



A publication of the Center for  
Nonproliferation Studies, Monterey  
Institute of International Studies.

# ASIAN EXPORT CONTROL Observer

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## Special Report

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*By Elizabeth Eraker and Andy Diamond*

## Recent Developments in the Region

### Asia-Pacific Countries Discuss Nuclear Safeguards and Security

On November 8 - 10, 2004, delegations from throughout the Asia-Pacific region met behind closed doors for the Asia-Pacific Nuclear Safeguards and Security Conference, hosted by the Australian government in Sydney. The summit consisted of three meetings: a Ministerial Meeting held on November 8; a meeting of officials and experts on November 9; and a workshop for the Australian Regional Security of Radioactive Sources Project on November 10.

The Ministerial Meeting, attended by 23 countries, adopted a joint statement that pledged to “expand and enhance the nuclear safeguards and security framework.” [1] Eighteen states were represented at this meeting at the ministerial level: Australia, Brunei Darussalam, Cambodia, Canada, China, Fiji, Indonesia, Japan, Republic of Korea, Laos, Malaysia, New Zealand, Papua New Guinea, the Philippines, Singapore, Thailand, the United States, and Vietnam. Other nations participating included East Timor (as an observer), France, Myanmar, the Russian Federation, and the United Kingdom. Three international organizations also participated in the November 8 meeting. Director General Mohamed ElBaradei headed a delegation from the International Atomic Energy Agency (IAEA). Ambassador Mihnea Motoc, Chair of the United Nations WMD Nonproliferation Committee (established by the UN Security Council Resolution 1540), and Ambassador Sergio Duarte, President-Designate of the 2005 NPT Review Conference both spoke at the meeting. The Pacific Islands Forum Secretariat was also represented.

*Editor's Note: United Nations Security Council Resolution 1540 (UNSCR 1540) bans and criminalizes the transfer of WMD, WMD-related technologies, and means of delivery to terrorists and non-state actors. The resolution was adopted on April 28, 2004, under Chapter VII of the UN Charter, which is binding on all UN members.*

Nations participating in the Ministerial Meeting vowed to adopt higher international security standards for managing nuclear and radioactive materials and to work together to tighten border controls to prevent the illicit export of nuclear and radioactive materials. [2] Speakers at the meeting noted that terrorist groups were known to be interested in acquiring weapons of mass destruction and that nuclear and radiological terrorism posed grave consequences for humanity. [3]

Australian Foreign Minister Alexander Downer opened the November 8 meeting and noted during his keynote speech that: “The world received a wake-up call earlier this year when the A.Q. Khan proliferation network was laid bare.” Minister Downer added: “The revelations of the Khan network are a reminder that in the post September 11 world, there is no room for complacency.” [4]

IAEA Director General ElBaradei said during his address to the meeting that investigations into Libyan WMD activities and Iran’s suspected weapons programs had revealed an extensive black market for nuclear items. ElBaradei pointed out that “the relative ease with which a multinational illicit network could be set up and operated demonstrates clearly the inadequacy of the present export control system.” He reported that, according to IAEA databases, there had been approximately 630 confirmed incidents of trafficking in nuclear or other radioactive materials since 1993. Referring to the need to control the spread of nuclear and radioactive materials, ElBaradei added: “We are in a race against time because [nuclear terrorism] is something we are not prepared for. We have to cross our fingers that nothing will happen.” [5]

Dr. William Potter of the Center for Nonproliferation Studies, the only non-governmental participant in attendance at the Ministerial Meeting, pointed out that most countries continue to see the threat of nuclear terrorism in the abstract and “as someone else's problem.” Potter stressed that the most significant problem internationally was “that not nearly enough is being done today to reduce the probability of nuclear terror acts with the highest consequences--those involving the use of nuclear explosives.” [6]

UNSCR 1540, and its implementation in the region, was also a major topic of discussion at the Ministerial Meeting. According to Marion Hobbs, New Zealand Minister for Disarmament and Arms Control, New Zealand had completed its report required under the resolution and that “the reporting process highlighted for us some areas where we still need to strengthen our domestic legislation.” Minister Hobbs pointed out that for many countries in the region complying with UNSCR 1540 would be “a major effort and commitment of resources.” She added that “given the heavy imposition on smaller states from such international standard setting, New Zealand and Australia would like to be able to assist those in our region, and in particular our Pacific neighbors... Our discussions this week will help to define ways we can support each other around our region, and which countries will be in a position to share experience, technical expertise or other resources.” [7]

During his address to the summit, U.S. Deputy Assistant Secretary of State Andrew Semmel stated that UNSCR 1540 helped “close the gap” between the “global consensus” that proliferation is a real threat and the “concrete action” to curb the spread of WMD-related materials. Semmel added that “UNSCR 1540 seeks to meet proliferators’ lethal flexibility with the firm resolve of states to cut off the path to proliferation,” adding that the resolution “seeks to build capacity from the bottom up rather than attempting to impose it from above.” Semmel noted that as of the October 28, 2004 deadline set by UNSCR 1540 for submission of national reports on export controls, only 54 countries had complied. Semmel stressed that these reports were “an important tool for understanding the scope of the challenge before us and how best it can be addressed.” He added “For those who conclude that they are somehow immune to the effects of terrorism at home or elsewhere .... I would simply say that terrorism anywhere affects the global economy everywhere.” [8]

The delegations participating in the Ministerial Meeting identified as priorities:

- The global implementation of the Additional Protocol, providing authority for intensified IAEA inspections in non-nuclear weapon state parties to the nuclear Nonproliferation Treaty (NPT);
- Strengthening protection of nuclear materials and facilities, including early finalization of “work to strengthen the Convention on the Physical Protection of Nuclear Material (CPPNM)”;
- The effective control and protection of radioactive sources, including “adherence to the guidelines in the IAEA Code of Conduct on the Safety and Security of Radioactive Sources”;
- The implementation of “effective domestic controls on nuclear and radioactive materials and relevant equipment and technology, including export controls” and action “in accordance with the IAEA Guidance on the Import and Export of Radioactive Sources, [recognizing] the importance of the provisions of the Additional Protocol related to the export and import of nuclear equipment”;
- The “early and comprehensive implementation of UN Security Council Resolution 1540”; and
- The “effective use of the extensive IAEA assistance available in relation to the security of nuclear and radioactive materials.” [2]

The November 8 meeting also stressed “the importance of regional and international cooperation on preventing illicit trafficking including enhanced information-sharing and technical assistance.” [2]

The Ministerial Meeting was followed by an Officials and Experts Meeting on 9 November convened by the Australian Safeguards and Nonproliferation Office (ASNO). This meeting included panels on nuclear safeguards, safety and security of nuclear facilities and materials, and security of radioactive sources. Twenty-eight countries attended this meeting, including Pacific island nations such as Cook Islands, Kiribati, the Marshall Islands, the Republic of Palau, Samoa, Solomon Islands, Tonga and Tuvalu [9].

On the final day of the conference, ASEAN country officials and experts were invited by the Australian Nuclear Science and Technology Organization (ANSTO) to attend a planning workshop for the Australian Regional Security of Radioactive Sources (RSRS) Project. In order to support initiatives from the IAEA and

the U.S. Department of Energy, ANSTO has led this three-year project aimed at assisting countries in South-East Asia and the Pacific region with improving safety and security of radioactive sources, as well as identifying and securing vulnerable radioactive sources. The objectives of this workshop were to review and discuss regional cooperation on safety and security of radioactive sources, and to agree to a 12 month action plan. The workshop also followed up on the outcomes of an earlier workshop held in June 2004. [10]

Sources: [1] "Nations Pledge to Increase Nuclear Security in Asia-Pacific Region," Associated Press Worldstream, November 8, 2004, in Lexis-Nexis Academic Universe, <<http://web.lexis-nexis.com>>. [2] "Asia-Pacific Nuclear Safeguards and Security Conference: Protecting Against Nuclear Terrorism, Ministerial Meeting, 8 November 2004, Sydney, Australia" on the Australian Department of Foreign Affairs and Trade website, <[http://www.dfat.gov.au/security/asia\\_pacific\\_nuclear\\_safeguards\\_conference\\_04.html](http://www.dfat.gov.au/security/asia_pacific_nuclear_safeguards_conference_04.html)>. [3] "Asia-Pacific Meet Lists Priorities for Next NPT Review Conference," Bermana.com (Malaysia National News Agency), November 9, 2004, <<http://bernama.com/>>. [4] Alexander Downer, "Protecting Against Nuclear and Radiological Terrorism: A Comprehensive Approach," Speech to the Asia-Pacific Conference on Nuclear Safeguards and Security, November 8, 2004, <[http://www.foreignminister.gov.au/speeches/2004/041108\\_nuclear\\_safeguards\\_and\\_security.html](http://www.foreignminister.gov.au/speeches/2004/041108_nuclear_safeguards_and_security.html)>. [5] Mohamed ElBaradei "Nuclear Proliferation and the Potential Threat of Nuclear Terrorism," Statements of the Director General, IAEA website, <<http://www.iaea.org/NewsCenter/Statements/2004/ebsp2004n013.html>>. [6] William C. Potter "Meeting the Challenge of Nuclear Terrorism: Potential Threats In Asia And The Pacific," Keynote address for the Asia-Pacific Conference on Nuclear Safeguards and Security, Ministerial Meeting (November 8-9, 2004.) [7] Hon Marian Hobbs, "Implementation of UN Security Council Resolution 1540," Remarks to the Asia-Pacific Conference on Nuclear Safeguards and Security Conference, November 8, 2004, the Official Website of the New Zealand Government, <<http://www.beehive.govt.nz/ViewDocument.cfm?DocumentID=21441>>. [8] Andrew K. Semmel, "The U.S. Perspective on U.N. Security Council Resolution 1540," Remarks to the Asia-Pacific Conference on Nuclear Safeguards and Security Conference, November 8, 2004, via RANSAC Nuclear News, November 22, 2004, <<http://www.ransac.org>>. [9] According to the meeting's final participants list, the other countries attending the officials meeting were: Australia, Brunei Darussalam, China, Cambodia, East Timor (as an observer), Fiji, France, Indonesia, Japan, Republic of Korea, Laos, Malaysia, Myanmar, Papua New Guinea, the Phillipines, Singapore, Thailand, the United States and Vietnam. The IAEA, the United Nations and Pacific Island Secretariat also participated. [10] "Australian Regional Security of Radioactive Sources (RSRS) Project," program of Second Planning Workshop, Wednesday 10 November 2004, Sydney, Australia.

## **Chinese, DPRK Firms, and Indian Scientists Among Those Sanctioned by U.S. Government for WMD Proliferation to Iran**

On September 20, 2004, the United States imposed sanctions on the Chinese firm Xinshidai (New Era Group) for proliferation of missile technology, reportedly to Iran. The following week, on September 29, Washington again announced nonproliferation-related sanctions, this time penalizing 14 foreign entities, including seven Chinese companies, one North Korean financial firm, two Indian citizens, one Spanish company, and three firms in countries of the former Soviet Union. [1, 2]

The sanctions on Xinshidai were based on Executive Order 13094, which gives the president power to impose an import ban on entities engaged in transfers of any commodity that "has materially contributed to the efforts" of any country to acquire "the capability to develop, produce, stockpile, deliver, or use weapons of mass destruction or their means of delivery." [3] Executive Order 13094 can be applied more broadly than standard U.S. sanction laws (such as the Iran Nonproliferation Act), and the order has been used previously to lower the threshold for sanctionable offenses. In 2003, this order was used against the Chinese defense firm NORINCO, which was also one of the 14 entities sanctioned on September 29, 2004. [4] Xinshidai is one of the primary organizations involved in the import and export activities of China's nuclear industry, and has also been involved in the sale of missile-related technologies. The firm has jurisdiction over six major Chinese defense companies – including two of the firms sanctioned on September 29. The Group plans and coordinates the import and export of items by its members. [5]

The September 29 sanctions were imposed under the Iran Nonproliferation Act of 2000. This Act "provides for penalties on entities for the transfer to Iran since January 1, 1999, of equipment and technology controlled under multilateral export control lists ... or otherwise having the potential to make a material contribution to the development of weapons of mass destruction (WMD) or cruise or ballistic missile systems." The sanctions are to remain in place for two years from their effective date—September 23, 2004. The sanctioned

Asian entities were: Beijing Institute of Aerodynamics, Beijing Institute of Opto-Electronic Technology (BIOET), China Great Wall Industry Corporation, China North Industries Corporation (NORINCO), LIMMT Economic and Trade Company, Ltd., Oriental Scientific Instruments Corporation (OSIC), and South Industries Science and Technology Trading Co., Ltd. (China); Changgwang Sinyong Corporation (North Korea); and Dr. C. Surendar and Dr. Y.S.R. Prasad (India). [2] The Chinese firms NORINCO and China Great Wall Industry Corporation are members of the Xinshidai Group; however the sanctions on these companies do not appear to be connected.

