



INTERNATIONAL EXPORT CONTROL
Observer

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Recent Developments

Export Control Systems Development in Asia: Uneven Progress in 2005

In 2005, governments in Asia demonstrated increased awareness of the need for stronger domestic export controls and nonproliferation legislation. While some enacted new legislation and related regulations to tighten export controls on material and technologies that can be used in the development of weapons of mass destruction (WMD), implementation remained a problem in a number of states. In South and Southeast Asia, overall progress has been slow, but several countries in the region achieved some positive results nonetheless. In East Asia, the three largest economies of the region—China, Japan and South Korea—have shown mixed results over the past year. Japan and South Korea tightened their respective export controls on WMD-related materials and technologies, but also began cautiously relaxing export controls on certain arm exports. China's progress was even bumpier. This article provides a review of these developments.

Legal Developments in South and Southeast Asia

In **India**, one of the major events of 2005 was the introduction of a new law on June 6, 2005, entitled *Weapons of Mass Destruction and Their Delivery Systems (Prevention of Unlawful Activities)*—also known as the WMD Act. The law clarifies ambiguities in previous legislation and mandates stricter sanctions for violations of domestic export control regulations, including fines up to Rs 2 million (about US\$43,000), and prison terms from six months to five years in addition to a fine.[1,2]

According to India's ambassador to the International Atomic Energy Agency (IAEA), the WMD Act built upon an existing framework of export control regulations and fulfils New Delhi's obligation under UN Security Council 1540, requiring all states to adopt effective WMD export control measures. The WMD Act extended India's previous export control regulations to cover items transiting the country and provided a clearer definition of which technologies, including intangible technologies, are subject to licensing regulations.[3] The new law works as an "umbrella" for all nonproliferation legislation. The WMD Act was also aimed at improving India's nuclear export controls ahead of separate discussions with the United States and Russia over increased civil nuclear cooperation.[4]

Malaysia took two notable steps in 2005 to increase its ability to meet its nonproliferation commitments. In May 2005, Malaysia's parliament passed the *Chemical Weapons Convention Bill (2004)*, making the transfer, possession or production of chemical weapons punishable by a maximum of 30 years in prison. The bill also authorizes the establishment of the Malaysian National Authority responsible for ensuring compliance with the Chemical Weapons Convention (CWC).[5] In addition, in November 2005, the Malaysian

government signed an additional protocol to its nuclear inspection agreement with the International Atomic Energy Agency (IAEA), thereby accepting intensified inspections of its nuclear program by the international organization.[6] This marked a major shift in policy for Kuala Lumpur. As recently as March 2004, Malaysian officials stated that they did not see the necessity for signing an additional protocol. Kuala Lumpur had been under significant international pressure to improve its nonproliferation legislation, particularly from the United States, after a Malaysian-based company with ties to the government was implicated in the A.Q. Khan nuclear smuggling ring.[7]

In 2005, **Singapore**—which has one of the strongest export control systems in the region—continued to strengthen its nonproliferation regulations and its efforts to control transshipments in order to prevent the use of its port as a conduit for illegal trade in sensitive dual-use items. Furthermore, in September 2005, the government of Singapore signed an additional protocol to its nuclear safeguards agreement with the IAEA.[8] The following month the Singapore parliament passed the *Biological Agents and Toxins Bill (BAT)*, which regulates, among other things, the transshipment, transfer, and transportation of dangerous biological agents, inactivated biological agents, and toxins. Under the BAT, import or transshipment of controlled biological agents and pathogens through Singapore are subject to stringent controls. Prior authorization from Singapore's Director of Medical Services must be given to the entity responsible for the transfer, and a strict set of guidelines are laid out for the handling of such agents while in transit.[9]

Other countries in the region also moved to codify international nonproliferation norms and export control standards in their domestic legislation. In 2005, **Brunei Darussalam** began finalizing national legislation aimed at implementing the CWC, as well as an additional protocol agreement with the IAEA.[10] **Cambodia** ratified the CWC in July 2005, and in December 2005, Cambodia and Australia co-hosted a National Authorities Workshop to assist Phnom Penh with implementation of the CWC's provisions.[11,12] The government cabinet of the South Pacific island nation of **Fiji** approved the signing of an additional protocol agreement with the IAEA in May 2005. The Fijian parliament also passed the *Chemical Weapons Convention Act* in September 2005, thereby fulfilling its commitment as a state party to the CWC to adopt national implementation legislation before November 2005. This legislation created a national authority tasked with implementing the provisions of the convention.[13,14] In August 2005, **Vietnam** published a decree that created the framework for the national implementation legislation for the CWC.[15]

It is also worth noting, that by May 2005, all governments in Asia (with the exception of North Korea) undertook reviews of domestic export control and nonproliferation regulations

and submitted their conclusions to the UN 1540 Committee. This committee was established in 2004 to accept and review reports mandated by UN Security Council Resolution 1540 (UNSCR 1540) that describe efforts by UN member states to comply with the export control and other requirements of the resolution. [Editor's Note: For an early assessment of a number of these reports see, "East Asian Governments Report on Export Control and Nonproliferation Progress: Review of Reports to the 1540 Committee," Asian Export Control Observer, February/March 2005, pp. 19-23, <<http://cns.miis.edu/pubs/observer/asian/index.htm>>. All national reports are available on the 1540 Committee website, <<http://disarmament2.un.org/Committee1540/report.html>>.]

Japan Strengthens Export Control but Relaxes Arms Ban

In 2005, the **Japanese** government took a number of steps to strengthen domestic export control regulations. In April 2005, Japan's Ministry of Economy, Trade and Industry (METI) created new categories for its control lists in the hope of better regulating a number of WMD-related dual-use materials, including maraging steel (used in some uranium enrichment centrifuges) and mobile cranes (used to move plutonium-bearing spent nuclear reactor fuel), as well as unmanned aerial vehicles and related equipment. At the same time, METI added 14 new companies to the list of foreign entities linked to WMD programs who are banned from receiving controlled items from Japanese companies. [Editor's Note: The Japanese entities list currently contains 165 companies from throughout the world, with the majority based in North Korea (39), Iran (39), India (35) and Pakistan (24).][16]

Japanese authorities in 2005 also focused on increasing public awareness of export controls and improving the internal compliance systems of Japanese companies. In April 2005, METI announced that companies evaluated as having strong internal compliance programs would be given "comprehensive" export licenses that would expedite export licensing procedures for these firms. [Editor's Note: Comprehensive licenses allow an exporter to provide multiple shipments of goods or technologies to the same end-user under a single license. These licenses have set time limits and must be renewed.] In addition, the ministry announced it would hold informational meetings for scholars on the subject of export controls, and increased focus would be given to promoting export control assistance programs for subsidiaries of Japanese companies overseas.[16]

The Japanese government continued its assistance to other countries, particularly members of the Association of Southeast Asian Nations (ASEAN), to help improve their domestic export control systems. (The members of ASEAN are Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.) (This assistance is discussed in more detail in "Japan's Assistance to Export Control Development in Asia in 2005," on page 25 of this issue.)

Despite these positive moves by Tokyo, questions remain as to how revisions announced in December 2004 of Japan's "Three Arms Export Principles" would ultimately affect the export control system. [Editor's Note: The Three Arms Export Principles embody a Japanese government policy created in 1967 and further expanded in 1976 that effectively banned all exports of military-related items.] However, in order to further cooperation with the United States on missile defense development and production, the Japanese government agreed to relax these principles by allowing missile defense-related transfers to the United States. The wording of the revision also opened up the possibility of exports of military items to other countries on a case-by-case basis.[17] In July 2005, Japan's Defense Agency Director Yoshinori Ono signaled that Japan would consider transferring missile defense-related equipment to countries besides the United States, cautioning that this trade would occur on a very limited basis and only if its partner in the development—the United States—specifically requested it.[18] Other avenues also appeared to open up for increased arms exports from Japan. For example, Japanese officials suggested in March 2005 the possibility of transferring naval equipment as part of an effort to assist Southeast Asian states in combating maritime piracy.[19]

South Korean Export Controls in Flux as Defense Industry Grows

The **Republic of Korea (ROK)** has made significant progress in recent years towards developing its defense industry into one that is more technologically advanced and less U.S.-dependent. South Korea's expanding defense sector has increased defense-related imports and exports. This trend has caused some unease in Washington, where officials have expressed concerns about the ROK government's ability to prevent unauthorized exports of strategic goods and technologies.

South Korea has been heavily dependent on the United States for its defense needs since the Korean War (1950-1953). However, the growth of South Korea's economic and military capabilities has led to increased calls from within the country for a reassessment of U.S.-ROK bilateral defense cooperation. As part of this change, in June 2005, South Korean defense officials requested, during a sub-panel of the annual bilateral Security Consultative Meeting, that the United States revise the U.S. *Arms Export Control Act*, so as to provide South Korea wider access to U.S.-manufactured defense items and weapon systems.[20,21,22] Currently, U.S. defense exports to South Korea require Congressional approval for systems that are valued at US\$14 million or more, and for combined weapons sales worth US\$50 million or more. Requests are made by the executive branch to the Speaker of the House and the Chairman of the Senate Foreign Relations Committee.[20,21,22,23] In contrast, Congressional endorsement is only needed for exports to North Atlantic Treaty Organization (NATO) members or to other U.S. allies, such as Australia, New Zealand and Japan if the weapons

systems are valued at US\$25 million or more, and combined weapons sales exceed US\$100 million.[20,21,22,23] Additionally, the U.S. government charges South Korea contract administrative services (CAS) fees of 1.7 percent of total arms purchases, while NATO members and other exempted allies pay 1.0 percent or less in CAS fees.[22,24]

Seoul's request for special status on defense exports is complicated by U.S. concerns over the effectiveness of South Korea's export control system. As reported previously in the *Observer*, South Korean firms have been identified as perpetrators in assisting illicit transfers of materials to countries such as Iran and North Korea. For example, in 2004 and 2005, a South Korean firm acted as an intermediary in the transfer of controlled radioactive material from Russia to Iran.[25] The fact that South Korean export control regulations did not address such intermediary trade, thus allowing the Korean firm to escape legal punishment, further underscored Washington's reservations.[26]

