing best practice.⁵⁷ Best Practices for Effective Enforcement was updated mostly through clarifications and minor changes, with the exception of the addition of a significant new paragraph on penalties.⁵⁸ The WA is the first of the four regimes to include a detailed provision on penalties.

In 2016, states also agreed additions to the WA control lists, including a 'new hydrogen-free high-power explosive', 'materials used in reactive armour' and 'specific electronic components (non-volatile memories/ MRAMs)' able to withstand 'extreme environment conditions'. Current controls were also clarified 'regarding biological and radioactive agents, information security and the concept and use of "technology"'. Controls were relaxed on lasers used in industry, digital computers and voice coding equipment by updating performance thresholds to reflect the technical evolutions in the civil market.⁵⁹

The WA has 41 members and no additional states were admitted in 2016. As part of the WA's 20th anniversary events, an outreach workshop was held in Vienna on 27–28 June with over 100 representatives from 46 countries. This suggests a more interactive approach to outreach than seen previously.⁶⁰ Additional outreach materials were made available on the WA website, including a stand-alone munitions list and a thematic compendium of best practice documents. Of all the regimes, the WA has developed the most comprehensive package of best practice documents, most of which are relevant to trade controls more broadly and not only applicable to conventional arms and related dual-use items.

Since 2016 was also an assessment year (the fifth assessment of the WA, following a four- to five-year cycle), more fundamental questions were addressed in addition to the general functioning of the regime. One result was a more explicit recognition of the military implications of technological developments in civilian areas, and thus on export controls. To celebrate the

⁵⁷ Wassenaar Arrangement, 'Best practices for effective legislation on arms brokering (Agreed at the 2003 Plenary and amended at the 2016 Plenary)'.
⁵⁸ Wassenaar Arrangement (note 57).

⁵⁹ Wassenaar Arrangement, 'Summary of changes: list of dual-use goods and technologies and munitions list as of 8 Dec. 2016'; and Wassenaar Arrangement, 'Statement issued by the Plenary Chair on 2016 outcomes' (note 56).

⁶⁰ Wassenaar Arrangement, '20th anniversary: practical export controls workshop, Vienna, Austria, 27–28 June 2016', 28 June 2016.

WA's 20th anniversary, on 6 December 2016 a special event was held by the Austrian Federal Ministry for Europe, Integration and Foreign Affairs to reflect on the WA's history and achievements.⁶¹

⁶¹ Wassenaar Arrangement, 'WA 20th anniversary 2016', 6 Dec. 2016; and Republic of Austria, Federal Ministry for Europe, Integration and Foreign Affairs, 'Vienna as a centre for multilateral security diplomacy: 20th anniversary of the Wassenaar Arrangement', Press release, Vienna, 9 Dec. 2016.