*Editor's note: The other entities sanctioned on September 29 were Belyneshpromservice (Belarus); Khazra Trading (Russia); Telstar (Spain); and Zaporizhzhya Regional Foreign Economic Association (Ukraine). The sanctioned Spanish company, Telstar, was reported to be the first company from a NATO country to "face penalties under the Iran Nonproliferation Act."* [6]

Under the terms of the September 29 sanctions, no U.S. government department or agency may procure any goods, technology, or services from these foreign entities or provide any assistance to them, and these entities shall not be eligible to participate in any U.S. government assistance program. The sanctions also ban the U.S. government from selling to these entities any items on the U.S. Munitions List, and any defense articles, defense services, or design and construction services under the Arms Export Control Act. In addition, all existing export licenses will be suspended and no new export licenses will be issued for the transfer to these entities of items "controlled under the Export Administration Act of 1979 or the Export Administration Regulations." [2]

According to U.S. Department of State spokesperson Richard Boucher, the September 29 sanctions were based on "credible information that these entities had transferred one of several categories of items to Iran since January of 1999," but he did not specify what items were transferred. Boucher also pointed out that "the penalties apply to the entities themselves and not to countries or governments." [7] Some of the blacklisted companies, such as BIOET, NORINCO, OSIC, South Industries Science and Technology Trading Co., Ltd., and Changgwang Sinyong Corporation, were sanctioned in April 2004, also under the Iran Nonproliferation Act of 2000. [8] The imposition of new sanctions brought to 23 the number of entities that have been subject to sanctions under this law. Referring to successive sanctions, Boucher noted that their main effect was "to extend the period of time that the entity would be subject to sanctions for." He added that "it is a requirement of law that we make these determinations and impose sanctions. And somebody who has been doing something more recently deserves to suffer the consequences for a longer period of time." [7]

Beijing criticized the U.S. sanctions against Xinshidai. Chinese Foreign Ministry spokesperson Kong Quan stated that the United States "takes actions against some Chinese companies and entities on the basis of [U.S.] domestic laws." He went on to say that "[China] cannot accept such actions at all. We believe such actions by the U.S. will not help expand China-U.S. cooperation on nonproliferation and require the U.S. side to revoke the wrong decision." [9] Little was mentioned in the Chinese press about the September 29 sanctions. However, according to Russian press sources, Beijing protested the sanctions expressing its strong dissatisfaction with the U.S. decision, once again stating that the U.S. action did not promote Sino-U.S. cooperation in nonproliferation and overall bilateral relations. [10]

This was the fifth time NORINCO had been sanctioned in the last two years – twice under executive orders and three times under the Iran Nonproliferation Act. A recent report by the U.S. Iraq Survey Group stated that NORINCO was a major source for Iraq's weapons programs. [11] (*See the related Special Report on page 21 of the current issue.*) China Great Wall Industry Corporation, an important participant in China's space launch vehicle program, has been previously sanctioned four times, beginning with sanctions in 1991 for missile related assistance to Pakistan [12]. The North Korean financial company, Changgwang Sinyong, has also been the subject of multiple sanctions – four times since 2000. Xinshidai has never previously been directly the subject of sanctions, but many of its affiliate companies have been punished for suspected proliferation activities. [5]

The September 29 sanction announcement also named two high-ranking Indian nuclear scientists, Dr. C. Surendar and Dr. Y.S.R. Prasad. State Department spokesperson Richard Boucher announced the sanctions were based on "credible information" that these two had transferred items covered by multilateral

control lists to Iran. [13] The two scientists, both former heads of the state-run Nuclear Power Corporation, claimed that the sanctions were unfounded. In an interview to an Indian newspaper, Dr. Surendar said that he had never been to Iran. According to the same report, Dr. Prasad had admitted going to Iran, both before and after his retirement from the Nuclear Power Corporation, but only for official assignments from the IAEA, and in order to observe the installation of a Russian nuclear reactor that India had plans to acquire. The Indian government reiterated the two scientists' claims of innocence, and asked for the sanctions to be withdrawn. [14]

According to a report by Reuters, U.S. government officials appeared willing to reconsider the sanctions if India could give "significant and convincing" proof that the scientists had not been involved with Iran's nuclear program. In the same report, U.S. officials claimed that Washington warned New Delhi of the impending sanctions, but the Indian government did not act on the information. The U.S. government appears to be giving New Delhi another chance to clarify the issue with regards to these scientists, but withdrawal of the sanctions is still not a foregone conclusion. [15]

Sources: [1] U.S. Department of State Bureau of Nonproliferation Public Notice 4833, "Imposition of Nonproliferation Measures on an Entity in China, Including a Ban on U.S. Government Procurement," *Federal Register*, September 21, 2004, Vol. 69, No. 181, pp. 56260-56261, <<http://www.gpoaccess.gov>>. [2] U.S. Department of State Bureau of Nonproliferation Public Notice 4845, "Imposition of Nonproliferation Measures Against Fourteen Foreign Entities, Including Ban on U.S. Government Procurement," *Federal Register*, September 29, 2004, Vol. 69, No. 188, pp. 58212-58213, <<http://www.gpoaccess.gov>>. [3] "Executive Order 13094: Proliferation of Weapons of Mass Destruction," *Weekly Compilation of Presidential Documents*, from the 1998 Presidential Documents Online via GPO Access <<http://frwais.access.gpo.gov>>. [4] Phillip C. Saunders and Stephanie C. Lieggi, "What's Behind U.S. Nonproliferation Sanctions Against Norinco?" *Research Story of the Week*, May 30, 2003, CNS Website <<http://cns.miis.edu/pubs/week/030530.htm>>. [5] "New Era (Xinshidai) Corporation," from the *China WMD Database* on the NTI website, <<http://www.nti.org/db/china/newera.htm>>. [6] David Gollust, "U.S. Sanctions 14 Foreign Firms, Individuals for Selling Weapons Technology to Iran," *VOA News*, September 29, 2004, via Pars Times website, <<http://www.parstimes.com>>. [7] "Daily Press Briefing by Richard Boucher, September 29, 2004," U.S. Department of State website, <<http://www.state.gov/r/pa/prs/dpb/2004/36605.htm>>. [8] U.S. Department of State Bureau of Nonproliferation Public Notice 4680, "Imposition of Nonproliferation Measures Against Thirteen Entities, Including Ban on U.S. Government Procurement," *Federal Register*, April 7, 2004, Vol. 69, No. 67, p. 18415, <<http://www.gpoaccess.gov>>. [9] Mike Nartker, "China Criticizes U.S. Sanctions Leveled Against Company For Alleged Missile Proliferation Activities," *Global Security Newswire*, September 24, 2004, NTI website, <<http://www.nti.org>>. [10] Aleksey Efimov, "Kitay vyrazhayet reshitelnyy protest v svyazi s sanktsiyami SShA protiv kitayskikh kompaniy" [China expresses its vigorous protest with regard to U.S. sanctions against Chinese companies], *RIA Novosti*, September 30, in *Integrum Techno*, <<http://www.integrum.com>>. [11] *Comprehensive Report of the Special Advisor to the DCI on Iraq's Weapons of Mass Destruction*, September 30, 2004, <[http://www.cia.gov/cia/reports/iraq\\_wmd\\_2004](http://www.cia.gov/cia/reports/iraq_wmd_2004)>. [12] "China Great Wall Industry Corporation," from the *China WMD Database* on the NTI website, <<http://www.nti.org/db/china/cgwic.htm>>. [13] "Indian Scientists Reject U.S. Charges of Transferring Sensitive Technology to Iran," *The Indian Express*, October 1, 2004, in FBIS SAP20041001000065; "Indian Spokesman Rejects U.S. Charge Against Nuclear Scientists," *PTI News Agency*, October 1, 2004, in FBIS SAP20041001000082. [14] "Delhi Issues Plea on U.S. Sanctions," *BBC News*, October 1, 2004 <<http://news.bbc.co.uk>>. [15] Carol Giacomo "U.S. Might Reconsider Sanctions on Indian Scientists," *Reuters*, October 21, 2004, <<http://www.reuters.com>>.

## European Union to Uphold Arms Ban on China

Despite strong pressure from France, the European Union's 25 foreign ministers refrained from lifting the 15-year ban on arm sales to China during their meeting in Luxembourg on October 11, 2004. Citing reasons related to Beijing's human rights record and the additional time still needed to strengthen the European Union's voluntary code of conduct on arms exports, the foreign ministers decided to leave the controversial arms embargo in place. [1]

Since the March 2004 decision by EU foreign ministers to maintain the 1989 arms ban on China (*see related story in the April issue of the Asian Export Control Observer*), diplomatic pressure from Beijing and key proponents in Europe had continued unabated. During his recent visit to China, French President Jacques Chirac remarked at a joint press conference with his Chinese host, President Hu Jintao, that the arms ban was "a measure motivated purely and simply by hostility toward China" and one lacking "justification and

foundation.” The French leader considered the arms ban outdated and called for it to be abandoned. Maintaining the momentum of a strong Sino-French relationship has been a major underlining factor in French calls for an early lifting of the embargo. One French official remarked that “we cannot treat China as a partner while continuing to sideline it in strategic and military terms.” [2]

For its part, Beijing appeared confident that the arms ban would soon be lifted. Speaking to reporters on the sidelines of the Asia-Europe summit in Hanoi, Chinese Foreign Minister Li Zhaoxing called the arms embargo “a product of the Cold War” and expressed hope that it would “be lifted sooner or later as doing so is necessary for the sound and harmonious development of relations between China and Europe. We hope that the EU will make the decision as soon as possible.” [3]

Opposition to lifting the arms embargo remained strong, both inside and outside the EU. While disagreement within the EU helped explain the failure so far to lift the ban, U.S. and Taiwanese objections were also important factors. In early October, Greg Suchan, U.S. deputy assistant secretary of state for political-military affairs, visited a number of key European capitals calling for a continuation of the ban. Suchan also hinted that lifting the arms embargo could negatively affect U.S.-European arms cooperation and draw U.S. congressional action. Taiwanese officials likewise called on the EU to maintain the arms embargo so that the delicate military balance across the Taiwan Strait is not tipped in the mainland’s favor. Taipei also argued that any arms sales to China could encourage Beijing to use force against the self-ruled island, which the mainland considers a renegade province. [4]

Prompted by the prospects for expanded trade opportunities, as well as the recognition of China’s growing importance as a rising power, proponents for ending the arms ban, such as France and Germany, are likely to continue the push for lifting the embargo. Prominent among the potentially lucrative deals with China are the sale of nuclear power plants, Airbus airliners, and railway equipment. The issue is likely to return when China and the European Union hold their next summit on December 8, 2004. [2, 4, 5]

*Sources:* [1] Brooks Tigner, “EU Continues Ban Against China Arms Sales,” *DefenseNews.com*, October 11, 2004. [2] Beatrice Gurrey and Bruno Philip, “Mr. Chirac Increases Expressions of Support for Beijing Regime,” *Le Monde*, October 12, 2004 in FBIS-EUP20041012000020; “Chirac Opposes Arms Ban on China,” *The Age*, October 10, 2004, <<http://www.theage.com.au>>. [3] Benjamin Morgan, “China Confident of Early End to EU Arms Embargo,” *DefenseNews.com*, October 8, 2004. [4] Nicholas Fiorenza, “Taiwan, U.S. Oppose EU Lifting China Embargo,” *DefenseNews.com*, October 25, 2004; “Taiwan Urges EU Not to Lift Arms Ban on China,” Reuters, September 15, 2004; “Taiwan Nervous about Possible End of EU Arms Embargo for China,” Associated Press, October 3, 2004. [5] “EU Fails to Agree on Lifting China Arms Ban,” *China Daily*, 12 October 2004, <[http://www.chinadaily.com.cn/english/doc/2004-10/12/content\\_381724.htm](http://www.chinadaily.com.cn/english/doc/2004-10/12/content_381724.htm)>.