In addition, U.S. officials continue to be concerned about possible technology transfers or strategic materials trade that could occur through the Kaesong Industrial Complex, located in North Korean territory about 50 miles north of Seoul. The joint project between Seoul and Pyongyang began operations in December 2005 and is scheduled to be fully operational in 2012.[27] The first phase of the three-phase plan—a 3.3 million square meter section of the Kaesong complex—is already nearing completion. U.S. concerns were evident in 2005 when South Korean firms involved with the Kaesong project had difficulties in obtaining necessary U.S. licenses for communications systems to be used in the special industrial zone. The high-tech fiber optic phone line systems needed for the industrial complex contain U.S. technologies controlled by the U.S. Export Administration Regulations (EAR). The U.S. government continues to delay approval of the export of such technologies into Kaesong.[27,28]

Concerns about South Korea's export control system and Seoul's inability to control technology transfers appeared to have also played a role in the U.S. government's refusal to sell South Korea the Global Hawk unmanned aerial vehicle (UAV). U.S. officials cited restrictions of the Missile Technology Control Regime (MTCR), noting that the Global Hawk could be used as a delivery system of weapons of mass destruction.[29,30]

South Korea has been making significant progress in its search for other defense markets and partners. One of the first major achievements came in 2001 when South Korean firm Samsung Techwin won a US\$1 billion contract to supply Turkey with artillery subsystems.[31] Most recently, in December 2005, South Korea's Ministry of Defense announced the decision to co-develop the highly anticipated Korean Helicopter Program, estimated to be worth over US\$6 billion, with the Eurocopter of France, Germany and Spain.[32,33] The move to produce

245 of these advanced military helicopters over 20 years with the European consortium, rather than with the U.S. Bell Helicopter (the producer of the U.S. Marine Corps' Cobra helicopter), is viewed as a symbolic move to shift away from dependence on Washington for Seoul's defense needs.[32,33]

In addition, Seoul revealed in November 2005 that it had successfully received a tier-2 level sponsorship status to the NATO Maintenance and Supply Agency.[34] This new status means that the South Korean government has received its own stock number, thus removing obstacles to defense exports. Consequently, Korean military suppliers are expected to significantly increase defense exports to NATO countries.[35]

Seoul's increased focus on defense trade raises some concerns considering the South Korean industry's low export control awareness and poor compliance record. As previously reported in the *Observer*, a Korean poll released in October 2005 showed that, among other shortcomings, more than 60 percent of Korean firms failed to even check whether their goods intended for export were subject to export controls.[36] In an effort to address the lapses, the South Korean Ministry of Commerce, Industry and Energy (MOCIE) introduced reform legislation to the National Assembly in October 2005 to be adopted and enacted in early 2006.[37,38] However, budget problems and other issues have delayed the reform process and the legislation has yet to be finalized.[39] Seoul is also currently faced with a pending deadline for completion of needed reforms of its export control system, if it is to be included in the South Korean 1540 Committee report, due by April 28, 2006. [39,40,41]

Mixed Reviews for China's Export Controls

China's commitment to improve its export controls on sensitive items continued on an uneven course in 2005. Beijing took some positive steps to expand its export control system, including increased engagement with supplier regimes and the issuance of a new white paper on nonproliferation, which devoted extensive space to export control issues. However, the Bush administration continued to question China's overall commitment to export control enforcement, as highlighted by Washington's imposition of various penalties on Chinese companies for their cooperation with Iran. Continued concerns about China's commitment to nonproliferation appeared to have led the Missile Technology Control Regime (MTCR) to rebuff Beijing's bid to join the organization for the second straight year. Additionally, Beijing's attitude toward Taiwan, and its effects on regional security, led the European Union (EU) to maintain its arms embargo against China, after reconsidering its stance on the ban.

Chinese export control authorities made some progress in strengthening the domestic system in 2005, and increased outreach with international supplier groups was a positive step for Beijing. Published in September 2005, a government white

paper entitled “China’s Endeavors for Arms Control, Disarmament, and Non-Proliferation” stated that China “is now managing export control[s] in strict accordance with the rules and list of the [Nuclear Suppliers] Group.” The report, issued by China’s State Council, devoted much discussion to China’s export controls, stating that “effective export control serves as an important means to pursue the non-proliferation goal.” It also highlighted separate meetings between Chinese officials and representatives of the Australia Group and the Wassenaar Arrangement, which took place in March and May 2005, respectively, aimed at furthering cooperation and harmonization.[42]

In 2004, China revised its 1994 Foreign Trade Law to bring the law into compliance with its various nonproliferation commitments. The revision strengthened the legal authority to enforce China’s domestic export controls and increased the severity of penalties and sanctions against violators. There has been some indication that Chinese authorities are drafting a new export control law to augment the 2004 Foreign Trade Law. This new regulation, which may be finalized in the next year, reportedly will bring all of the government’s export control authorities “under one statutory umbrella” and grant additional legal powers to export control authorities.[43]

In spite of some apparent progress, many in Washington still questioned China’s commitment to reinforcing its export control system. For example, in a February 2005 speech in Japan, then-Under Secretary of State for Arms Control and International Security John Bolton declared that “the behavior of Chinese companies and responsiveness on the part of the Chinese Government remain issues of great concern.”[44] In 2005, the U.S. government announced two rounds of sanctions against Chinese entities. On December 23, 2004, the Bush administration imposed sanctions on seven Chinese entities—six businesses and one individual—under the *Iran Nonproliferation Act of 2000* (INA), for transferring “equipment and technology controlled under multilateral export control lists” that could contribute to Tehran’s WMD programs.[45] (For related story on the INA, see “Legislation to Amend Iran Nonproliferation Law Introduced in U.S. Senate,” on page 29 of this issue.) These sanctions were denounced by the Chinese government as “very irresponsible.”[46] A year later, on December 23, 2005, the U.S. Department of State imposed new sanctions against six Chinese entities for transfers of WMD-related items to Iran.[47] Three of the six Chinese companies—China Aero-Technology Import Export Corporation (CATIC), China North Industries Corporation (NORINCO), and Zibo Chemet Equipment Company—were also penalized in the prior round of sanctions.

Washington’s ambivalence towards China’s export control and nonproliferation commitments led to preliminary moves in 2005 by the Bush administration to tighten U.S. export controls vis-à-vis China in two respects. First, the U.S.

Department of Commerce (DOC) proposed changes to its “deemed exports” policy that would potentially make scientific and academic research by Chinese (and other foreign) nationals in the United States much more restrictive and difficult. Through simple but far-reaching modifications to the DOC policy’s draft language, the proposed changes would require many more foreign researchers to apply for “deemed export” licenses, even if they are only operating controlled equipment at the most basic level, while possibly expanding licensing requirements to areas to which it did not previously apply. While most of the current “deemed export” licenses are for Chinese nationals, the broad impact of the proposed changes on all foreign researchers and the widespread criticism it elicited among industry and in the academic community led government officials to reconsider the draft language.[48]

The second potential change, which has been shared in draft form by the DOC’s Bureau of Industry and Security (BIS), would create a “military catch-all” regulation designed to limit the export and re-export of U.S. goods intended for a military end use in any country subject to an arms embargo. Under this language, the provision would apply to China, meaning that any U.S. exporter of commercial goods to China that believes the goods could have a military end use must apply for a U.S. export license. For goods that would make a “direct and significant contribution” to the military capabilities of an embargoed country—such as China—the export license would be denied. It is expected that this “military catch-all” rule will be announced by the Bush administration in the near future.[49]

Reflecting this unease regarding China’s commitment to control the transfers of sensitive items, as well as a serious concern about the military balance in the Taiwan Straits, in 2005 the Bush administration stepped up its pressure on the European Union (EU) to maintain its arms embargo on China. The arms ban was imposed after China’s crackdown on pro-democracy demonstrators in Tiananmen Square in 1989. In the first months of 2005, lifting of the ban seemed inevitable, with British Foreign Secretary Jack Straw commenting that “it is more likely than not” that the embargo would be lifted before July 2005, when the United Kingdom was scheduled to assume the EU presidency.[50] However, the political climate surrounding the arms embargo changed dramatically by April 2005, in the wake of the Chinese government’s passage of a strongly worded Anti-Secession Law intended to deter possible movement by the government in Taiwan towards independence. The law mandates the protection of China’s claim to the island and threatens Taiwanese authorities with “non-peaceful means and other necessary measures to protect China’s sovereignty and territorial integrity.”[51] After the passage of the law, momentum for repealing the EU arms ban quickly halted. The law has been widely characterized as a geostrategic miscalculation by Beijing that resulted in the continued denial of high-technology items for China. The

arms ban is likely to remain a contentious issue in both EU-China and U.S.-EU relations.

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Major Export Control Developments in the Newly Independent States in 2005

In 2005, major changes occurred in the export control systems of the Newly Independent States (NIS). The peaceful revolutions that occurred in Ukraine and Kyrgyzstan, and their aftermath, resulted in changes in the management of the agencies involved in these countries' export control systems and created uncertainty about their future. On the other hand, Russia continued to increase the role of the Ministry of Defense in its export control system and to pass additional implementing legislation in the pursuit of stricter export controls, and to bring national legislation in conformity with international standards. Several NIS countries have taken measures to reinforce border controls unilaterally or with international support. A move towards developing inventories of radioactive sources was also noticeable in several countries, particularly in Kazakhstan and Kyrgyzstan. Following is an overview of these and other major developments in the NIS.