## **Illicit Trafficking in the Region**

### **South Korea Admits Unauthorized Exports of Nerve Agent Precursor to DPRK**

*(This article also appears in the October issue of the NIS Export Control Observer.)*

In September 2004, South Korea’s Ministry of Commerce, Industry, and Energy (MOCIE) admitted that several cases of unauthorized exports of dual-use materials have occurred in recent years. [1] One such case of illegal export involved 107 metric tons of sodium cyanide that originated in South Korea and was shipped to North Korea through China. It is believed that between June and September 2003, a South Korean businessman exported the chemical without governmental approval to a Chinese importer in Dandong in China’s Liaoning Province, near the North Korean border. The shipment was then sent to North Korea by an unidentified Chinese company. [2]

Sodium cyanide is a dual-use chemical that has various applications in mining, agriculture, and other industries, and also serves as a precursor chemical for the nerve agent tabun. [3] Under existing South Korean trade laws, sodium cyanide is treated as a strategic material requiring special permission for import and export and compliance with the multilateral export control regimes in which South Korea participates. [4, 5]

There have been other instances of possible South Korean exports of sodium cyanide to North Korea. Seoul is investigating a case involving 40 tons of the chemical exported to the DPRK by a Malaysian firm, including 15 tons believed to have been acquired from a South Korean trading company. [4]

In 2003, North Korea made an unsuccessful attempt to import sodium cyanide from Thailand. In February 2002, an unidentified South Korean firm exported 338 metric tons of the chemical to Thailand. A Thai company then tried to ship 70 tons of the South Korean sodium cyanide to the DPRK. Seoul was able to convince the Thai government to stop the shipment “as part of an international effort to crack down on illegal trade in precursor chemicals.” [3]

Since 2002, South Korea has exported over 146 thousand tons of sodium cyanide to ten countries, including China, Indonesia, Russia, Thailand, and others. China is the largest importer of sodium cyanide from South Korea. [2] According to a MOCIE official, the South Korean government made efforts to improve control of exports of strategic materials. The official, however, admitted that it is difficult to track such exports when third countries are involved. [4] The Ministry plans to develop a new online system to help traders identify strategic materials subject to export controls and receive government permission for their shipment. [6] Currently, South Korean exporters can identify strategic commodities by referring to the Public Notice on Export and Import of Strategic Items published annually as an annex to the Foreign Trade Act. The Public Notice includes guidelines close to the Australia Group, the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), and the Wassenaar Arrangement. In addition, the Public Notice contains, as a supplement, texts of the NSG and MTCR guidelines, and the Wassenaar Arrangement in Korean. [7, 8]

Sources: [1] Ser Myo-ja, “Export Cases to Prompt New Controls,” *Joongang Daily* online edition, September 24, 2004, <<http://service.joins.com>>. [2] Park Chan-kyong, “AFP: ROK Says Sodium Cyanide Shipped to North Korea via China Sep 2003,” Hong Kong AFP, September 24, 2004 in FBIS Document JPP20040924000085. [3] Associated Press/*US Today*, “South Korea, Thailand Halted 70-Ton Shipment of Toxic Chemical to North Korea, News Report Says,” Global Security Newswire, September 22, 2004, NTI website, <<http://www.nti.org>>. [4] Seo Jee-yeon, “NK’s Chemical Imports Raise Alarm,” *Korea Times* online edition, September 24, 2004, <<http://www.hankooki.com>>. [5] *Korea Times*, “Nerve Agent Precursor Shipped to North Korea Originated in South Korea, Seoul Officials Say,” Global Security Newswire, September 24, 2004, NTI website, <<http://www.nti.org>>. [6] “Seoul Admits Sodium Cyanide Shipped to NK,” *Korea Herald* online edition, September 25, 2004, <<http://www.koreaherald.co.kr>>. [7] Richard T. Cupitt, “Nonproliferation Export Controls in the Republic of Korea,” February 2000, Center for International Trade and Security website, <[http://www.uga.edu/cits/documents/html/nat\\_eval\\_korea.htm](http://www.uga.edu/cits/documents/html/nat_eval_korea.htm)>. [8] “Comparing National Export Control Systems,” Stockholm International Peace Research Institute website, <<http://projects.sipri.se/expcon/db1.htm>>.

## Japanese Instruments Discovered in Libyan Nuclear Facility

In early September 2004, IAEA inspectors discovered Japanese-made three-dimensional precision measurement instruments at a nuclear facility in Libya. Following this revelation, an investigation was undertaken to discover the detailed route of the instruments exported from Japan to Libya. [1] In October 2004, the Japanese newspaper *Asahi Shimbun* revealed that these instruments had been shipped from a Japanese manufacturer, whose name was not released, to a company in Malaysia, before being rerouted to Libya. [2] The Public Security Division of Tokyo’s Metropolitan Police Department (MPD) and the International Atomic Energy Agency (IAEA) are both investigating the case. [3] The unnamed manufacturer of the instruments, located in Kawasaki City in Japan’s Kanagawa Prefecture, insisted that the company had been unaware that the final destination of the instruments was Libya. [1]

Six units in total were exported between December 2001 and August 2002 from the Japanese manufacturer to an affiliate in Malaysia. Scomi Precision Engineering (SCOPE), a company with links to the A.Q. Khan nuclear procurement network, then placed an order for the equipment. [1] The connection between the Japanese manufacturer in Kanagawa and SCOPE is still unclear. [4] The Japanese-made instruments were found at a nuclear facility in Libya along with other unregulated Japanese products by IAEA inspectors



following the December 2003 announcement by Libyan leader Colonel Mu`ammar al-Qadhafi that Libya was dismantling its nuclear weapons program. [5]

The Japanese Foreign Exchange and Foreign Trade Law requires strict government monitoring of the export of machines of this type. The three-dimensional measurement devices found by IAEA inspectors are an indispensable part for nuclear weapons development. The devices in question were precision instruments to measure the roundness of cylindrical shapes. Since centrifuges used for uranium enrichment are cylindrical shapes requiring precision in the roundness for effective enrichment, these devices are extremely useful for nuclear weapons development. [1] Highly sophisticated three-dimensional measurement devices are included on Japan's export control lists. The devices found in Libya were not necessarily subject to export control licensing requirements because their capabilities were below the threshold specified on Japan's export control list. However, Japan's catch-all controls require exporters to obtain a license if there may be reason to suspect that the item may assist a WMD-related program. Whether or not the Japanese company was aware of the final destination and intentionally broke the Foreign Exchange and Foreign Trade Law has not yet been determined. The Japanese Ministry of Foreign Affairs (MOFA) and Ministry of Economy, Trade and Industry (METI), along with the National Police Agency launched investigations in response to this incident.

In a separate incident, a Japanese company exported a portable plant for an experimental uranium program to Libya in 1984 before such exports were prohibited by the Nuclear Suppliers Group in 1993. According to a report submitted to the IAEA Board of Governors in February 2004, "in 1984, Libya ordered from abroad a pilot scale uranium conversion facility, fabricated in portable modules in accordance with specifications provided by Libya." [6] The IAEA did not reveal company's country of origin in this report, but anonymous diplomats later revealed to media sources that the firm was Japanese. [7]

This recent revelation, in addition to the Japanese trading company Meishin's attempt last April to export three specialized power-supply devices that could have aided North Korea's uranium enrichment program or been used in missile-launch devices, have illustrated shortcomings in the Japanese export control system. [8] While Japan's export control system is considered one of the most stringent in the world, small and medium size companies continue to lack the capacity to implement Japan's export controls. [9]

Sources: [1] "Malaysia Tie in Nuke Probe," *The Asahi Shimbun*, October 14, 2004 in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] "Malaysia Keiyu de Libya Iten: Kakukaihatsu Tenyou Kanou no Nihonseihin", [Japanese-made potential nuclear related devices exported to Libya through Malaysia], *The Asahi Shimbun*, (Japanese), October 13, 2004. [3] "Libya Used Japanese Three-Dimensional Measurement Device in Nuclear Program" *Mainichi Daily News*, October 13, 2004 in FIBS JPP20041013000105. [4] For more information on the link between SCOPE and A.Q. Khan, see "Politically Connected Malaysian Firm Linked to Nuclear Smuggling Network," *Asian Export Control Observer*, Vol. 1 (April 2004) <[http://cns.miis.edu/pubs/observer/asian/pdfs/aeco\\_0404.pdf](http://cns.miis.edu/pubs/observer/asian/pdfs/aeco_0404.pdf)>. [5] "Japanese Precision Device Found in Libyan Nuclear Plant," Kyodo World Service (English), September 8, 2004 in FIBS JPP20040908000134. [6] "Implementation of the NPT Safeguards Agreement of the Socialist People's Libyan Arab Jamahiriya," Report by the Director General, IAEA Board of Governors, GOV/2004/12, February 20, 2004. [7] "Diplomats: Japanese Company Sold Uranium Conversion Plant to Libya", Associated Press, March 12, 2004 in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [8] "Firm Possibly Tried to Sell Devices to Firm Under Kim Jong Il," Japan Economic Newswire, May 9, 2003. [9] "Kadai Ooi Yushutsu Kanri: Kiseishirazu 'Ukkari' Atotatazu," [Problematic Export Control System: Endless unintentional violations], *The Asahi Shimbun* (Japanese), September 21, 2004, <<http://www.asahi.com/money/kaisetsu/TKY200409210079.html>>

## Regional Cooperation

### Asia-Pacific Nations Agree to Basic Export Control Principles

On October 18, 2004, seven countries—Australia, China, Japan, the Republic of Korea, Singapore, Thailand, and the United States—along with Hong Kong met in Tokyo to participate in the Second Asia Export Control Policy Dialogue. Aiming to build upon accomplishments from the 2003 Policy Dialogue, the delegations met to discuss the formulation of basic export control guidelines. This year's meeting produced an agreement on a set of export control principles, the first such agreement among nations in the Asia-Pacific region. [1]

The guidelines, also known as the “Tokyo Principles,” signified agreement among all eight participating parties on three significant areas of concern in the region: weak domestic export controls, problems with transshipments, and a lack of export control knowledge and experience in many countries. Under the agreement, the participating parties promised to:

- Introduce stringent export controls by establishing the necessary legal and administrative framework, in accordance with international agreements on nuclear, biological, and chemical weapons; effectively train personnel; implement effective licensing and appropriate penalties for violations; and conduct outreach activities to industry and research institutions;
- Reduce the risk of circumvention by screening exports according to international and IAEA controls and by confirming end-users; and
- Share among Asian countries regulatory experience and specialist knowledge to promote effective export controls in the Asian region. [2]

Moreover, the parties decided to further bolster their catch-all controls to prevent the export of otherwise unregulated dual-use items where there is reason to believe they are likely to contribute to WMD programs. [3]

*Editor’s Note: The Tokyo Principles are the latest example of Japan’s recent efforts to strengthen export controls in the region. Tokyo announced on January 5, 2004, that it would begin to use the strength of a recipient country’s export control system as one factor for assessing access to Japanese official development assistance (ODA.) This decision followed discussions on transshipment issues at the first Asia Export Control Policy Dialogue, held in October 2003.*

Sources: [1] “Full-Scale Export Controls Urgently Needed,” *The Daily Yomiuri*, (Tokyo) October 19, 2004, in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>> [2] “Chairman’s Statement of Basic Principles for Strengthened Export Control in Asia Tokyo, Japan,” October 18, 2004, on CISTEC website <[http://www.cistec.or.jp/english/topics/data/041018Draftingsession\\_final.pdf](http://www.cistec.or.jp/english/topics/data/041018Draftingsession_final.pdf)>. [3] “Weapons of Mass Destruction: Eight Nations/Regions Agree to Three Principles to Prevent Transshipments,” *Mainichi Shimbun* (Tokyo Edition), October 19, 2004 < <http://www.mainichi-msn.co.jp/>>.

## **Russia and China Pledge to Develop Nonproliferation and Nuclear Export Control Cooperation**

*(This article also appears in the October issue of the NIS Export Control Observer.)*

On October 14, 2004, during a two-day official visit to the People’s Republic of China (PRC), Russian President Vladimir Putin signed a joint declaration with Chinese President Hu Jintao. The declaration reiterated both countries’ common positions regarding major international issues and on the future development of bilateral relations between Russia and China. [1, 2] Of particular interest was Section V of the joint declaration, in which the two countries expressed their commitment to ensuring the nonproliferation of weapons of mass destruction (WMD). According to the joint statement:

- Both Russia and China consider proliferation of WMD and WMD delivery systems a serious threat to international security. In this regard, the two states welcomed UN Security Council Resolution 1540 (UNSCR 1540), which they deem to be “of great significance to the nonproliferation of WMD, WMD delivery systems, and related materials.” [2] *(For more information on UNSCR 1540, see editor’s note on page 2 of the current issue.)*
- Both countries attach special significance to strengthening the international nuclear nonproliferation regime and view the nuclear Nonproliferation Treaty (NPT) as the cornerstone of this regime. The joint declaration also stated that “considering the importance of the Comprehensive Test Ban Treaty (CTBT)

for the disarmament process and for strengthening the nonproliferation regime,” both parties agree that the CTBT should enter into force as soon as possible. [2]

- The two countries view the creation of nuclear-weapon-free zones (NWFZs) as an important initiative that would guarantee stability in Asia and in the rest of the world. Russia and China expressed their support for the establishment of a Central Asian NWFZ. [1, 2]

The joint declaration also underlined the importance of coordinating international efforts aimed at preventing nuclear terrorism, including physical protection of nuclear materials and the prevention of illegal nuclear-related transfers. Russia and China pledged to “undertake measures for developing interaction in the framework of the multilateral mechanism of nuclear export control.” However, the declaration did not specify the measures both countries would take in this regard. [2]

Sources: [1] “China, Russia to Cooperate in Nuclear Nonproliferation,” Xinhua News Agency, October 15, 2004, in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] “Sovmestnaya deklaratsiya Rossiyskoy Federatsii i Kitayskoy Narodnoy Respubliki” [Joint declaration by the Russian Federation and the People’s Republic of China], October 14, 2004, President of Russia website, <[http://www.kremlin.ru/interdocs/2004/10/14/0000\\_type72067\\_77988.shtml?type=72067](http://www.kremlin.ru/interdocs/2004/10/14/0000_type72067_77988.shtml?type=72067)>.

## U.S. and Indonesia Sign Nuclear Security Arrangement

On November 9, 2004, during the Asia-Pacific Summit in Sydney, Australia, (*see related story on page 2 of current issue*) the U.S. and Indonesian governments signed a bilateral agreement entitled “Arrangement on Nuclear Safeguards and Security Cooperation.” The arrangement was signed by National Nuclear Security Administration (NNSA) Deputy Administrator for Defense Nuclear Nonproliferation Paul Longworth and the Chairman of Indonesia’s Nuclear Regulatory Agency Dr. Azhar Djaloelis.

“This is an important step in nonproliferation efforts worldwide,” said Longworth. “It is essential that we have international cooperation to prevent nuclear materials from getting in the wrong hands, and I look forward to continuing an already positive relationship with Indonesia.”

According to a press release from the NNSA, the new arrangement will expand the scope of cooperation between the United States and Indonesia in nuclear nonproliferation. Technical projects under the new arrangement will further both countries’ efforts to support IAEA material protection, control and accounting activities in Indonesia. Potential U.S.-Indonesian cooperative projects include an assessment of potential threats at nuclear facilities; barrier upgrades; surveillance enhancements; and reducing the time required to respond to threats. [1]

Source: [1] National Nuclear Security Administration, “U.S. and Indonesian Governments Sign Arrangement on Nuclear Safeguards and Security Cooperation,” November 9, 2004, Press Release on NNSA website <[http://www.nnsa.doe.gov/docs/PR\\_NA-04-25\\_Indonesia\\_Arrangement\\_\(11-09\).htm](http://www.nnsa.doe.gov/docs/PR_NA-04-25_Indonesia_Arrangement_(11-09).htm)>.

## Maritime and Port Security

### Team Samurai: Bringing the PSI to Asia

The U.S.-led Proliferation Security Initiative (PSI) recently held its 12<sup>th</sup> interdiction exercise, this time in Sagami Bay, southwest of Tokyo. This was the first such exercise to be held in East Asia. Conducted October 25-27, 2004, and hosted by Japan, “Team Samurai” simulated the maritime interdiction of a ship carrying dangerous chemicals. The exercise incorporated approximately 900 troops from Japan, the United States, France, and Australia. [1] The drill also included observers from 18 other nations, including Cambodia, the Philippines, and Thailand. [2] The presence of these Southeast Asian nations as observers was interpreted as an indication of cooperation that could represent a step towards formal support for the PSI. [3]

*[Editor's Note: Japan and Singapore are the only East Asian nations to have actively participated in past PSI exercises.]*

Japan has been the most vocal supporter of the PSI in Asia, and Tokyo has been critical to ensuring the success of the PSI in the region. However, earlier reports indicated Japan was reluctant at first to host the exercise for fear of provoking North Korea, but relented, apparently due to U.S. pressure. While South Korea expressed cautious support for the PSI, Seoul did not participate in the exercise for fear of aggravating relations with Pyongyang. The same seems to have held true for Russia, which is a member of the PSI but declined to participate in the exercise. [3]

Although officials were quick to emphasize that the PSI drills are not directed against any specific nation, there was little doubt among observers that the October exercise carried a tacit warning to North Korea. Commenting on the drill, U.S. Undersecretary of State for arms control and international security John Bolton stated that the drills “demonstrated to would-be proliferators that the spread of weapons of mass destruction will not be tolerated.” [4] Bolton also stated separately that “North Korea is the pre-eminent proliferator of ballistic missile technology” and the profit that Pyongyang “earns from weapons and drug sales internationally goes to financing their nuclear weapons program.” [5]

*Editor's Note: In November 2004, the United States hosted the 13<sup>th</sup> PSI exercise based out of Key West, Florida. This exercise, named “Exercise Chokepoint '04”, included participation from Argentina, Australia, Canada, Chile, Denmark, France, Germany, Italy, Japan, Mexico, the Netherlands, Norway, Panama, Singapore, Spain, Sweden, the United Kingdom, and the United States. [6, 7] The ten-day drill, which concluded on November 18, 2004, was the first PSI exercise “to demonstrate new legal authorities created by a recently signed bilateral boarding agreement that sets out rapid consent procedures for boarding partner-flagged vessels.” [7]*

Sources: [1] “Weapons' Seized in 19-nation Drill Which Enrages North Korea,” Agence France Presse, October 26, 2004 in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] “Japanese Regional Proliferation Security Initiative (PSI) Maritime Interdiction Exercise,” U.S. Department of State Fact Sheet, October 22, 2004, <<http://www.state.gov/t/np/rls/fs/37371.htm>>. [3] “No Place to Hide, Maybe; Counter-Proliferation in Asia,” *The Economist*, October 30, 2004. [4] “PSI Drills Show Resolve to Prevent Illicit WMD Trade: Bolton,” Jiji Press, October 30, 2004. [5] James Brooke, “U.S.-Led Naval Exercise Sends Clear Message to North Korea,” *New York Times*, October 27, 2004, p 9. [6] “US Coast Guard Leads Multinational WMD Interception Exercise,” Agence France Presse, November 18, 2004 via *Spacedaily.com*. [7] “U.S.-Hosted Proliferation Security Initiative (PSI) Maritime Interdiction Exercise (Chokepoint '04),” U.S. Department of State Media Note, Office of the Spokesman, November 9, 2004, <<http://www.state.gov/r/pa/prs/ps/2004/37965.htm>>.

## **PSI Members Agree to Implement 24-Hour Rule for Worldwide Shipping**

The PSI Operational Experts Meetings, comprised of defense experts from various PSI-participating governments, met in Oslo on August 5 and 6, 2004, and agreed in principle to the global introduction of an advanced cargo declaration regime to inspect containers for arms or WMD-related items. These new initiatives followed concerns from both defense experts and the shipping industry that terrorists were planning attacks to disrupt worldwide shipping, and were intended to reduce the shipping industry's vulnerability to terrorist attacks. [1] Prior to the Oslo meeting, defense experts and representatives of the container shipping industry met on August 3 and 4, 2004 for a seminar in Copenhagen, and agreed that the advanced cargo declaration regime represented the most efficient means for the inspection of shipments. The advanced cargo declaration regime, also known as the “24- hour rule,” is already in place for shipments to the United States from ports participating in the Container Security Initiative (CSI). This regime requires shippers to file shipping manifests 24-hours prior to shipment. The information must arrive beforehand to allow inspectors time to analyze the data. [2]

Although the new inspection regime worried the shipping industry when it was first introduced under CSI, the system has since proved to be more efficient than expected. The system has increased and encouraged electronic data interchange in the industry, reducing overhead costs and increasing the proper dissemination

of information. The shipping industry released a statement in which it recognized the threats posed by terrorism and weapons of mass destruction, saying it “is prepared to co-operate closely with governments to prevent international terrorism and the illegal transport of weapons.” Additionally, the industry also stated that the “24-hour rule” would be an effective instrument in detecting suspicious maritime container shipments, and that the interception of suspect containers before loading would reduce disruption to world shipping. [3]

Sources: [1] “PSI Members to Push World Cargo Declaration Regime,” Global Security Newswire, August 6, 2004, <<http://www.nti.org>>; “The Proliferation Security Initiative: Calendar of Events”, U.S. Department of State, November 18, 2004, <<http://www.state.gov/tnp/c12684.htm>>. [2] “The Fragile State of Container Security: Written Testimony by Commander Stephen E. Flynn, U.S. Coast Guard (ret.) and Jeane J. Kirkpatrick, Council on Foreign Relations, before Senate Governmental Affairs Committee,” Council on Foreign Relations, March 20, 2003, <<http://www.cfr.org>>. [3] “Worldwide Accord on 24-hour Box Rule,” *Lloyd’s List*, August 6, 2004, <<http://www.lloydlist.com>>.

## Regional Round-up

**Asian Company Penalized for Exports to Iran:** The Nevada-based subsidiary of the Japanese-owned Ebara International Corporation, along with its former CEO Everett Hylton, pled guilty to selling four cryogenic transfer pumps to Iran in 2003, and attempting to ship three more in violation of U.S. export control laws. While the stated destination of the items was the Iranian state-owned Pars Petrochemical Company, the U.S. Department of Commerce expressed concern that the pumps could be diverted and used in the cooling systems for nuclear reactors at Iran’s Bushehr nuclear facility. According to the U.S. Department of Justice, the Japanese parent firm, Ebara International, opposed the sale to Iran until sales personnel in the London office developed a scheme to circumvent U.S. controls with the assistance of two French firms, Cryostar and Technip. Ebara International received a fine of \$6.3 million for its violation of U.S. criminal law under the International Emergency Economic Powers Act and agreed to pay \$121,000 in civil fines to the Department of Commerce for violations of the Export Administration Provisions. Western intelligence officials maintain Iran has continued to use European front companies to get around export controls and to secure sensitive equipment. [1]

**Germans Arrest Swiss Middleman involved in A.Q. Khan Network:** German police have arrested Urs Tinner, a Swiss national, for conspiracy to commit treason. Tinner, an engineer, had worked as a consultant for the Malaysian firm Scomi Precision Engineering (SCOPE) from April 2002 to October 2003. SCOPE was implicated in the A.Q. Khan nuclear procurement network for producing components for centrifuges capable of enriching uranium and transferring them to Libya. Malaysian officials claimed Tinner acted as a middleman between SCOPE and Libya, and then, to disguise his activities, erased technical drawings and removed records when he finished his contract with SCOPE in 2003. Tinner claimed he was unaware that SCOPE’s products were being used in the Libyan program. Tinner had been questioned by Swiss authorities in early September about his involvement with SCOPE. [2] (*For more details on this story, see “Germany and Switzerland Investigate Suspected Members of Proliferation Network,” in the October issue of the NIS Export Control Observer.*)

**NRC Expected to Approve Transfer of Nuclear Technology to China:** The U.S. Nuclear Regulatory Commission is expected to approve the first-ever sale of a U.S.-designed nuclear reactor to China. Westinghouse Electric Company has offered a \$2.7 billion bid to build two state-of-the-art 1,100MW(e) AP1000 reactors in China; the reactors would be the first in the world to use a new Westinghouse reactor design. The Commission will seek assurances from Beijing that this next-generation nuclear technology will not be sold to other countries. The Commission’s decision follows approvals by the Department of Energy on September 16, 2003 for the transfer to China of civilian nuclear technology, and the issuance of USNRC licenses for the export to China of civilian nuclear reactor components under the 1998 implementation of the 1985 U.S.-China Agreement for Peaceful Nuclear Cooperation. [3]

**Pakistani Senate Approves Nuclear and Biological Export Control Bill:** On September 14, 2004, the Pakistani Senate passed a bill to provide export controls for goods, technologies, materials, and equipment

for nuclear and biological weapons and missile delivery systems. The bill was in accordance with UN Security Council Resolution 1540, which calls on all states to strengthen controls on sensitive materials and technologies. Additionally, Pakistani officials hoped this new bill would create an image of Pakistan as a responsible nuclear weapons state, in response to the disclosures of the A. Q. Khan proliferation network. Foreign Ministry spokesperson Masood Khan stated, "The bill provides a consolidated and a comprehensive legislation, covering all aspects of the export of materials and technologies related to nuclear and biological weapons and their means of delivery . . . and lays down penalties for violators." (Legislation for chemical weapon-related items was already in place as part of Pakistan's obligations under the Chemical Weapons Convention.) [4]