Impact of Peaceful Revolutions on Export Control Systems in Kyrgyzstan and Ukraine

Ukraine

Admission of Past Illegal Sales of Kh-55 Missiles to China and Iran

Ukraine entered the year 2005 under a new government led by President Viktor Yushchenko and Prime Minister Yuliya Tymoshenko, who came to power on January 23, 2005, after the "Orange Revolution." The year started with the new government's recognition that the Progress trading firm, a subsidiary of Ukraine's state-owned arms export company Ukrspetsexport, illegally transferred six Kh-55 nuclear-capable, air-launched cruise missiles to China in April 2000 and six Kh-55s to Iran in May 2001.[1] On February 18, 2005, following the disclosure, Yushchenko dismissed Oleksandr Leheida from his position as chairman of Ukraine's State Service on Export Control (SSEC). The following month, the head of Ukrspetsexport, Valeriy Shmarov, was also dismissed, and the company was added to the list of enterprises that would be subject to a comprehensive audit. On March 24, 2005, Yushchenko appointed member of the Verkhovna Rada (Ukraine's Parliament) Serhiy Bondarchuk to replace Shmarov as head of Ukrspetsexport. As for the SSEC, no replacement for Leheida had been announced as of January 2006.[2]

Uncertain Future for Ukrainian Export Control Service

Throughout 2005, the future of the Ukrainian export control agency remained unclear. According to a February 12, 2005, proposal submitted by the Ukrainian Cabinet of Ministers to the president, the SSEC was among 14 state committees and services that were to be disbanded. Later, on March 2, 2005, newly appointed Defense Minister Anatoliy Hrytsenko indicated that the government was considering merging or subordinating the SSEC to the Ministry of Economics.[3] However, as of January 2006, the SSEC remains an

independent agency, reporting directly to the Cabinet of Ministers.

New Government Tackles Corruption Problems in Customs Service

In 2005, the Ukrainian government also devoted significant efforts to reform the country's customs service and fight misconduct and corruption that permeated the highest levels of the Ukrainian customs administration. On February 25, President Yushchenko dismissed Mykola Kalensky from his position as chairman of the State Customs Service (SCS) of Ukraine, and replaced him with Volodymyr Skomarovsky, on March 4, 2005.[2] Following Skomarovsky's appointment, Yushchenko removed two SCS deputy chairmen, Anatoliy Pedeshko and Andriy Voytseshchuk, from their positions and promised massive audits of SCS activities, to be carried out by law enforcement agencies.[4] In spite of these measures, President Yushchenko remained dissatisfied with the organization's performance. Speaking at a July 19, 2005, SCS board meeting, Yushchenko stated that there had been no improvement in the SCS over the preceding six months. He demanded that the heads of all 50 regional customs offices be demoted to deputy heads. Later the same day, all 50 officials resigned as regional customs heads and assumed the position of deputy head in their respective posts, while three high-ranking customs officials—SCS First Deputy Chairman Mykola Salagor and the heads of the Lviv and Rava Ruska customs services—were dismissed on allegations of corruption. Speaking at a July 20, 2005, press conference, newly appointed SCS head Volodymyr Skomarovsky declared that the regional customs offices would be headed by individuals with backgrounds in economics or organizational management.[5]

Six months after his appointment, on September 8, 2005, however, Volodymyr Skomarovsky was removed from his position as SCS chairman, due to allegations of corruption and smuggling. On September 23, 2005, Oleksandr Yehorov was appointed new SCS chairman.[6]

NSDC Undergoes Personnel Changes

Another government agency subject to reform in 2005 was the National Security and Defense Council (NSDC) of Ukraine. [Editor's Note: Founded on August 30, 1996, NSDC is a government agency that coordinates and controls the activities of executive bodies in the sphere of national security and defense.] In particular, personnel changes affected a subdivision of the NSDC—the Committee on Military and Technical Cooperation and Export Control Policy under the President of Ukraine (CMTCEC). On June 16, 2005, President Yushchenko dismissed Yuriy Prokofyev from his position as NSDC first deputy secretary and CMTCEC chairman, replacing him with Yuriy Tereshchenko on July 7, 2005.[7] On October 20, 2005, Vitaly Krutov assumed Tereshchenko's position as NSDC first deputy secretary, while Tereshchenko remained CMTCEC chairman.[8]

Kyrgyzstan

Reform in the Aftermath of the “Tulip Revolution”

In Kyrgyzstan, the March 2005 “Tulip Revolution” that overthrew President Askar Akayev resulted in government reforms that affected the organizational structure and management of the country’s export control system. One of the first actions of acting president and prime minister of the Kyrgyz Republic, Kurmanbek Bakiyev, was to transform the Department of Customs Service, previously subordinate to the Committee for Revenues under the Ministry of Finance, into an independent agency—the State Customs Inspectorate, which now reports directly to the Cabinet of Ministers. Colonel Sarsen Omarkulov was appointed director of the State Customs Inspectorate.[9] A month later, in May 2005, Bakiyev signed an edict renaming the Border Guard Service to the Border Guard Troops and subordinated the agency to the National Security Service (NSS) of the Kyrgyz Republic. Due to this change, the newly appointed chairman of the Border Guard Service, Myrzakan Subanov, was designated first NSS deputy chairman and commander of the Border Guard Troops.[10] Further changes took place in September and October 2005, when Kyrgyzstan’s export licensing authority, the Ministry of Economic Development, Industry, and Trade, was renamed Ministry of Industry, Trade and Tourism, with a newly appointed head—Almazbek Atambayev.[11,12]

Russia Continues to Reform its Export Control System

MOD’s Role in Russian Export Control Reinforced

Meanwhile, in Russia, changes in the national export control system launched in March 2004 amid a major government restructuring, continued to unfold throughout 2005. Of particular importance, the role of the Ministry of Defense (MOD) in the Russian export control system was further reinforced—a process that started in 2004 when the country’s export control authority was transferred from the Ministry of Economic Development and Trade to the MOD, and the newly created Federal Technical and Export Control Service (FTECS) was subordinated to the MOD.

The increasing role of the MOD in Russian export controls was reflected in various documents issued in 2005. In April, Minister of Defense Sergey Ivanov was appointed chairman of the Export Control Commission of the Russian Federation by Presidential Edict No. 468, while FTECS director Aleksandr Grigorov was appointed his deputy. Edict No. 468 also expanded the Export Control Commission’s functions. Specifically, the commission was tasked with drafting annual reports to the president on the nonproliferation of weapons of mass destruction (WMD) and their means of delivery. The practice of preparing such annual reports did not previously exist in Russia; the annual reports were introduced by the new edict.[13]

More recently, Presidential Edict No. 1321, signed on November 14, 2005, promoted Sergey Ivanov to Deputy Prime Minister, while also maintaining his position as

Minister of Defense.[14] According to the order *On the Distribution of Duties among the First Deputy Prime Minister, Deputy Prime Ministers, and Head of the Office of the Government of the Russian Federation*, signed by Russian Prime Minister Mikhail Fradkov on November 26, 2005, Sergey Ivanov, as a deputy Prime Minister, will continue to supervise, among other things, issues related to Russia’s military-technical cooperation and export controls.[15]

Meetings of Russia’s Export Control Commission

Since assuming responsibilities for Russian export controls, Minister Ivanov has chaired three meetings of the Export Control Commission, during which various aspects of Russia’s export control policy were discussed. On June 29, 2005, the Export Control Commission met for the first time after a long break caused by the governmental reform initiatives. Speaking at the meeting, Ivanov called for improved interagency coordination on export controls and proposed a more robust role for Russia’s security services in monitoring the proliferation activities of neighboring countries. He also called for the creation of effective internal compliance systems for Russian exporters and for an assessment of, and possible amendments to, existing legislation governing export control and nonproliferation.[16]

During the second meeting of the commission on October 26, 2005, Sergey Ivanov announced that the commission would issue a White Book in early 2006 that would describe Russia’s export control and nonproliferation policy. It would also assess the export control and nonproliferation policies in a number of countries of concern that lack effective export control mechanisms. The agenda of the October 26 meeting also included discussions on current trends in WMD proliferation and related risks; the licensing of Russian organizations to conduct independent expert examinations of dual-use goods to expedite their customs clearance; introduction of internal exporter-organization compliance programs in Russia; practical aspects of the country’s participation in the U.S.-led Proliferation Security Initiative; and the creation of special naval forces on the Black and Caspian seas.[17]

During the most recent meeting held on December 27, 2005, the members of the Export Control Commission discussed the development of Russia’s cooperation with its foreign partners under the Global Partnership program and the improvement of domestic export control enforcement.[18] *[Editor’s Note: The G8 Global Partnership is an initiative launched at the June 2002 Kananaskis Summit by the G8 countries (Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States) to address nonproliferation, disarmament, counter-terrorism, and nuclear safety issues. The G8 countries committed to providing up to US\$20 billion of assistance over 10 years to fund nonproliferation projects, principally in Russia, but also in other nations, including other former Soviet republics.]*

New Export Control-Related Regulations Adopted

In addition, in 2005, the Russian government adopted a number of new export control-related regulations aimed at streamlining the responsibilities of government agencies, simplifying licensing procedures, strengthening export control enforcement, and updating Russia's control lists.