**Liquid Uranium Received in South Korea:** An ethnic Korean woman living in China sent a vial filled with ten grams of natural liquid uranium to the Maritime Police at Pusan Port in the Republic of Korea. The Korean Atomic Energy Research Institute analyzed the material and determined it contained 0.7 percent U-235, equivalent to the purity of natural uranium in mountain water, and thus could not be used to produce an atomic weapon. Downplaying concerns, South Korean Minister of Science and Technology O Myong stressed that raw uranium like this is not subject to IAEA regulation and is readily available on the market. [5]

**Japan Conducts Counter-Terrorism Drill:** On October 22, 2004, Tokyo customs officials and police performed a joint-exercise drill simulating the response to an illicit export of biological weapons-related material. Under the simulation, customs officials discovered a suspicious container and called in the Nuclear, Biological and Chemical Terrorism Investigative Unit of the Tokyo police department, which concluded the material was likely diluted ricin. An investigator wearing protective clothing then removed the contents, which were to be delivered to the National Research Institute of Police Science. The drill preceded the combined Proliferation Security Initiative exercise off Yokosuka port with the United States, France, Australia, and Japan. [6]

Sources: [1] U.S. Department of Justice Press Release, "Ebara International Corp. and Its Former CEO and Chairman of the Board Everett Hylton Plead Guilty to Illegally Exporting Cryogenic Pumps to Iran," September 23, 2004, <[http://www.usdoj.gov/usao/dc/Press\\_Releases/Sept\\_2004/04355.html](http://www.usdoj.gov/usao/dc/Press_Releases/Sept_2004/04355.html)>; Bill Gertz, "U.S. Firm Fined \$6.3 Million for Iran Trade," *Washington Times*, September 25, 2004, <<http://www.washtimes.com>>; Michael Adler, "Iran Still Buying Centrifuge Parts Abroad," AFP News Agency, September 9, 2004, in FBIS EUP20040909000206. [2] Craig Whitlock and Shannon Smiley, "Germany Arrests Man in Libyan Atomic Case," *Washington Post*, October 12, 2004, <<http://www.washingtonpost.com>>; For more information on the link between SCOPE and A.Q. Khan, see "Politically Connected Malaysian Firm Linked to Nuclear Smuggling Network," *Asian Export Control Observer*, Vol. 1 (April 2004) <[http://cns.miis.edu/pubs/observer/asian/pdfs/aeco\\_0404.pdf](http://cns.miis.edu/pubs/observer/asian/pdfs/aeco_0404.pdf)> [3] Julianna Liu, "China Reactor Sale to be Approved Soon--US Official", Reuters, October 19, 2004, <<http://www.reuters.com>>; U.S. Department of State, Office of the Spokesperson, September 2, 2004, <<http://japan.usembassy.gov/e/p/tp-20040907-11.html>>. [4] "Pakistani Senate Approve Nuclear Export Control Bill," *Pakistani Times*, September 18, 2004 in CITS Export Control Newsletter, No. 47, <<http://www.uga.edu/cits/documents/html/xcnews47.htm>>; "Text of Pakistan's Nuclear Export Control Bill," APP News Agency, September 18, 2004 in FBIS IAP20040918000024. [5] "ROK Maritime Police Uncover Smuggling of Natural Liquid Uranium Into ROK in June," Seoul MBC TV report, October 18, 2004 in FBIS KPP20041018000175; "Uranium Sent to ROK 'Has No Meaning' Due to 'Low' Purity," Yonhap News Agency, October 19, 2004, in FBIS KPP20041019000015. [6] "Tokyo Conducts Anti-Chemical Weapons Drill," Kyodo News Source, October 22, 2004, in Lexis-Nexus Academic Universe, <<http://web.lexis-nexus.com>>

## International Export Control Regimes

### Australia Group and Plant Pathogens: First Update in More Than a Decade

*(This article also appears in the October issue of the NIS Export Control Observer.)*

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The original Australia Group (AG) List was developed as a direct response to the use of chemical weapons by Iraq in its 1980-1988 war with Iran and to the availability, from the international chemical industry, of precursor materials for Iraq's chemical weapons program. This list (prepared at the second AG meeting in September 1985 and agreed upon at the fourth meeting in May 1986) included chemicals for the production of sarin, tabun, soman, VX, sulphur mustard, and psychochemicals (such as BZ).

In 1990, human and zoonotic (animal pathogens that can be transmitted to humans) biological agents and equipment were added to the control list in response to increasing evidence of diversion of dual use biological materials to biological weapons (BW) programs. The judgment proved sound, as it was later learned that Iraq successfully imported some strains of *Bacillus anthracis*, *Clostridium botulinum*, and *Clostridium perfringens* bacteria and used them in BW production. [1]

Plant pathogens were added to the control list in 1993 but the plant pathogen sub-list was not expanded for more than a decade. However, during this year's AG Plenary Meeting, held in Paris on June 7-10, the 38 countries participating in the AG agreed to update its core list of plant pathogens for export control purposes.

The five new plant pathogens included on the core list comprise three bacteria and two viruses (actually one virus and one viroid), as follows:

1) Bacteria:

- The causative agent of Rice Blight, *Xanthomonas oryzae pathovar (pv.) oryzae* (synonyms: *Pseudomonas campestris pv. oryzae*; *Xanthomonas itoana*; *Xanthomonas kresek*; *Xanthomonas translucens f.sp. oryzae*);
- The causative agent of Ring Rot (a disease of potatoes) *Clavibacter michiganensis* subsp. *Sepedonicus* (synonyms: *Corynebacterium michiganensis* subsp. *Sepedonicum* or *Corynebacterium sepedonicum*); and
- The causative agent Potato Brown Rot, *Ralstonia solanacearum* races 2 and 3 (synonyms: *Pseudomonas solanacearum* races 2 and 3 or *Burkholderia solanacearum* races 2 and 3)

2) Viruses:

- potato Andean latent tymovirus; and
- potato spindle tuber viroid (synonym: tomato bunchy top virus).

The new list makes clear that at the AG this can be said to be "the year of the potato," since, with the exception of *X. oryzae*, the plant pathogens added to the export control list have the potential of severely limiting potato production and causing significant economic loss. The potato is the fourth most important food crop in the world, and it is the staple food for a billion consumers in developing countries, where potato production is increasing rapidly. Also, crops in Western Europe would be extremely susceptible to infection by these pathogens, since most of the diseases they cause are not yet established in this region. Therefore, it is not surprising that the European Union (EU) promoted these additions to the plant pathogens list.

It may be noted that the United States has not, as yet, taken parallel action to promote controls to curtail the worldwide spread of pathogens that could endanger North American crops. The United States has not pressed, for example, to have *Phytophthora infestans* causative agent of Late Blight, included on the AG control list. The pathogen caused the Great Potato Famine in the mid-19<sup>th</sup> century, resulting in mass starvation in Ireland; it also caused about \$100 million in damage in the United States alone in 1994, due to infected seed potatoes that came from Europe. [2] *P. infestans* still poses a major threat because the pathogen is continually evolving to overcome most of the chemical control measures that have been introduced against it over the last 150 years, and new and aggressive strains of this fungus-like organism continue to evolve. Placing this pathogen on the AG list could reduce the danger of its being introduced into areas where it is not endemic, such as North America, and reduce the danger of its resurgence in zones where it has been eradicated or controlled.

The paragraphs below provide a description of the newly added plant pathogens.

*Xanthomonas oryzae pv. oryzae* was previously listed among the AG's "Items for inclusion in awareness-raising guidelines" and has now been promoted to the core list. *X. oryzae pv. oryzae* is the causative agent of Rice Blight (also known as Bacterial Leaf Blight or Kresek Disease), a common and destructive disease of

rice in many countries in Asia (Bangladesh, India, China, Indonesia, Japan, Korea, Lao, Malaysia, Nepal, etc.) but also in Africa (Madagascar, Mali, Niger, etc.), South America (Venezuela, Ecuador, Bolivia, Colombia), and Oceania (Australia). Rice Blight has also been reported in North America (Mexico and the United States). This disease has also been found but is not “established” in Russia and is absent in the EU countries.

It first appears as moist wet pale green-to-brown spots on the leaves of young plants. These lesions expand and coalesce into stripes that may exude a yellowish-white liquid. Eventually, the whole leaf dies. The systemic infection (known as Kresiek Disease) leads to the death of the entire plant. The disease is spread over short-distances by wind from infected crop plantations and by infected rice seeds over long-distances. Control of disease is achieved by crop rotation, treatment of seeds with antibiotics, and use of races (sub-species) resistant to the disease.

*Clavibacter michiganensis subsp. Sepedonicus* is the causal organism of bacterial Ring Rot in potato. The disease is called “rot” because the rot (which may be brown to black in color and soft-cheese-like in appearance) affects the vascular ring of the potato tuber. Such signs are sometimes confused with those caused by *R. solanacearum*. The disease is found in parts of North America (Canada and the United States), South America (Peru), Europe (Eastern and Western countries), Asia (China, Japan, Kazakhstan, Korea, Taiwan, Uzbekistan), and Africa (Algeria). Infection is caused by using infected seed potatoes, irrigation with contaminated water, or by using contaminated farm equipment, containers, and premises. Bacteria can survive from season to season in the unharvested potatoes from the previous crop and on farm equipment used on an infected crop.

*Ralstonia solanacearum* comprises a complex of strains, biovars (biotypes), races and groups. Race 2 is known to be transmitted by insects and affects bananas (causing Moko disease) while Race 3 (the potato race) affects mainly potatoes and tomatoes and can be easily spread by using contaminated water for irrigation. *R. solanacearum* is mostly known for its ability to cause the Potato Brown Rot (brown staining or rotting of the vascular ring in potato tubers). Similar to *C. michiganensis*, tubers are the parts affected in most cases but the entire plants may also wilt after infection. Major means of spreading the disease include water, infected transplants and contaminated farm equipment moving from field to field.

Both Ring Rot and Brown Rot of potato (caused by *C. michiganensis subsp. Sepedonicus* and *R. solanacearum*, respectively) are serious bacterial diseases that cause major yield losses through rotting of tubers. Annual losses from Ring Rot have been as high as 50% in the United States,[3] while Brown Rot is the main limiting factor in potato production in many parts of the world. In addition, the cost of disease control may be high once the disease becomes established in a certain area. These indirect economic losses usually more than offset expenses related to disinfection of equipment and storage/packing facilities, prohibition of potato cultivation and/or potato exports.

The last two agents added to the AG List are also potato pathogens, chosen from more than 35 different viruses known to affect potatoes: the potato Andean Latent Tymovirus and the Potato Spindle Tuber Viroid.

The Potato Andean Latent Tymovirus also affects mainly the potato and is widespread in the Andean regions of South America (Bolivia, Colombia, Ecuador, Peru). Symptoms include mottles, chlorotic blotches, and leaf necrosis. It is transmitted by contact between plants, insect vectors (such as beetles), and through tubers and true seeds.

The Potato Spindle Tuber Viroid causes “spindle tuber” in potatoes and “bunchy top” in tomatoes but other *Solanaceae* may also become affected. It is spread in certain areas of North America (Canada, the United States), Africa (Egypt, Nigeria), Oceania (Australia), Asia (China, India, Afghanistan), and some European countries (Russia, Ukraine, Poland). Similar to the bacterial Ring Rot, the viroid can be spread by contact through the use of contaminated equipment, facilities, and containers and by contact between healthy and diseased plants; insects have also been reported as vectors.

Sources: [1] R. A. Zilinskas, “Iraq’s Biological Weapons,” *Journal of American Medical Association*, No. 278 (1997), pp. 418-424. [2] J. Pate and G. Cameron, “Covert Biological Weapons Attacks Against Agricultural Targets: Assessing



the Impact Against U.S. Agriculture”, BCSIA Discussion Paper 2001-9, ESDP Discussion Paper ESDP-2001-05, John F. Kennedy School of Government, Harvard University, August 2001. [3] G. D. Easton, “The Biology and Epidemiology of Potato Ring Rot,” *American Potato Journal*, No. 56 (1979), pp. 459-460.

## **MTCR Holds 19<sup>th</sup> Plenary in Seoul; Chinese Membership Not Discussed**

*(An earlier version of this article also appears in the October issue of the NIS Export Control Observer.)*

Representatives from 34 member countries of the Missile Technology Control Regime (MTCR) met in Seoul, South Korea, on October 6-8, 2004 for the organization’s 19<sup>th</sup> annual plenary. [1]

The plenary was held against a backdrop of increased ballistic missile development in parts of the world, including a possible test by Pakistan of its nuclear-capable Ghauri missile, reports by Iranian officials claiming to have missiles capable of hitting European targets, and speculation that North Korea was preparing to conduct a missile test. [2] According to a statement on the South Korean Ministry of Foreign Affairs and Trade website, member countries “expressed concern over missile proliferation in Northeast Asia, the Middle East, and South Asia, and reaffirmed their determination to continue discouraging missile programs and activities of proliferation concern.” [1] The foreign ministry’s director-general, Oh Joon, who chaired the conference, told South Korea’s Yonhap news agency that the MTCR countries maintained a common position that Pyongyang must continue to abide by its self-imposed moratorium on missile testing. [3]

In response to increasingly sophisticated procurement attempts, the plenary recognized the need to consider intangible technology transfers; transit, transshipment, and brokering controls; and the need to curtail the activities of intermediaries and front companies. [1]

A U.S. Department of State official, as quoted by Global Security Newswire, said that new items were added to the regime’s annex, including certain kinds of precision ball bearings useful in liquid-propelled rocket engines. [2]

MTCR member countries welcomed the adoption of UN Security Council Resolution 1540, which requires all countries to establish and enforce effective export controls regulating the transfer of weapons of mass destruction, ballistic missiles, and related technologies. Non-MTCR countries were urged to follow MTCR guidelines and controls. [1]

Spain will assume the MTCR chair next year and will host the 2005 plenary. [1]

### **China’s Membership Not Addressed**

The topic of China’s membership was not addressed at the October meeting of the MTCR, despite Beijing’s expressed interest in joining. [4] China had sent a letter in September 2003 indicating positive interest in applying for membership to the MTCR, and two rounds of preliminary meetings were held between the Chinese Department of Arms Control and Disarmament and the MTCR in January and June 2004. At the second meeting in Beijing, then-MTCR Chairman Ambassador Carlos Sersale di Cerisano of Argentina committed to actively consider Beijing’s application. [5] However, doubts were raised about Beijing’s export control and behavior standards. Just before the October meeting, the U.S. placed sanctions on eight Chinese companies, including Xinshidai which was directly accused of missile proliferation. [3] *(See related story on page 4 of the current issue.)* The applications of ten other countries were also not discussed at the meeting. [6]

Sources: [1] “Plenary Meeting of the MTCR,” October 8, 2004, Ministry of Foreign Affairs and Trade of the Republic of Korea website, <<http://www.mofat.go.kr/en/>>. [2] Mike Nartker, “MTCR Members Discuss Work to Slow Missile Spread,” Global Security Newswire, October 13, 2004, on the Nuclear Threat Initiative website, <<http://www.nti.org/>>. [3] “Missile Technology Control Regime Warns North Korea Against Missile Test,” Yonhap News Agency, October 8, 2004; in Lexis-Nexis Academic Universe, <<http://lexis-nexis.com/>>. [4] Wade Boese, “Missile Regime Puts Off China,” *Arms Control Today*, November 2004. <[http://www.armscontrol.org/act/2004\\_11/MTCR.asp](http://www.armscontrol.org/act/2004_11/MTCR.asp)>. [5] “China Seeks Non-proliferation Group Status,” *China Daily*, June 4, 2004, <[http://en.ce.cn/National/Politics/t20040604\\_995668.shtml](http://en.ce.cn/National/Politics/t20040604_995668.shtml)>. [6] Mike Nartker, “Missile Meeting to Discuss Chinese

## International Developments

### International Conference on WMD Export Controls Meets in London

The Sixth International Conference on Export Controls took place in London from November 8 to November 10, 2004. The event, co-hosted by the U.S. Department of State and the UK Office of Foreign and Commonwealth Affairs, brought together export control officials and specialists from 45 states, five international organizations (the International Atomic Energy Agency, the Missile Technology Control Regime, the Zangger Committee, the Wassenaar Arrangement, and the World Customs Organization) and four non-governmental organizations (the Monterey Institute's Center for Nonproliferation Studies, the Stockholm International Peace Research Institute, the University of Georgia's Center for International Trade and Security, and the Wisconsin Project.) Regions with significant representation included Eastern and Southern Europe, East Asia, and the states of the former Soviet Union, as well as Western Europe. Iraq, Libya, and Pakistan were among the states participating in the meeting for the first time, an indication of the increasing interest in nonproliferation export controls in these countries.

Participants reviewed current proliferation threats in Iran and North Korea and the growing danger of weapon-of-mass destruction (WMD) terrorism. They also highlighted a number of positive developments, in particular, Libya's renunciation of WMD; the adoption of UN Security Council Resolution 1540 (UNSCR 1540), requiring all UN member states to implement effective measures to control WMD exports and secure WMD materials at home; and the growing contributions of the Proliferation Security Initiative and the G-8 Global Partnership to Combat the Spread of Weapons and Materials of Mass Destruction.

A leading theme discussed at the meeting was the growing international consensus on the importance of export controls in stemming WMD proliferation. This was seen, for example, in the United Nation Security Council's unanimous adoption of Resolution 1540, in the expanding adherence to supplier regimes, and in the increasing number of states contributing to the Proliferation Security Initiative. In this regard, meeting participants also observed that the control lists and practices of the Australia Group and the Nuclear Suppliers Group were likely to become de facto standards of effective export controls under UNSCR 1540, adding to the widening international acceptance of these organizations. Many participants saw the consensus on the importance of export controls as diminishing the traditional antipathy of many developing nations to export controls, which such states have often considered to be impediments to their economic development. Indeed, a number of meeting participants stressed that implementation of such controls was becoming a distinct asset for developing states, by facilitating trade with export control regime member countries. In this regard, it was recalled that in June 2004, the Australia Group decided that members should take into account, when reviewing export licenses, whether the recipient state has implemented effective export controls.

In examining the implications of the A.Q. Khan illicit nuclear supply network, participants noted that the extensive list of items obtained by the network from third countries and provided to Libya included numerous items apparently imported from more advanced nations, such as flow-forming machines, high-frequency controllers, and controlled types of steel and aluminum. This indicated that states with advanced industrial capabilities still had much work to do to reinforce their export control systems. It was also pointed out that because the brokering activities typified by the Khan network were making the matériel needed for proliferation easier to obtain, the demand for such items was likely to grow.

The following topics were among those raised during the meeting:

- Conferees reviewed the implementation of catch-all provisions, which were seen to be an increasingly important element of export controls, leading, for example, to 70 percent of denial notices within Australia Group, and 50 percent of denial notices within the Nuclear Supplier Group.

- During the meeting's examination of the challenges of controlling deemed exports and other intangible technology transfers, a repeated theme was the need to intensify outreach efforts to the academic community, where such controls have faced considerable opposition.
- In highlighting the expanding participation in the Proliferation Security Initiative, it was noted, among other developments, that boarding agreements were currently being negotiated with three additional nations – Belize, Greece, and Malta.
- An important issue raised during the discussion of licensing practices was the difficulties for many smaller states and for industry of screening end-users and end-uses. To address this challenge, many participants underscored the need for governments with more extensive end-user/end-use monitoring efforts to share additional information with smaller states and exporters, consistent with the protection of intelligence sources and methods.
- In the area of enforcement, participants agreed that it was essential that enforcement practices, including targeting, be adapted to the particular needs and capabilities of individual states, which vary widely.
- On the issue of licensing, specialists emphasized the need for strengthened practices in the areas of end-use/user controls, intangible technology transfers, and catch-all controls.

### **Bush Extends Emergency Export Control Act**

*(A longer version of this article appears in the October issue of the NIS Export Control Observer.)*

On August 6, 2004, U.S. President George W. Bush extended the International Emergency Economic Powers Act (IEEPA), allowing the U.S. Department of Commerce Bureau of Industry and Security (BIS) to control dual-use exports in the absence of valid export control legislation. [1] Since the primary U.S. export control law, the Export Administration Act (EAA), expired in 1990, the U.S. president has issued annual executive orders under IEEPA to maintain the country's export control system.

In 1990, the Congress was unable to agree on the provisions for a new EAA and failed to reauthorize the EAA of 1979. In order to maintain the existing export control regime, then-President George H.W. Bush invoked authority under the IEEPA. The failure of the Congress to adopt a new EAA in the 1990s required presidents Bush and Clinton to issue annual executive orders invoking IEEPA authority to maintain the country's export control system. In October 2000, the Congress passed legislation temporarily reinstating the EAA of 1979 through August 2001. When the proposed EAA of 2001 failed to pass into law, President George W. Bush again invoked IEEPA authority on August 21, 2001, and has renewed it annually since. [2]

According to U.S. officials, the U.S. government can effectively control dual-use exports under IEEPA, but there are drawbacks. In his May 23, 2001 testimony to the U.S. House of Representatives Committee on International Relations, Undersecretary for Export Administration Kenneth I. Juster said that operating under IEEPA raises an increasing number of legal and political complications. Moreover, it “sends the wrong message—at home and abroad—about our commitment to export controls. It is hard to persuade other countries about the importance of establishing a sound and workable export control system if we are unable to do that ourselves.” [3]

U.S. Assistant Secretary of Commerce for Export Administration Peter Lichtenbaum noted in his October 4, 2004, remarks to the Update 2004 conference that it is important to renew the EAA “in order to have a permanent foundation for our controls—particularly in light of the recent passage of United Nations Security Council Resolution 1540.” According to Lichtenbaum, the U.S. Department of Commerce will continue to work with the Congress towards revising and renewing the EAA. [4]

Sources: [1] R. G. Edmonson, “Bush Signs Export Controls Extension,” *The Journal of Commerce*, August 9, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] Fergusson, et al., “RL30169: Export Administration

Act of 1979 Reauthorization,” CRS Report for Congress, updated March 26, 2001, National Council for Science and the Environment website, <<http://www.ncseonline.org/>>. [3] “Statement of Kenneth I. Juster, Under Secretary for Export Administration, Department of Commerce before the Committee on International Relations, U.S. House of Representatives,” May 23, 2001, U.S. Department of Commerce Bureau of Industry and Security website, <<http://www.bxa.doc.gov/News/archive2001/justerb4hseintlrelations52301.htm>>. [4] “Export Controls in a Changing World,” Prepared Remarks of the Honorable Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration, Update 2004 Conference on Export Controls and Policy, Bureau of Industry and Security, U.S. Department of Commerce, October 4, 2004, BIS website, <<http://www.bis.doc.gov/News/2004/update04Peter.htm>>.

## Workshops & Conferences

### Fifteen Countries and Regions Attend the 12<sup>th</sup> Annual Asia Export Controls Seminar

The Japanese Ministry of Foreign Affairs (MFA) and the Ministry of Economy, Trade, and Industry (METI), along with Japan’s Center for Information on Security Trade Control (CISTEC) recently held their 12<sup>th</sup> annual Asia Export Control Seminar in Tokyo. At past seminars, participants discussed a range of issues including the importance of government-industry cooperation, reform of current export controls, and strengthening export controls to prevent transshipment in the region. The most recent seminar, held October 19-21, 2004 included delegations from 15 countries. [1] The delegates focused on developing a common understanding of the importance of export controls in Asian countries, of which, many have become transshipment points for dual-use items. [1] The A.Q. Khan network’s use of a number of Asian countries for its illicit trade in nuclear materials highlighted the extent of the problem in the region.