On February 4, 2005, Russian Prime Minister Fradkov signed government Decree No. 54 *On Changes to Certain Acts of the Government of the Russian Federation Regulating Export Control Issues* that introduced textual changes to the Russian export control implementing legislation necessitated by the recent government reform and also clarified the licensing procedures and the export control terminology used in these documents.[19]

On May 16, 2005, Mikhail Fradkov signed government Decree No. 303 *On the Division of Authority among Federal Agencies in the Sphere of Biological and Chemical Security of the Russian Federation*. The document lists the respective responsibilities of federal agencies involved in chemical and biological security. In accordance with this decree, the FTECS controls the export of items that can be used for creating biological and chemical weapons and their delivery systems, and implements recommendations by state experts of exports involving such items. In addition, the FTECS, along with the relevant federal agencies and organizations are charged with jointly developing draft lists of biological and chemical goods that are subject to export control.[20]

On August 15, 2005, Fradkov signed government Decree No. 517 approving the rules *On Licensing by the Export Control Commission of the Russian Federation of Transactions with Goods, Information, Activities, Services, and Intellectual Property that Can Be Used by a Foreign State or Foreign National to Create Weapons of Mass Destruction and Their Means of Delivery*. The new rules describe the licensing procedure for trade in goods and technologies that are not included on the Russian export control lists but that might contribute to WMD programs. Their aim is to help Russian exporters implement the catch-all provision contained in Article 20 of the Russian law *On Export Control*. [21]

On November 9, 2005, the Russian State Duma approved amendments to sections of the Code of Administrative Offenses dealing with export controls. A draft law introducing amendments was presented by Russian Minister of Justice Yuriy Chayka at a July 28, 2005, meeting of the Russian Cabinet of Ministers. Under the amendments that are to be signed into law by President Putin, fines for violating export control regulations will be raised and the statute of limitations for export control violations will be increased from six months to one year. The amendments will also expand the right of the FTECS and regional authorities to conduct investigations of export control violations.[22,23]

On November 14, 2005, Russian President Vladimir Putin signed Edict No. 1318, *On Changes to the List of Nuclear Materials, Equipment, Special Non-Nuclear Materials, and Respective Technologies Subject to Export Control*, which introduced changes to the country's nuclear export control list. The edict corrects specifications of certain equipment and non-nuclear materials that are subject to export controls under Russia's international nuclear nonproliferation commitments.[24] The following month, on December 1, 2005, Putin signed Edict No. 1384, *On Changes to the List of Dual-Use Commodities and Technologies That Can Be Used to Produce Weapons and Military Equipment and Are Subject to Export Control*. The changes were made in order to bring the Russian strategic goods dual-use list into conformity with the country's commitments under the Wassenaar Arrangement.[25]

On December 2, 2005, President Putin signed Edict No. 1395, *On Changes to the List of Equipment, Materials and Technologies That Can Be Used to Produce Missiles and Are Subject to Export Control*. The edict introduces modifications that will bring the relevant Russian control list into conformity with the changes in the Technical Annex of the Missile Technology Control Regime (MTCR).[26] [Editor's Note: MTCR member states introduced changes to the Annex during the organization's 19th annual plenary on October 6-8, 2004, in Seoul, South Korea. For more information on activities of the international export control regimes, see the article "Overview of International Export Control Regimes in 2005" in this issue of the International Export Control Observer.]

Kazakhstan and Kyrgyzstan Conduct Inventory of Radioactive Sources and Reinforce Controls on Such Material

Other important events in 2005 were the launch of radioactive source searches and inventory activities in Kazakhstan and Kyrgyzstan.

In Kyrgyzstan, in spite of domestic instability generated by the "Tulip Revolution" in 2005, the country managed to conduct a partial search for lost or abandoned radioactive sources. As a result, about 1,000 items of radioactive material deemed to be vulnerable to theft or terrorism were secured or disposed of by October 2005. According to Kyrgyz authorities, there are 500 more items to secure, and an unidentified amount of radioactive material is still missing.[27]

Starting in the summer of 2005, the Kazakhstani Atomic Energy Committee (KAEC) and Ministry of Health started building a nationwide inventory of radioactive sources used at the country's industrial enterprises and research institutions. The inventory sought to determine the current status of radioactive sources in the country and their operational and storage conditions, and also included a search for "orphan" or abandoned sources.[28] According to KAEC chairman Timur Zhantikin, regional authorities would fund the collection and

subsequent disposal of orphan sources found during the inventory, as well as sources no longer used at industrial and research facilities.[29] *[Editor's Note: As of January 2006, the KAEC had made no announcements regarding the results of the inventory of radioactive sources in Kazakhstan, which was expected to be completed by the end of 2005.]* In addition, along with the inventory of radioactive sources, two projects were launched to clean up two radioactive source burial sites—at the former Irtysh Chemical Plant in Ust-Kamenogorsk, eastern Kazakhstan, and at the Mangystau Atomic Energy Combine located in Aktau, western Kazakhstan.[28]

Throughout 2005, the United States assisted Kazakhstan in training teams of specialists to conduct a search for orphan radioactive sources. The latest training was held on November 16-17, 2005, when the KAEC, with support from the U.S. Defense Threat Reduction Agency (DTRA) and the U.S. Embassy in Kazakhstan, organized a training seminar entitled "Detection of Radioactive Sources and Response," at the Institute of Nuclear Physics in Almaty, Kazakhstan. The event was part of a series of training seminars organized by the KAEC to improve control, detection, and identification of nuclear and radioactive materials, as well as to strengthen the country's response to future incidents involving such materials. It included the coordination among relevant government agencies and other interested parties. Twenty representatives, from all Kazakhstani regions, directly responsible for emergency response to radioactive incidents attended the seminar, which was aimed at improving the participants' skills in searching for and securing radiation sources. U.S. instructors provided the participants with radiation detection and control devices and organized a field search exercise. At the end of the seminar, the U.S. Embassy donated the special radiation detection equipment, as well as individual protective gear, to the KAEC.[30]

On October 11-14, 2005, the International Atomic Energy Agency (IAEA) and the KAEC organized a regional seminar entitled "Control, Detection, Identification and Response to Incidents with Nuclear and Radioactive Materials on the Border," in Almaty, Kazakhstan. Over 40 government officials from Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Russia, Tajikistan, and Uzbekistan, as well as IAEA experts attended the seminar. Participants reviewed incidents with nuclear and radioactive materials that took place in the NIS and internationally and discussed measures to ensure safety and security of the emergency response personnel in handling these materials during search and transportation, and also examined the legal aspects of such incidents. The seminar included a practical search exercise where the participants were tasked to find radioactive materials hidden in a vehicle using special detection equipment provided by the IAEA.[31]

Speaking at a press briefing during the seminar, KAEC chairman Timur Zhantikin acknowledged that Kazakhstan lacks full control over exports and imports of nuclear and radioactive materials. The KAEC chairman pointed out that Kazakhstani state agencies poorly coordinate their activities in this field, and there is no interaction with the neighboring countries in preventing trafficking in nuclear and radioactive materials. Special radiation detection equipment is installed at only three sites—the Korday customs post on the border with Kyrgyzstan, the Dostyk railway station on the Kazakhstani-Chinese border, and the Almaty International Airport. According to Zhantikin, to improve the situation, the KAEC, with assistance from IAEA experts, is drafting a comprehensive national response plan to prevent radioactive and nuclear materials from entering the country. The plan will specify coordination procedures between the relevant agencies in dealing with incidents involving nuclear and radioactive materials.[32,33] Zhantikin also called for the creation of a special unit under the Customs Control Committee of Kazakhstan that would be responsible for monitoring exports of nuclear and radioactive materials. In Zhantikin's opinion, Kazakhstan can use Russian experience in this field—a special Service for Customs Control of Fissile and Radioactive Materials was established in Russia in 1995.

The KAEC chairman also noted that the KAEC has never registered cases of nuclear trafficking across Kazakhstan's borders, but identified a number of cases in which Chinese firms returned shipments of scrap metal to Kazakhstan, on the grounds that they were contaminated with radioactive materials. Zhantikin complained that the KAEC is often unaware of such cases, as well as the whereabouts of the returned radioactive scrap metal because "the information is concealed." According to Zhantikin, the Border Guard Service of Kazakhstan is the only agency that regularly reports such cases to the KAEC. He believes that the creation of a special customs unit will help improve customs control over exports and imports of nuclear and radioactive materials.[34]

Reinforcing Border Controls

In 2005, several NIS countries took measures unilaterally or with international support to reinforce controls at their borders.

Georgia

On December 6, 2005, Georgia and the United States signed a cooperation agreement to prevent smuggling of nuclear and other radioactive materials. Under the agreement, the United States will equip Georgian border checkpoints with special radiation detection equipment and train Georgian personnel in its use. The border checkpoints in Sadakhlo (on the border with Armenia), Kazbegi (on the border with Russia), and seaports in Poti and Batumi will be the first facilities to be equipped with the aforementioned equipment.[35]

Kazakhstan

On July 26, 2005, the members of the Cabinet of Ministers of Kazakhstan discussed measures to strengthen the country's land and sea borders, including equipment upgrades for the Border Guard Service and other relevant agencies. One of the suggested measures included the purchase of seven Defender 4000 aircraft, designed to patrol land and sea borders, and acquisition of related land-based service equipment from BAE Systems, an international company engaged in the development, delivery, and support of advanced defense and aerospace systems.[36]

In addition, in July 2005, the Customs Control Committee (CCC) of the Ministry of Finances of Kazakhstan opened three new checkpoints that incorporate an integrated control system based on the so-called "one-stop" principle. Under the arrangement, customs, border guard, vehicle control, veterinary/plant pathogen control, and sanitary-quarantine control officers will conduct necessary control procedures in a single building at each of these checkpoints. The CCC plans to bring the number of integrated checkpoints to 25 by 2008. In addition, starting from 2006, joint Kazakhstani-Russian customs control procedures will also be established at the newly opened integrated checkpoints. The two countries plan to open a total of 19 joint customs posts along the Kazakhstani-Russian border in 2006-2008—10 in Russia and 9 in Kazakhstan.[36]

Russia

On April 27, 2005, the U.S. National Nuclear Security Administration (NNSA) and Russia's Federal Customs Service (FCS) signed a Sustainability Plan for the U.S.-Russian Second Line of Defense (SLD) cooperative program. This document commits both sides to ensuring successful long-term sustainability of bilateral efforts under the SLD program to prevent illicit trafficking of nuclear and other radioactive materials across Russian borders.[37] On July 21, 2005, as part of the SLD program, the Response and Customs Control Center for Fissile and Radioactive Materials opened at the FCS headquarters in Moscow. Equipment for the new center was purchased with funding from the U.S. Department of State. The center represents the first level of a multi-level information management system that is being created for Russian customs under the SLD program. The system is designed to improve existing customs control of fissile and radioactive materials in Russia by introducing automated radiation control procedures and providing effective communications support to customs personnel.[38]