According to the opening remarks by representatives of the Japanese government, the seminar was aimed at furthering the development of export control laws and regulations in the region as well as improving the skills of licensing and customs officials. [2] METI presentations focused on several topics, including joint development of a common commodity watch list, outreach activities and cooperation with the private sector, and procedures for confirming end-users. [3] A U.S. government representative present at the seminar stated that the gathering was highly useful and productive, and that the delegations had active discussions on how to improve domestic export control systems. [4]

During the meeting, representatives from Thailand’s Office of Atoms for Peace stated that Bangkok would sign the IAEA’s Additional Protocol once relevant training courses sponsored by Australia and the United States were completed. Also, this year marked the first time Pakistan participated in the seminar. Islamabad’s representative at the meeting gave an overview of Pakistan’s export control system. [4]

Sources: [1] “12th Annual Asia Export Control Seminar,” Press Release Ministry of Foreign Affairs, October 14, 2004 <[http://www.mofa.go.jp/mofaj/press/release/16/rls\\_1014a.html](http://www.mofa.go.jp/mofaj/press/release/16/rls_1014a.html)>. The delegations participating in this year’s seminar were from Australia, Brunei Darussalam, Cambodia, China, Germany, Hong Kong, Indonesia, Japan, Laos, Macau, Malaysia, Mongolia, Myanmar, Pakistan, Philippines, the Republic of Korea, Singapore, Taiwan, Thailand, United Arab Emirates, the United States, and Vietnam. [2] “The 12th Asian Export Control Seminar-Press Release and Agenda,” CISTEC, <<http://www.cistec.or.jp/members/service/intlcoop/aecs12/data/H16AECS-Agenda-Final.pdf>>. [3] Presentations at the 12th Asian Export Control Seminar by: Koichiro Akatsu, Director of Security Export Control Policy Division, Ministry of Economy, Trade and Industry, Japan; Naoyuki Hasegawa, Director, Security Export Licensing Division, Ministry of Economy, Trade and Industry, Japan; Keiichiro Okuda, Director, Security Export Inspection Office, Ministry of Economy, Trade and Industry, Japan. [4] Discussion with member of U.S. delegation to the Asia Export Control Seminar.

### NNSA Expands Training Efforts to Combat WMD Smuggling

The U.S. Department of Energy’s National Nuclear Security Administration (NNSA) announced that it is further “expanding its efforts to train border guards and customs officials worldwide to combat the threat posed by the illicit smuggling of WMD-related equipment and technology.” As part of this training effort, the NNSA, in particular its International Nonproliferation Export Control Program (INECP), designed the Commodity Identification Training (CIT) curriculum. [1] A number of countries in the Asia-Pacific region

were also involved in the development of the curriculum, including Japan and Australia, as well as authorities in Hong Kong. The training curriculum was carried out in Thailand in November 2004, and will be held in Singapore in January 2005. [2] According to NNSA Administrator Linton Brooks: “Our goal is to help partner countries incorporate WMD training programs for customs inspectors, investigators, border guards and other key personnel.” [1]

NNSA’s mission is to carry out the national security responsibilities of the Department of Energy, including the promotion of international nuclear safety and nonproliferation, and the reduction of global danger from weapons of mass destruction. [3] As a means of fulfilling NNSA’s mission, INECP helped create export control enforcement training programs through partnerships between U.S. experts and counterparts in selected foreign countries. U.S. and partner state experts work together to adapt CIT in order “to address local proliferation threats and to enhance partners’ training capabilities. This ensures that knowledge necessary to identify WMD-related trade reaches all relevant export control personnel in the foreign country, while simultaneously introducing these officers to in-country experts to whom they can refer technical questions that arise during inspections or investigations.” [4]

*(For more information on NNSA’s CIT curriculum, see “NNSA’s Role in Preventing Weapons Proliferation: CIT Workshop Indigenization Moving Forward,” in the September Issue of the NIS Export Control Observer)*

Sources: [1] National Nuclear Security Administration, “NNSA Expands Efforts to Combat Illicit Smuggling of WMD-Related Equipment and Technologies,” Press Release, October 14, 2004, NNSA website <<http://www.nnsa.doe.gov>>. [2] Discussion with NNSA official, November 2004. [3] “Mission Statement,” NNSA Website, <<http://www.nnsa.doe.gov>>. [4] Richard Talley, “NNSA’s Role in Preventing Weapons Proliferation: CIT Workshop Indigenization Moving Forward,” *NIS Export Control Observer*, September 2004, pp 3-4, <[http://cns.miis.edu/pubs/nisexcon/pdfs/ob\\_0409e.pdf](http://cns.miis.edu/pubs/nisexcon/pdfs/ob_0409e.pdf)>.

## Special Report

### **Duelfer Report Uncovers Complex Iraqi Arms Procurement Network; Links to Asian Countries and Companies**

*Special Report by Elizabeth Eraker and Andy Diamond*

On October 6, 2004, the United States government released a 918-page report presented by Charles Duelfer, a special adviser to the Director of Central Intelligence, detailing the findings of the 1,200-member Iraq Survey Group (ISG) on the state of Iraq’s conventional and weapons of mass destruction (WMD) programs between the Gulf War in 1991 and the U.S.-led invasion of Iraq in March 2003. [1] This report, the *Comprehensive Report of the Special Advisor to the DCI on Iraq’s Weapons of Mass Destruction* (hereafter the “Duelfer Report”), draws on interrogations of captured Iraqi experts and regime officials, including Saddam Hussein; physical inspections of suspected WMD sites; and tens of millions of pages of documents recovered during the war and occupation. Ultimately, the ISG found no evidence that Saddam Hussein possessed WMD stocks in 2003 or had a “militarily significant capability” to produce such weapons. It did, however, uncover an extensive illicit procurement network through which the Iraqi government under Saddam, assisted by many other governments and private companies, acquired increasing amounts of military and dual-use goods in violation of UN sanctions. Involvement by Asian countries included the government of North Korea and private companies from India, Taiwan, the People’s Republic of China, and South Korea.

#### **No Active WMD Programs**

The Duelfer Report concluded that the 1991 Gulf War and subsequent UN sanctions and inspections effectively destroyed Iraq’s ability to build a nuclear weapons program. Despite Saddam’s efforts to preserve the country’s nuclear expertise, the ISG “found no evidence to suggest concerted efforts to restart the program.” [2, 3, 4] In its investigation of Iraq’s chemical weapons (CW) capabilities, the ISG found “no chemical process or production units configured to produce key precursors or CW agents,” although it did conclude that a reorganization of the chemical industry in the mid-1990’s “allowed [the regime] to conserve

the knowledge-base needed to restart a CW program, [and] conduct a modest-amount of dual-use research.” [5] According to the report, Iraq abandoned its existing biological weapons (BW) program in late 1995 at the depth of the country’s economic depression. While Iraq maintained “a significant dual-use capability,” the ISG found that “any attempt to create a new BW program after 1996 would have encountered a range of major hurdles.” [6] While the regime never abandoned planning for rebuilding its long-range missile program, it was unable to reconstitute its long-range missile inventory and production infrastructure after 1991.

### **Preserving a Dual-Use Capability Through Illicit Trade**

While the ISG found that the regime had no “formal written strategy or plan for the revival of WMD after sanctions,” the group determined that Saddam Hussein wanted to preserve his capability to produce WMD if sanctions were lifted, primarily as a deterrent against Iran. [7] With U.N sanctions placing Iraq in an “economic stranglehold” by tightly controlling its key source of revenue (oil exports) and determining what it could and could not import, Saddam’s resources were severely limited following the 1991 war. Iraq’s longstanding trade “protocol” with Jordan “ensured the regime’s survival” during this period, generating an estimated \$2.8 billion until the UN Oil for Food (OFF) program began in December 1996. [8]

Saddam’s acceptance of the OFF program, which allowed Iraq to sell a limited amount of petroleum products in order to pay for badly needed humanitarian goods, proved to be a “key turning point.” [9] The Iraqi leadership quickly realized the OFF program could be manipulated to both undermine the UN sanctions and to augment Iraq’s existing dual-use and WMD infrastructure. [7] Despite U.S. resolve to maintain the sanctions, Saddam was committed to reduce their strength to that of a “paper tiger.” [8] Driven by this goal and now empowered with a mechanism to achieve it, the regime pursued a multifaceted diplomatic and economic strategy to generate revenue and procure illicit goods, while eroding the efficacy of the sanctions and capitalizing on Iraq’s humanitarian crisis. Saddam oversaw a clandestine program that awarded vouchers for oil at below-market prices to influential individuals and groups committed to undermining international support for UN sanctions. To stave off economic collapse and generate much-needed revenue for procurement, Saddam’s regime placed illegal surcharges on UN-approved oil sales, negotiated kickbacks on approved contracts for commercial goods, entered into new clandestine bilateral trade protocols allowing oil sales outside the purview of the UN, and smuggled oil for cash. [8] Iraq’s trade protocols with nearby states, including Syria, Jordan, Turkey, Egypt and Yemen, supplied its largest source of revenue (an estimated \$8 billion), but also provided equally valuable banking services and transport routes for illegal goods. [8] The ISG found that the “illicit-revenue streams” pursued by the Iraqi regime from the early 1990’s to March 2003 generated over \$11 billion. [8]

### **Procurement Tactics**

As funding began flowing into Iraq from the OFF program and bilateral trade protocols, Iraqi officials established a network for procuring goods from foreign suppliers. More than 230 front companies were created by both the Iraqi government and individual citizens for the purpose of smuggling prohibited imports. [8] Trade intermediaries served as middle-men for contracts between Iraqi clients and international suppliers. The use of falsified paperwork or other deceptive tactics meant that trade intermediaries were sometime unaware of Iraqi involvement in the contracts they facilitated. According to the report, “perhaps the most basic method for Iraq to skirt international scrutiny was to simply list a neighboring country as the final destination, when in fact the commodities were only held there until they could be smuggled to Iraq by Saddam’s agents.” [8] Limited UN oversight of border crossings and the absence of monitors at airport and sea entry points, combined with smuggling tactics such as hiding illicit goods in legitimate shipments, enabled intermediaries to transfer prohibited items easily into Iraq, most commonly from Syria and Jordan, but also from the UAE and Russia.

While involvement in illicit trade was pervasive across the Iraqi government, the Duelfer Report identified three Iraqi organizations in particular that Saddam relied upon to procure illicit goods, including dual-use items, some of which had WMD applications: the Military Industrialization Commission (MIC), the Iraqi Intelligence Service (IIS), and the Iraqi Atomic Energy Commission (IAEC).

## Supplying the Network

The Duelfer Report concluded that the numerous countries and companies involved in the Iraqi procurement network were largely motivated by the “the profitability of such trade.” [8] Governments that directly supported or endorsed private company efforts to provide conventional arms to Iraq included Belarus, the former Federal Republic of Yugoslavia, North Korea, Syria, Yemen, and possibly Russia. The companies who supplied Iraq with conventional arms were based in 14 countries—Bulgaria, Cyprus, Egypt, France, Georgia, India, Jordan, Lebanon, the People’s Republic of China, Poland, Romania, South Korea, Taiwan, and Ukraine.

Companies from China and South Korea began supplying the regime in its “recovery period” (1996-98), when revenue skimmed from OFF sales made significant military procurement possible for the first time. Asian firms from India and Taiwan, and the government of North Korea, joined the illicit network during the “transition and miscalculation” phase. This phase saw first the suspension of the UN Special Commission (UNSCOM) and International Atomic Energy Agency (IAEA) monitoring activities inside Iraq, which further “[emboldened] Saddam and his procurement program,” and then, in September 2002, the return of UNMOVIC and IAEA inspectors. [8] The following is a summary of the findings related to these Asian entities.

### China

While Iraq had an explicit strategy to enlist China’s support in the lifting of UN sanctions by offering economic incentives, such as lucrative trade deals, the ISG found no evidence that Beijing was complicit in illegal transfers by Chinese companies to Iraq. Instead, China’s “bloated...newly founded commercial system” and the lack of market regulations provided an opportunity for “newly privatized state-owned companies ... to circumvent export controls and official UN monitoring to supply prohibited goods.” [8] According to the report, some of the contracts with Chinese firms that were abruptly stopped may have been due to direct intervention by Beijing. Chinese firms supplied the Iraqi regime “with limited, but critical items, including gyroscopes, accelerometers, graphite, and telecommunications equipment.” [8] Overall, the Duelfer Report found that the Chinese-Iraqi procurement relationship allowed Iraq “to improve its indigenous missile capabilities.” [8]

In the fall of 2000, Iraq sought 200 gyros and machine tools with missile applications from NORINCO, a well-known Chinese military supplier that has been sanctioned repeatedly by the United States, including twice in 2004 (*see related story on page 4 in the current issue*). Contacts were also made for the possible acquisition of test equipment associated with inertial guidance systems in 2000. Additionally, Iraq purchased dual-use items, such as graphite and fuel for propellants, which have potential ballistic missile applications. [8] While these deals and a majority of others used a variety of front companies and intermediaries in Turkey, Syria, India, and Jordan, Iraq also employed “commercial attachés” to obtain illicit goods. In mid-2001, Abd al-Wahab, an IIS officer stationed at the Iraqi Embassy in China, personally procured 10-20 gyroscopes and 10-20 accelerometers from an unknown Chinese company for use in the guidance and control systems of the al Samud II and Al-Fat’h missiles. [8]

The report also highlighted the “robust cooperation” between Chinese firms and Iraq in the trade of telecommunications equipment, which was restricted by the UN on dual-use grounds. Once procured, Iraq used Chinese fiber-optics and circuits to connect “static command, control, and communication (C3) bases.” In a separate sale, Huawei Technology, a well-known Chinese telecommunication company, along with two other Chinese companies, did extensive work in and around Baghdad, including the installation of telecommunication switches, fiber-optic cable, and more than 100,000 telecommunication lines. [8]

### South Korea

Private companies in South Korea started transferring high technology to Iraq in 1998, though the ISG found no evidence that the South Korean government was complicit in any illegal trade. Technologies procured by Iraq from South Korean companies included military computer equipment, sophisticated communications, such as fiber optics, and radar systems. From 2000 to 2001, South Korea transferred high technology components, software and expertise, assisting Iraq’s indigenous production of military computers and, consequently, the “overall improvement of its conventional military power.” [8] Given the reluctance of South Korean companies to deal directly with Iraq, a network of front companies and trade intermediaries

from India, Jordan, and Syria were used to hide Iraqi involvement and facilitate trade with South Korean suppliers.