Ukraine

On April 22, 2005, the NNSA and the State Border Guard Service of Ukraine signed an agreement to install radiation detection equipment at key land border posts, airports, and seaports in Ukraine. The United States pledged to provide, under the SLD cooperative program, the special equipment designed to halt illicit transfers of nuclear and other

radioactive materials. The agreement followed the April 4, 2005, joint statement of U.S. President George W. Bush and Ukrainian President Viktor Yushchenko issued during Yushchenko's visit to the United States, where they pledged to "begin a new chapter in the fight against the proliferation of weapons of mass destruction and their means of delivery," and deepen "cooperation on nonproliferation, export controls, border security, and law enforcement to deter, detect, interdict, investigate and prosecute illicit trafficking of these weapons and related materials; enhance the security of nuclear and radiological sources; and dispose of spent nuclear fuel." [39]

Moldova

In late November 2005, following a June 2005 joint Moldovan-Ukrainian request to create a monitoring system on Ukraine's border with Transnistria, including a computer network, surveillance video cameras, and night vision equipment, the European Union (EU) deployed the EU's Border Assistance Mission (BAM) on the Ukrainian-Moldovan border. The mission's aim is to suppress the traffic in arms, drugs, and human beings as well as the regular commercial contraband to/from and via Transnistria.[40] *[Editor's Note: Transnistria declared its independence from Moldova in 1991, but it has not been recognized as an independent country by the international community. Lacking an established border, the region does not have effective border controls and has been a haven for smuggling and illegal arms sales.]*

Other Major Developments*Kazakhstan Joins the BWC*

On November 16, 2005, the Mazhilis (the lower house of the Kazakhstani parliament) approved a draft law allowing Kazakhstan to join the Biological and Toxin Weapons Convention. The President of Kazakhstan, Nursultan Nazarbayev, is expected to sign the law after the Senate, the upper house of the parliament, approves the draft.[41]

Kazakhstan and Kyrgyzstan Ratify the EURASEC Agreement on Export Control

On December 14, 2005, the President of Kazakhstan, Nursultan Nazarbayev, signed Kazakhstan's law *On the Ratification of the Agreement on a Common Order of Export Control by Member States of the Eurasian Economic Community* (EURASEC). The international agreement was signed on October 28, 2003, in Moscow by the five EURASEC member countries—Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan.[42] On December 22, 2005, President Bakiyev signed the law of the Kyrgyz Republic *On the Ratification of the Agreement on a Common Order of Export Control by EURASEC Member States*. [43] Kazakhstan and Kyrgyzstan thus became the second and third EURASEC members to ratify the agreement, joining Belarus. According to the agreement, EURASEC members will establish common standardized export control norms, rules, and regulations covering raw materials, goods, equipment,

technology, and services that can be used in the production of WMD and other types of military equipment and weapons, and WMD delivery means. Along with developing common control lists of items and technologies subject to export control, EURASEC member states pledged to introduce catch-all clauses into their export control procedures, share information about the issuance, suspension, revocation, and denial of licenses, and adopt standard licensing documents. [Editor's Note: For more information on the EURASEC agreement, see: "Prime Ministers of EURASEC Member States Sign Agreement on Export Control," NIS Export Control Observer, November 2003, p. 2-3 and "NIS Regional Organizations and Export Control in 2003," NIS Export Control Observer, December 2003/January 2004, pp. 8-10, <<http://www.cns.mii.su.edu/pubs/nisexcon/index.htm>>.]

Official Export Control Website Created in Moldova

In 2005, an official website devoted to issues of export control in the Republic of Moldova became available online. The website is administered by the Export Control Division under the Ministry of Economy and Commerce of Moldova—the government agency responsible for the control of export, re-export, import and transit of strategic goods and technologies. The website was designed by the Center for Nonproliferation of the Republic of Moldova, a nongovernmental organization specializing in nonproliferation issues in Moldova, with support from the U.S. Departments of Commerce and State. The Moldovan export control website can be accessed at <<http://www.cems.md>>. It contains all relevant export control related information, including texts of the domestic legislation and international agreements signed by Moldova, the country's control lists, necessary license application forms, and other useful information and links. The website also offers the possibility of sending electronic requests on the classification of strategic goods as well, as other questions related to export controls.[44]

Russia Withdraws from Tajikistan

In June 2005, Russian border guards transferred their last border outpost on the Tajik-Afghan border to the Committee for State Border Protection of Tajikistan, thus ending their 13-year presence on the border. Nevertheless, Russia and Tajikistan pledged to continue their cooperation in securing the Tajik-Afghan border, agreeing to create the Russian Federal Security Service Operational Border Guard Group. Three to five Russian border guard officers continue to serve as advisors in each Tajik border guard unit, while several advisors work in the Tajik border guard training center instructing local border guard personnel. In addition, the former Russian 201st motorized infantry division was transformed into the Russian Ministry of Defense 4th military base and was stationed in Tajikistan on a permanent basis.[45] In September 2005, following the withdrawal of Russian border guard troops from Tajikistan, Tajik officials announced that the country hopes to receive about US\$30 million from foreign donors in 2005-2007 to strengthen security on the

Tajik-Afghan border. The funds are to be spent on constructing and equipping border posts that meet international standards and on upgrading existing border outposts.[46]

Turkmenistan Signs and Ratifies the IAEA Safeguards Agreement and Additional Protocol

On May 17, 2005, in Vienna, Austria, Turkmenistan's Minister of Foreign Affairs, Rashid Muradov, and International Atomic Energy Agency (IAEA) Director General, Mohamad ElBaradei, signed an agreement between Turkmenistan and the IAEA for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and an Additional Protocol to this agreement.[47] [Editor's Note: Turkmenistan ratified the NPT in September 1994. Parties to the treaty are required to place all of their nuclear activities under IAEA monitoring, pursuant to a "comprehensive safeguards agreement" with the agency; states may then voluntarily sign a model "Additional Protocol" to that agreement, providing the IAEA with additional inspection rights. Turkmenistan was the last Newly Independent State (NIS) to sign an IAEA comprehensive safeguards agreement and an additional protocol.] On December 24, 2005, the Medjlis (Turkmen parliament) ratified both the agreement and its additional protocol.[48]

Ukraine Signs Agreements with the United States and Ratifies the IAEA Additional Protocol

In 2005, in addition to the above-mentioned agreement to install radiation detection equipment, Ukraine signed two other nonproliferation and export control related agreements with the United States. On May 26, 2005, the United States and Ukraine signed an Implementing Arrangement to improve the security of high-risk radioactive materials in Ukraine. Under the arrangement, the Office of Global Radiological Threat Reduction (at the U.S. DOE's NNSA) will assist Ukraine's Ministry of Emergencies in upgrading security at six facilities that store radioactive waste, namely the Radon Special Combines at Kiev, Lviv, Odessa, Donetsk, Dnipropetrovsk, and Kharkiv.[49] On August 29, 2005, as a result of U.S.-Ukrainian negotiations that had continued for more than a year, the two countries signed an agreement to counter the threat of bioterrorism and prevent the proliferation of biological weapons (BW), related technology, materials, and expertise. Under the agreement, the United States will assist Ukraine in upgrading safety and security of biological pathogens currently stored at public health laboratories throughout Ukraine, including the leading Ukrainian facilities the I. Mechnikov Anti-plague Scientific and Research Institute, in Odessa, and the Kiev Central Sanitary and Epidemiological Station. In addition, the United States will assist Ukraine in creating a national network of adequately equipped epidemiological monitoring stations, which will improve detection, diagnosis, and treatment of infectious disease outbreaks, as well as be able to assess whether outbreaks are natural or the result of a terrorist act.[50]

As for Ukraine's international nonproliferation commitments, a significant step forward was made on November 16, 2005, when the Verkhovna Rada (Ukraine's parliament) ratified the Additional Protocol to the agreement between Ukraine and the International Atomic Energy Agency for the application of safeguards in connection with the NPT, and President Yushchenko signed the ratification into law.[51] Earlier in the year, on January 12, 2005, the Verkhovna Rada had failed to ratify the Additional Protocol. There was some speculation at the time that the failure to ratify the protocol was due to Ukrainian parliamentarians' dissatisfaction over the possible financial costs of complying with its terms. However, sources in Ukraine indicated that the protocol, while it failed to pass in January 2005, was not actually rejected by the Rada: the January 2005 vote was held without a quorum present, and therefore the protocol could not be adopted at that time.[52]

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Illicit Trafficking

Disclosures of Illicit Supply Networks Expose Weaknesses in European Export Control Systems

In the last twelve months, new information about illicit networks that supply controlled items to WMD programs throughout the world have continued to expose the weaknesses of export control and nonproliferation systems globally, and more particularly in Europe. Following on from the 2004 revelations of the Pakistan-based nuclear smuggling network established by nuclear scientist A.Q. Khan, the events of 2005 have further highlighted the extent of the illicit trafficking problem.

This article reviews a number of events in 2005 that revealed the workings of illicit networks and how export controls have been (and likely continue to be) circumvented by these groups. As several cases brought against European-based businessmen and firms linked to A.Q. Khan progressed through the courts in 2005, for example, it has become increasingly evident that export control systems in major industrial economies lack either the political will or necessary resources to stop the spread of WMD related technology — a problem more often associated with systems in developing nations.

The article will also review recent activities by the Pakistani government with regard to controlling the spread of sensitive technologies. Despite that government's efforts to strengthen its export controls and to portray itself as a responsible player on the international stage, new information surfaced during 2005 about Pakistani-based supplier networks. As rumors circulated about Islamabad's continued attempts to improve its own nuclear program through illicit procurement from foreign firms.

Prosecutions in Europe Reveal Weaknesses of Export Control Implementation

The ability of A.Q. Khan and his network to circumvent export control systems in numerous countries highlights key challenges facing the implementation and enforcement of European export controls and current nonproliferation regimes. Of all the prosecutions that have arisen from the activities of the A.Q. Khan network, many are based in European countries—generally seen as possessing effective and solid export control systems. All EU countries are members of international supplier regimes, such as the Nuclear Suppliers Group (NSG) and Missile Technology Control Regime (MTCR). The guidelines of these groups are

meant to create standards that make illicit trafficking more difficult. However, networks such as Khan's effectively avoided the roadblocks these supplier regimes are meant to impose.

The tactics used by A.Q. Khan's contacts based in Europe to circumvent domestic export controls are well-known, and often used in countries with incomplete or nascent export control systems. These include: providing a false final destination for the export in export control licensing documents, intentionally misstating the intended use, or procuring items that fall just under the control-list specifications (but would be covered by "catch-alls" if the export's true destination or ultimate use were declared).[1,2] As pointed out in November 2005 by Mark Hibbs in *NuclearFuel*, Pakistan's Khan Research Laboratories (KRL) also concealed their activities from export control and law enforcement officials in Europe by ordering large amounts of materiel "that would be of little of no use to proliferators," thereby hiding the few essential items they were trying to acquire.[3] These relatively simple tactics overwhelmed the resources of the export control systems in the countries involved—forcing customs and law enforcement officials to wade through vast numbers of transactions—and hindered efforts to stop the illicit flow of sensitive materials.

To illustrate these points, the developments below provide examples of active or recently adjudicated legal cases in the Netherlands, Switzerland and Germany. These cases involve charges of export control violations that assisted the development of not only Pakistan's nuclear program, but also programs in Libya, Iran and North Korea. Arguably the most notable of these cases is that of Dutch businessman Henk Slebos, who worked with Khan for almost three decades and whose assistance—both in procuring items for Khan and advising him on technical matters—was critical for Khan's development of centrifuge technology.

Henk Slebos

Dutch businessman Henk Slebos was sentenced on December 16, 2005, to one year (eight-months suspended) in jail and ordered to pay a fine of 100,000 euro (US\$120,000). Slebos was convicted of illegally exporting controlled items to Pakistan, including manometers, triethylamine (a chemical used in missile propellants), graphite, and O-rings. According to Dutch authorities, all the items exported by Slebos and his company were intended for the Institute of Industrial Automation (IIA) in Pakistan, which is tied to KRL. An employee of Slebos, Zoran Filipovic, was also sentenced for export licensing violations, receiving 180-hours of community service and a 5,000 euro (US\$5,100) fine.[4,5,6] Filipovic transported various controlled items meant for Khan from the Netherlands to countries in the Balkans in order to evade Dutch export licensing requirements.[6,7]

Slebos first met Khan when the two attended the Delft Technical University in the Netherlands in the 1960s. When Khan left the Netherlands in the mid-1970s, Slebos, an engineer with expertise in metallurgy, began supplying Khan and the Pakistani nuclear program with nuclear-related materials.[8] Slebos—who describes himself a close friend of Khan—appeared to be one of the Pakistani scientist's main sources of materiel and expertise from Europe.[8,9] Dutch authorities were aware from an early stage of Slebos's activities. According to a former colleague, Nico Zondag, Slebos tried to recruit him in 1977 to work on the network supplying Khan with nuclear-related materials. Zondag reported Slebos' offer to Dutch authorities, but the case was not pursued.[8] Despite strong indications that Slebos was assisting Pakistan with its nuclear program, no significant action was taken to stop his business for almost a decade. It was not until 1985, after eight years of transferring sensitive items to Khan, that Slebos was convicted of selling controlled materials to KRL without a license. Although sentenced to a year in prison for that conviction, Slebos appealed the sentence, and ultimately never served jail time.[10] He paid a NLG 20,000 fine (US\$6,000 in 1985).

The reason for this apparent lack of action by Dutch authorities remains unclear. According to media reports, Dutch government officials—most notably former Prime Minister Ruud Lubbers—claimed that the U.S. government asked Dutch law enforcement not to pursue Khan and his associates so that the U.S. intelligence community would be able to further track the network's movements. However, a former CIA analyst involved in the case suggested that Washington had pushed The Hague on a number of occasions to stop Slebos from transferring materials to Khan.[8] Whatever the reason, the lack of movement on the part of Dutch authorities led to the creation of a successful and lucrative black-market in nuclear materials and technology, that survived for at least a quarter of a century. Slebos' ability to work with Khan with very little hindrance from legal authorities, and the ultimately negligible punishments for his crimes—both in 1985 and 2005—point to apparent problems in Dutch export control implementation and enforcement.

After his 1985 conviction, Slebos continued to assist Khan's procurement efforts. For his part, Slebos has not denied his activities and argued that prior to his December 2005 conviction the Dutch authorities were acting for political reasons in their investigation of him.[8] Slebos, in an extensive interview on Dutch television that aired in November 2005, admitted that he knew that the items procured for Khan were to be used by Pakistan in its nuclear weapons program. In the interview, Slebos expressed a certain level of pride in his actions and argued that Pakistan was within its rights to develop nuclear arms since they were meant as a balance against India, its regional adversary. When questioned about how much money he made from decades of work with Khan, Slebos admitted that he had earned millions

of Dutch guilders from the deals. Slebos downplayed his involvement in Khan's trade with other countries, appearing to suggest that he ended his involvement with Khan once the Pakistani program was established.[8] However, court records indicate that Slebos continued to supply Khan with items up until 2002, during the period when Khan and KRL were actively assisting Libya, Iran, and North Korea with nuclear related materials and technical assistance.[11]

Although convicted on a number of counts, Slebos was also acquitted on some charges. On one count, Slebos was cleared of wrongdoing in the transfer of "pivot bearings" to IIA since the court could not establish whether he had been properly informed by Dutch authorities that these items would require an export license under the Dutch "catch-all" regulations.[4,12] According to a report in January 2006 by Mark Hibbs in *NuclearFuel*, in addition to the items mentioned in the court documents, Slebos also shipped "thousands of other steel bearing balls to IIA that precisely matched the metallurgical and design specifications for the bottom bearing of the [CNOR centrifuge]" in the year 2001. According to unnamed sources, Slebos likely transferred these bearing to Pakistan for use in P-1 centrifuges, which are based on the CNOR design. The Pakistani program stopped using this design for its uranium enrichment in 1985. However the P-1 centrifuge was the design used by Khan to assist programs "in Iran, Libya, and perhaps North Korea." [12] *[Editor's Note: A.Q. Khan first acquired specifications for the CNOR design while working as a subcontractor at the European nuclear consortium URENCO in the early 1970s.]*

In a move that weakened the prosecution's case against Slebos, and ultimately led to a reduction in his sentence, the presiding court ruled that Dutch authorities had acted improperly during a search of Slebos' offices. During these searches in April 2004, members of the domestic intelligence service accompanied investigators from the Dutch Justice Ministry. This situation was not stipulated in the search warrant. The presence of intelligence officers and their active participation in the search was ruled improper by the court, and the evidence collected in these searches was ruled inadmissible.[11]

The Tinner Family

Three members of a Swiss family, now awaiting trial, are accused of playing key roles in supplying sensitive materials to A.Q. Khan's nuclear assistance network. By the fall of 2005, three members of the Tinner family were in custody in Switzerland, charged with violating domestic export control regulations.

In October 2004, German authorities arrested Swiss engineer Urs Tinner in response to charges that he, as part of the A.Q. Khan network, assisted Libya with its now-defunct nuclear weapons development program. The charges linking Tinner to Khan surfaced in February 2004, when a police report from

Malaysia named him as a technical consultant to the Malaysia-based firm SCOPE. SCOPE was manufacturing uranium enrichment centrifuge components ultimately intended for shipment to Libya. Tinner was extradited to Switzerland from Germany in May 2005 and is currently in jail awaiting adjudication of his case.[2,13] In September 2005, Swiss authorities arrested Friedrich and Marco Tinner—Urs Tinner's father and brother, respectively—for alleged involvement in the case.[14] The identities of Friedrich and Marco Tinner were not immediately released after their September arrest, but have since been confirmed by German media sources.[15,16]

Both Friedrich and Marco Tinner had been implicated previously in the nuclear smuggling ring. Marco Tinner reportedly acquired materials identified by his brother Urs through his Swiss-based firm, Traco Company, and supplied them to SCOPE. Additionally, Turkish authorities investigating the involvement of domestic companies in the A.Q. Khan nuclear black-market requested on November 29, 2005, that government prosecutors charge Marco Tinner with smuggling. These charges stem from evidence pointing to Marco Tinner's involvement with the Turkish-based company, EKA, that helped transship ring magnets (used in uranium enrichment centrifuge bearings) to Libya.[17]

Friedrich Tinner, a long time associate of A.Q. Khan, was identified in the same 2004 Malaysian police report that identified his son, Urs, as having prepared centrifuge components that were transshipped through Dubai to Libya.[18] Previously, the elder Tinner was implicated in 1994 in the sale of valves that could be used for uranium enrichment to Iraq.[19]

Rainer Vollmerich

On November 24, 2005, Rainer Vollmerich of Pullach, Germany, was convicted in a Munich court of illegally procuring and exporting controlled nuclear materials to Pakistan.[20,21] Vollmerich was found guilty of a number of charges, including providing false information to German licensing authorities. He was sentenced to seven years and three months in prison. Prosecutors claimed that Vollmerich, through his company Vacom, supplied A.Q. Khan and KRL with various items needed for uranium enrichment between 2000 and 2004.[21,22]

According to German prosecutors, Vollmerich worked as a middleman procuring items for nuclear laboratories in Pakistan. In order to avoid detection by German customs, Vollmerich falsified licensing documentation, purposely misstating the end-use of certain items and reporting South Africa as the final destination on many shipments.[22,23] According to expert witnesses at Vollmerich's trial, the German businessman's shipments were characteristic of items needed for an enrichment program. Still, German customs did not question the exports. The apparent ease with which Vollmerich and other German-based businessmen were able to

circumvent German export controls has raised significant questions about the effectiveness of the German export control system. An unnamed customs official is quoted as claiming that German export control authorities normally have little time to check the validity of documents attached to export licenses, and that, in the current system, the chances of uncovering shipments with falsified information before their export are slim.[22]

Pakistan Continues to Suffer Image Problems In Spite of Damage Control Policy

In September 2004, Pakistan passed a new set of export controls for sensitive materials and technologies and has sought assistance in implementing its new system from countries like Japan and the United States. Pakistan's new export control regulations increased administrative oversight of the licensing process. This improved oversight was particularly aimed at controlling the activities of politically connected laboratories and firms like KRL. The 2004 law also increased the fines for violating national export controls and required stricter record-keeping standards for government and industry.[24]

Despite these improvements, Pakistan remains the focus of international criticism as new revelations have emerged showing the extent to which the activities of A.Q. Khan had enabled nuclear proliferation in several countries, most notably, Iran.