#### North Korea

According to the ISG findings, the DPRK was the only government in Asia to be directly involved with transfers in violation of UN sanctions. North Korea supplied Iraq with long-range missile technology and military equipment from 1999 through 2002, clearly demonstrating Saddam's "intent to rebuild his conventional military force, missile-delivery system capabilities, and indigenous missile production capacity." [8] Beginning in 1999, cooperation expanded to discussions of a multi-tiered sale of technology for surface-to-surface missiles (SSMs) and land-based anti-ship missiles. By mid-2001, Iraq had already signed US\$10 million worth of contracts for military-related procurements, such as technology for missile guidance development. Once the initial Iraqi-North Korean procurement relationship was established, it soon matured, broadening from missile-related contracts "to a range of other prohibited military equipment and manufacturing technologies," such as ammunition, tank laser range finders, and light naval boats. [8]

Even though the government in Pyongyang was complicit in these transfers, Iraq still used its "accustomed methods" to conceal this relationship behind "a network of front companies, trade intermediaries, and diplomatic communications." [8] The Syrian-based SES International was used as an intermediary, with many transactions from North Korea directed by the North Korean Embassy in Damascus, which would then "endorse the shipment to an Iraqi agent in Syria for transshipment to Iraq." [8]

#### India

The ISG identified several Indian companies involved in illicit dealings with Iraq. Of those companies, it singled out NEC Engineering Pvt., Ltd. as being especially active. When Indian authorities discovered the relationship between NEC and Iraq in 2001, New Delhi launched an inquiry to halt further trade. Despite these efforts, NEC continued "to sell prohibited materials to Iraq." [8] In 2002, NEC contracted with the Military Industrialization Commission-sponsored Al-Rashid General Company to provide 40 kg of "Grade A" carbon fibers, a dual-use item with extensive application in missiles and nuclear equipment. NEC engineers also provided "crucial infrastructure development" for Iraq's missile program, for example, designing and building an ammonium perchlorate (AP) production plant, which is an essential ingredient for modern solid-propellant production. [8] Two other Indian companies, Arab Scientific Bureau (ASB) and Inaya Trading, supplied Iraq with illicit items, mostly focusing on chemicals associated with liquid-propellant missile systems.

The Duelfer Report also cited several attempts by Iraq to procure technology and equipment with biological weapon (BW) applications from Indian companies. In 2002, according to reports uncovered by the ISG, an Indian export company provided a quotation for a "dry power injection-filling project" for a packaging plant in Baghdad. In January 2003, an Indian firm offered to deliver 10 metric tons of bulk Ciprofloxacin to the Iraq. While the ISG had insufficient data to confirm the completion of the deal, it reported that Iraq's procurement and stockpiling of the antibiotic, which is a widely known to treat anthrax victims, "would have facilitated the country's employment of BW against coalition forces, Iraq's neighbors and/or its own citizens." [8]

#### Taiwan

Although companies from Taiwan only dealt with Saddam Hussein's regime for the last three years of its existence, the ISG found that they provided "critical CNC [Computer Numerically Controlled] machines" and other conventional military goods that helped Iraq "improve its military-related production." [8] Contacts between Iraq and Taiwanese companies began in January 2001, when Iraq was seeking military equipment and dual-use goods to augment its military capabilities. While there is limited information available on the sale of CNC machines to Iraq, UNSCOM inspectors were able to confirm that Iraq had obtained four new Hartford vertical machining centers made by She Hong Machinery Company, Limited, all of which possessed three or more axes, "suggesting potential use in weapons production." [8] The technology was likely obtained through third parties, whose identities are still unknown.



### **Investigating the Allegations**

The Duelfer Report described an extensive procurement network through which the Iraqi regime was able to acquire a significant quantity of conventional arms and, to a lesser extent, dual-use goods. While much of this trade occurred in violation of UN sanctions prohibiting the transfer of military items and restricting dual-use trade, some of it was legal under the provisions of OFF. Before conclusions can be drawn about the extent to which governments and private entities knowingly breached UN sanctions, further investigation of the Duelfer Report's findings is needed. Scott Ritter, a former UN weapons inspector, has publicly criticized some of the report's findings as "unsubstantiated speculation." [10] Officials from several countries cited for dealings with the former Iraqi regime have expressed criticism of the investigation's process, which did not allow foreign parties to respond to the allegations made by the ISG.

Already, at least one European country has responded to allegations made in the report, with more responses likely following the conclusion of numerous formal investigations. When the ISG cited the Danish company Niro Atomizer for allegedly selling dual-use biotechnology to Iraq in 2001, Denmark launched an investigation into the company, which denied any wrongdoing. [11] After the investigation revealed that the spray dryers with precise atomizer nozzles were transferred to Iraq in the late 1980's prior to the imposition of UN sanctions on such equipment, the CIA published a retraction of the allegation on its website. [12]

### **Opportunity for Export Control Reform**

The Duelfer Report reveals an alarming number of international partners who assisted Iraq in acquiring dangerous military weaponry and dual-use goods in violation of UN sanctions and, in some cases, the respective country's domestic export control laws and commitments to multilateral export control regimes. While further investigation of the ISG's findings may exonerate some of the groups allegedly involved in illicit trade with Iraq, it is unlikely to significantly challenge the overall scope of export violations uncovered by the report. Examining the means by which the Iraqi regime procured illicit goods and technologies not only reveals the difficulty of controlling lucrative exports to a determined proliferator, but also highlights a number of important avenues for strengthening current multilateral and national export control mechanisms.

Following the 1991 Persian Gulf War, evidence of Iraq's success in building an extensive WMD program through the piecemeal import of dual-use items captured the attention of the international community and prompted a wave of reform by the Nuclear Suppliers Group (NSG), the Australia Group (AG), and the Missile Technology Control Regime (MTCR). Similar to those advancements, the ISG's findings of Iraqi efforts to reconstitute a dual-use WMD capability through illicit trade provide ample cause to revisit export control reform. The complex web of front companies, false end-users, and transshipment and payment intermediaries that were employed by the Iraqi regime illustrates many of the challenges to the current multilateral export control system. In particular, the more creative tactics used by various Iraqi ministries to illicitly obtain goods, such as the placement of commercial attachés in foreign embassies or commonly falsifying item descriptions, provide informative examples of how export controls can be evaded. During the MTCR plenary meeting in October 2004, member states renewed their commitment to verify legitimate end users, expose fraudulent ones, and stop the use of intermediaries. [13] (*See related story on page 17 in the current issue.*) The NSG and AG may well follow the MTCR's lead. Furthermore, Iraq's rampant use of transshipment points highlights the necessity of working with non-members and second-tier suppliers to strengthen their inspection capabilities and domestic export control laws.

Moreover, the Duelfer Report also observed "an interesting trend over time as Saddam's international supporters shifted in the 1998 time-period from former-Soviet and Arab states to some of the world's leading powers, including members of the UNSC." [8] In some instances, the Duelfer Report cited trade violations involving entities within export control regime member states, a particularly troubling finding. While more investigation is necessary to confirm claims of violations, the ISG, for example, "uncovered substantial evidence that companies in MTCR member states provided missile components and technical assistance" to Iraq [14]. Individual members of multilateral regimes must reaffirm their export control commitments, both by investigating and prosecuting, if warranted, violations identified in the Duelfer Report, and by strengthening domestic efforts to prevent the reoccurrence of such violations.

While UN sanctions and inspections prevented Iraq from developing weapons of mass destruction, neither the sanctions nor national export control laws prevented the Iraqi regime from developing a complicated

network of illicit trade in conventional arms and dual-use items related to WMD. Other countries not subject to extensive international inspections and sanctions can employ these procurement techniques to support WMD development programs that may successfully produce useable weapons. The wide-ranging scope of export violations revealed by the ISG's work, including multiple cases involving Asian countries, presents a significant challenge for the international community. Given the willingness of private companies and some governments to trade weapons' know-how and materials for hard cash, a renewed commitment to export control reform by both individual states and multilateral regimes will be critical for meeting this challenge.

Sources: [1] *Comprehensive Report of the Special Advisor to the DCI on Iraq's Weapons of Mass Destruction*, (Hereinafter called *The Duelfer Report*), September 30, 2004, <[http://www.cia.gov/cia/reports/iraq\\_wmd\\_2004](http://www.cia.gov/cia/reports/iraq_wmd_2004)>. [2] UN Security Council Resolution 661 (August 6, 1990) prevented all states from importing or transshipping products, most significantly oil, from Iraq and from sending any commodities, products or funds to Iraq except for strictly humanitarian purposes. [3] UN Security Council Resolution 687 (April 3, 1991) provides that Iraq shall destroy all of its chemical and biological weapons facilities and components, and ballistic missiles with a range greater than 150km. It approved the formation of UNSCOM, a special commission that carried out inspections and oversaw destruction. [4] "Nuclear- Key Findings," *The Duelfer Report, Volume II*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol2.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol2.pdf)>. [5] "Iraq's Chemical Warfare Program," *The Duelfer Report, Volume III*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol3.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol3.pdf)>. [6] "Biological Warfare," *The Duelfer Report, Volume III*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol3.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol3.pdf)>. [7] "Regime Strategic Intent- Key Findings," *The Duelfer Report, Volume I*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol1.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol1.pdf)>. [8] "Regime Finance and Procurement," *The Duelfer Report, Volume I*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol1.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol1.pdf)>. [9] UN Resolution 986 (April 14, 1995) sets out the terms for Iraq selling oil and using the proceeds to purchase humanitarian items. [10] Scott Ritter, "Comment & Analysis: The Source Duelfer Didn't Quote," *The Guardian*, October 9, 2004. [11] "Denmark Investigates Whether Company Provided WMD-Related Equipment to Iraq," *Global Security Newswire*, October 20, 2004. [12] "Correction to the DCI Special Advisor's Report on Iraqi WMD Regarding Niro Atomizer Inc.," Central Intelligence Agency, Updated October 21, 2004, <[http://www.cia.gov/cia/reports/iraq\\_wmd\\_2004/correction.html](http://www.cia.gov/cia/reports/iraq_wmd_2004/correction.html)>. [13] Wade Boese, "Missile Regime Puts off China," *Arms Control Today*, November 2004. <[http://www.armscontrol.org/act/2004\\_11/MTCR.asp](http://www.armscontrol.org/act/2004_11/MTCR.asp)>. [14] "Delivery Systems," *The Duelfer Report, Volume II*, <[http://www.foia.cia.gov/duelfer/Iraqs\\_WMD\\_Vol2.pdf](http://www.foia.cia.gov/duelfer/Iraqs_WMD_Vol2.pdf)>.

*Asian Export Control Observer* (<http://cns.miis.edu/pubs/observer/asian>) is devoted to the analysis of WMD export control issues in the East and South East Asian region. It is published bi-monthly for the Asian and international export control community by the Center for Nonproliferation Studies (CNS), Monterey Institute of International Studies (MIIS), with financial support from the U.S. Department of Energy. Although every reasonable effort has been made to check sources and verify facts, CNS cannot guarantee that accounts reported in the open literature are complete and accurate. Therefore, CNS shall not be held liable for any loss or damage caused by errors or omissions. Statements of fact and opinion expressed in the *Asian Export Control Observer* are the responsibility of the authors alone and do not imply the endorsement of the editors, the Center for Nonproliferation Studies, the Monterey Institute of International Studies, or the U.S. Government. Copyright 2004 by MIIS. May be freely reproduced and distributed with proper citation.

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