In November 2005, the Iranian government reportedly handed over to IAEA officials a blueprint for the explosive core of an atom bomb. Iranian officials claimed to have received the document from the A.Q. Khan network—asserting that the document had not been requested by Tehran, but instead was offered as sales enticement by the nuclear scientist. According to an IAEA report, the document “gives procedural requirements for...the casting and machining of enriched, natural and depleted uranium into hemispherical form.”[25] The plans laid out the steps and procedures necessary for turning uranium gas into enriched uranium metal and casting into a hemispherical shape, although the IAEA pointed out that these documents were not “blueprints,” since they did not have drawings of the core of the bomb specifying where the hemispheres would lie.[26] However, the IAEA did note other documents of concern that Iran obtained in 1987 from the Khan network. These documents concern P-1 centrifuges (Pakistan's first centrifuge design) used to enrich uranium and blueprints for making cascades of centrifuges, including a small plant of 2,000 centrifuges and six cascades of 168 machines.[27]

Aside from the A.Q. Khan network, disclosures about other Pakistani-based smuggling networks continued to shed a negative light on Islamabad. In August 2005, South African-based businessman, Asher Karni, was sentenced to 36 months in jail by a U.S. court for charges related to his dealings with

Pakistani businessman Humayun Khan. Karni pleaded guilty to illegally supplying Humayun Khan with items controlled by the U.S. Export Administration Regulations (EAR). The items, including triggered spark gaps and oscilloscopes, were reportedly intended for Islamabad's nuclear weapons program.[27,28] This case and other reports that have surfaced recently have reiterated the fact that Pakistan continues to obtain sensitive materials illicitly from foreign firms in order to further strengthen its nuclear weapons program.

Illicit Trade Continues to Test Export Controls

A number of reports in 2005, such as those concerning the Karni-Humayun Khan smuggling effort, point to an expanding problem of proliferation of sensitive materials from industrialized economies to countries with suspected WMD programs. While the nuclear smuggling network spearheaded by A.Q. Khan may have ceased most of its activities, illicit trade facilitated by front companies, weak export control implementation and willing middlemen continues to test the effectiveness of nonproliferation controls on an international level.

In October 2005, the British newspaper *The Guardian* published details of a report by the U.K. intelligence agency, MI-5, revealing that over 360 entities based throughout the world—but particularly in the Middle East and South Asia—were suspected of assisting with the acquisition of controlled items for use in the development of WMD programs in various countries.[29] According to the article, the report had been compiled in order to prevent British companies from inadvertently assisting these entities in acquiring sensitive dual-use items. As the list has not been made public, it is unclear to what extent British firms have been made aware of which companies are suspect, or if the U.K. government is using the list when deciding whether to grant export control licenses.

In an article published January 4, 2006, *The Guardian* reported that a document the newspaper obtained from a “leading EU intelligence service” further implicated the Iranian, Syrian, and Pakistani governments in networks aimed at acquiring materials for their respective WMD programs.[30] The intelligence report, said to have been written in July 2005, included a list of front companies set up to facilitate illicit transfers, particularly from European firms. This list was reportedly made available to a number of European nations and was meant to assist governments in informing their industries of companies to avoid. A third *Guardian* report, on January 5, 2006, highlighted the role of Sudan in 1999-2001 as a conduit for hundreds of millions of dollars worth of dual-use equipment thought to be destined for Iran; the items were obtained from companies in eastern and western Europe and Russia.[31]

While not providing any new information about the extent of current illicit supply networks, the three *Guardian* articles do

highlight the fact that government and industry need to remain vigilant in detecting and preventing illicit trafficking of technologies and materials intended to promote WMD programs. Slowing the flow of sensitive materials is a difficult task and will only be accomplished if governments invest resources and demonstrate the political will to do so. The information gathered on the tactics employed by Khan's network needs to be used by export control authorities—especially in countries where legal barriers were circumvented by the network—to identify weaknesses in their systems. In this way, industry representatives and domestic authorities can learn from the problems of the past to fortify current export control systems and tackle likely future challenges.

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iraq/iraqnu96.htm>; Supporting source for abstract: Alan George, "Investigation Into A-Bomb Affair," *Jane's Intelligence Review* and *Jane's Sentinel Pointer*, January 1997. [20] "German Businessman Sentenced for Supplying Equipment to Pakistan's Nuclear Program," Associated Press, November 24, 2005; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [21] "German Found Guilty of Supplying Nuclear Weapons Technology to Pakistan," AFP, November 24, 2005, in FBIS Document EUP20051124102012. [22] "German Investigators Say Illegal Exports to Pakistan Point to 'Gaps' in Controls," *Munich Sueddeutsche Zeitung*, November 18, 2005, in FBIS EUP20051118086005. [23] "German Businessman Suspected of Smuggling Nuclear Material to Pakistan," *Focus* [weekly news magazine], September 26, 2005, in FBIS Document EUP20050927086013. [24] Shi-chin Lin, "The AQ Khan Revelations and Subsequent Changes to Pakistani Export Controls," Issue Brief, Nuclear Threat Initiative website, <http://www.nti.org/e_research/e3_issues.html>. [25] "Iran Gives IAEA Suspected Atom Bomb Blueprint," AFP, November 18, 2005, in FBIS Document EUP20051118102021. [26] "Diplomats Suggest Iran May Have Handed Over Nuclear Core Plan Accidentally," AFP, November 20, 2005, in FBIS Document EUP20051120102004. [27] "South African Businessman, British Arms Dealer Sentenced in U.S. Courts," *International Export Control Observer*, (October 2005), pp. 11-12, <<http://cns.miis.edu/pubs/observer/index.htm>>. [28] Stephanie Lieggi, "The Case of Asher Karni and Humayun Khan," *NIS Export Control Observer*, (May 2005), p.19-22, <<http://www.cns.miis.edu/pubs/nisexcon/index.htm>>. [29] Ian Cobain and Ewen MacAskill, "MI5 Unmasks Covert Arms Programmes," *The Guardian*, October 8, 2005, <www.guardian.co.uk>. [30] Ian Cobain and Ian Traynor, "Secret Services Say Iran is Trying to Assemble a Nuclear Missile," *The Guardian*, January 4, 2006, <www.guardian.co.uk>. [31] Ian Traynor and Ian Cobain, "Clandestine Nuclear Deals Traced to Sudan," *The Guardian*, January 5, 2006, <<http://www.guardian.co.uk>>

Summary of Incidents Involving Radioactive, Nuclear, and Dual-Use Materials in the NIS in 2005

In 2005, a relatively small number of incidents of illicit trafficking in radioactive, nuclear, and dual-use materials were reported in the Newly Independent States (NIS). The majority of incidents reported involved the discovery of orphaned radioactive sources and presented no criminal activity. Out of the 24 incidents reported in 2005, twelve concerned orphaned or abandoned radioactive sources or empty containers designed to store radioactive substances. Of these, at least six cases involved cesium-137 or strontium-90, both of which can be used in the production of a radiological dispersal device, one type of which is commonly known as a "dirty bomb." In practically all the incidents, local authorities failed to establish the origin of the items, locate radioactive materials previously stored inside containers, or find their owners. Three incidents involved the discovery of radioactive items at customs checkpoints and did not result from criminal activity. One incident reports on the improper storage of radioactive sources at an industrial facility. Two other incidents involved the attempted theft of radioactive scrap metal (in Kazakhstan) and the attempted sale of a radioactive container as scrap metal (in Russia).

Only six of the 24 reported cases can be classified as illicit trafficking incidents. Four of them were attempts to sell or transfer radioactive mercury in Kyrgyzstan, depleted uranium and unspecified radioactive material in Russia, and uranium-

238 in Ukraine. None of these cases involved weapons grade materials—highly enriched uranium or plutonium-239 that can be used as the core of nuclear weapons. Two other incidents constituted attempts to export dual-use items without obtaining a proper license—tractors with semi-trailers in Latvia and diesel submarines in Russia. In the Latvian case, on March 9, 2005, customs officers at the Latvian Ventspils seaport detained cargo from Belarus, containing “four tractors with semi-trailers” worth US\$1.5 million. The equipment, which that could be used to transport tanks and other military equipment, was to be forwarded by sea to Angola. The Belarusian consignor failed to obtain the transit license required for such dual-use cargoes according to Latvian transit rules. In the Russian case, in late April 2005, customs authorities in Kamchatka, Russian Far East, seized two diesel submarines that an unnamed Russian federal state unitary enterprise (an official exporter of decommissioned military equipment) was in the process of exporting to China, where the vessels were to be broken up as scrap metal. The exporter declared to customs authorities that all armaments had been removed from the submarines. However, according to the Far Eastern Customs Directorate, the vessels contained undeclared equipment on board, including six torpedo tubes that the exporter did not have permission to export.

Another reported incident of unlicensed strategic exports in Russia turned out to be a false alarm. In September 2005, the Novosibirsk Instrument-Making Plant (NPZ) was accused of illegally exporting night-vision devices to the United States. Russian customs authorities claimed that the PN-14K night-vision goggles were dual-use items whose export required a license from Russia’s Federal Technical and Export Control Service. [Editor’s Note: For more information see “Russian Customs Prevents Illegal Export of Dual-Use Goods,” *International Export Control Observer*, November 2005, p. 5, <<http://www.cns.miis.edu/pubs/observer/index.htm>>.]

However, according to Russian media reports in November 2005, the investigators found that the plant did not violate Russian export control regulations, and in late October 2005, NPZ resumed shipments of night-vision goggles to its U.S. customer.[1]

As for the geographical distribution of the reported incidents, Russia ranks first with 14 of the 24 cases, followed by Ukraine (six), Belarus (one), Kazakhstan (one), Kyrgyzstan (one), and Latvia (one). In addition, in September 2005, the IAEA provided an update on a trafficking case in Georgia in June 2003, when Georgian border guards arrested an Armenian citizen on the Georgian-Armenian border and confiscated several boxes with radioactive material. The case had not been reported as involving highly enriched uranium (HEU) previously, but according to the latest IAEA information, the confiscated material was HEU in the amount of approximately 170 grams (a very small fraction of the 25 kilograms needed to manufacture a nuclear weapon). No further details regarding the enrichment level, origin, or destination of the material

were provided. The 2003 Georgian case is the most recent known case of smuggling HEU.[2]

The following table provides a summary of events reported in the 2005 issues of the *NIS Export Control Observer* and the *International Export Control Observer*, complemented by events tracked in the NIS Illicit Nuclear Trafficking Database maintained by the Monterey Institute Center for Nonproliferation Studies and reported in the NIS media in October-November 2005. [Editor’s Note: The NIS Illicit Nuclear Trafficking Database records open-source reports of illicit trafficking incidents involving nuclear and radioactive materials in the NIS. To see details of these and previous years’ incidents, see the NIS trafficking update page: <<http://nti.org/db/nistr Traff/update.htm>>.] The information is presented in chronological order of the incidents’ report dates. Due to the vagueness of reports on trafficking and radioactive incidents, it is difficult to categorize accurately the type of material involved. This table should be used as a guide to the approximate number and type of incidents reported during 2005. Entries in this table should not be taken as confirmation that a specific substance was, in fact, seized. No attempt has been made to verify the reports from which these summaries are drawn.

Sources: [1] “NPZ vozobnovil prervannyye eksportnyye postavki” (The NPZ resumed its halted export shipments), NGS (Novosibirsk city website), November 11, 2005, <<http://www.news.ngs.ru>>. [2] “IAEA Releases New Statistics, Reports Increase in Nuclear Trafficking,” *International Export Control Observer*, (November 2005), p. 4, <<http://www.cns.miis.edu/pubs/observer/index.htm>>.

Table 1: Summary of Incidents Involving the Discovery of Radioactive Items and Illicit Trafficking of Dual-Use Goods and Radioactive Materials in the Newly Independent States during 2005

Date of Report	Date of Incident	Material(s) Seized or Diverted	Quantity of Material	Reported Origin	Reported Destination	Location Seized	Reported Perpetrator(s)
January 18, 2005	January 17, 2005	Potassium hydroxide and aluminum powder with natural radionucleotides	42 bags, 35 kg each, of potassium hydroxide and 11 casks, 50 kg each, of aluminum powder	Pyatigorsk, Russia	Georgia	Nizhniy Zaramag border crossing on the Russian-Georgian border	Not a criminal activity
January 23, 2005	January 22, 2005	Cesium-137	6 containers, 83 kg each; each container held up to 30 grams of cesium-137	Unknown, possibly the Brom Joint Stock Company (JSC) in Krasnoperekopsk	Unknown	Village of Ishun, Krasnoperekopskiy district, Crimea, Ukraine	Possibly resident of Krasnoperekopsk employed at the Brom JSC
February 8, 2005	Unspecified	Radioactive scrap metal	4 tons	Aktau Chemical and Hydrometallurgical Combine, Kazakhstan	Unknown	Aktau Chemical Hydrometallurgical Plant	One Aktau resident and one resident of Karakalpakstan, Uzbekistan
February 11, 2005	Unspecified	Radioactive mercury	4 kg	Unknown	Unknown	Kyrgyzstan	Three residents of Tokmok, Kyrgyzstan
February 25, 2005	February 24, 2005	Depleted uranium	16-kg container	Unknown	Unknown	Oktyabrskiy, Bashkortostan, Russia	32-year and 26-year old residents of Tatarstan, Russia
March 2, 2005	Late February 2005	Lead-shielded container for radioactive materials, possibly cobalt or cesium	650-kg empty container	Unknown	Unknown	Vladivostok, Russia	Unknown
March 2, 2005	March 1, 2005	Uranium-238	582 grams	Unknown	Unknown	Kiev's Borispol International Airport, Ukraine	Unspecified individual
March 11, 2005	March 9, 2005	Tractors with semi-trailers	Four tractors	Belarus	Angola	Ventspils seaport, Latvia	Nortrop Ventspils Ltd. freight-forwarding company
March 29, 2005	March 28, 2005	Components of a GAMMARID gamma radiography device; unspecified radioactive liquid	Four GAMMARID components and a 3-liter container with a radioactive liquid	Unknown	Unknown	Vinnitsa, Ukraine	Unknown
April 21, 2005	April 20, 2005	Radioactive scrap metal	More than 3 tons	Kazakhstan	Novosibirsk	Karasook customs checkpoint in Novosibirsk Oblast, Russia	Not a criminal activity
May 5, 2005	Late April 2005	Diesel submarines	Two submarines	Unnamed commercial firm in Kamchatka	China	Petropavlovsk-Kamchatskiy, Russia	Unnamed Russian federal state unitary enterprise (an official exporter of decommissioned military equipment)
May 13, 2005	Late April 2005	Radium, cesium, and plutonium	10 radiation sources discovered in an open area in violation of safe storage requirements	Yamal GIS JSC in Salekhard, Russia	Not applicable	Nadym, Yamalo-Nenets Autonomous Okrug, Russia	Nadymstroygaz JSC

Date of Report	Date of Incident	Material(s) Seized or Diverted	Quantity of Material	Reported Origin	Reported Destination	Location Seized	Reported Perpetrator(s)
May 19, 2005	mid-May 2005	Radioactive container	35 kg	Mendeleyevo settlement near Zelenograd, Russia	Local scrap metal collection point	Zelenograd, Russia	46-year old resident of Tver Oblast, Russia
June 6, 2005	June 5, 2005	Radioactive metal cylinders	Two cylinders, weighing 6 kg and 16 kg each	Unknown	Unknown	Kherson, Ukraine	Unspecified
July 4, 2005	June 2005	Container, possibly with yttrium and strontium-90	Unspecified	Unknown	Unknown	Chaplynka, Kherson Oblast, Ukraine	Unknown
July 18, 2005	July 17, 2005	Container for cesium-137	One empty container	Unknown	Unknown	Village of Sadovoye, Kurgan Oblast, Russia	Unknown
August 9, 2005	August 8, 2005	Strontium plates	One box	Unknown	Unknown	Rezets floating maintenance dock in the village of Tri Ruchya, Murmansk Oblast, Russia	Unknown
August 23, 2005	August 26, 2005	Radioactive source, possibly with cesium-137 or strontium-90/yttrium-90 isotopes	Unspecified	Unknown	Unknown	Village of Tarkhany in Saratov Oblast, Russia	Unknown
September 28, 2005	Unspecified	Plastic bag reportedly containing fragments of nuclear fuel rods	13 pipes and a 10-cm bar	Possibly from Unit 4 of the Chernobyl nuclear power plant (NPP)	Unknown	Compound of the Chernobyl NPP, Ukraine	Possibly four individuals who were convicted of the 1995 theft of 5 kg of fresh nuclear fuel from Unit 4 of the Chernobyl NPP
October 18, 2005	mid-October 2005	Ampoule with cesium-137	Unspecified	Unknown	Unknown	Borisov, Belarus	Unknown
November 5, 2005	Unspecified	Reportedly cesium-137 and plutonium-239	113 capsules	Unknown	Unknown	Former biochemical combine, Blagoveshchensk, Bashkortostan, Russia	Unknown
November 8, 2005	Unspecified	Radioactive metal device	Unspecified	Village of Yagodnoye, Magadan Oblast, Russia	Scrap metal collection point in Magadan, Russia	Commercial seaport of Magadan, Russia	Unspecified
November 18, 2005	November 17, 2005	Device with cesium-137	"Small amount"	Khlebprodservis (Bread and Food Service), Petrozavodsk, Russia	Not applicable	Former warehouse of Khlebprodservis, Petrozavodsk, Russia	Not a criminal activity
December 22, 2005	December 22, 2005	Unspecified radioactive material	About 12 kg	Investigation is underway	Investigation is underway	Yaroslavl, Russia	Three residents of Yaroslavl and Moscow

Head of Russian Space Company Arrested for Allegedly Transferring Dual-use Technologies to Chinese Entity

The recent arrest of the head of the Russian aerospace company TsNIIMASH-Export, Igor Reshetin, on charges of alleged illegal export of sensitive technologies to a state-controlled Chinese entity, represents one in a series of investigations led by the Russian Federal Security Service (FSB) that targeted prominent Russian scientists in the past several years. This article provides an overview of the Reshetin case and highlights serious problems with Russia's export control system, and with the expert reviews conducted by government-accredited Product Classification Centers in particular.

On November 14, 2005, the Center of Public Relations of the FSB distributed a press release announcing the arrests of 52-year-old academic Igor Reshetin, director general of the Russian aerospace company TsNIIMASH-Export, and his two colleagues—deputy director general Sergey Tverdokhlebov and assistant to the director general Aleksandr Rozhkin. The arrests were made in connection with allegations that the men illegally transferred sensitive dual-use technologies to China Precision Machinery Import-Export Corporation (CPMIEC, also referred to by its Russian acronym—TOCHMASH, which stands for *tochnoye mashinostroyeniye* or “precision machine building”). The FSB press release did not specify what dual-use technologies were transferred to the Chinese entity.[1] The three men were also charged with embezzlement of 30 million rubles (US\$1.04 million) through a network of front companies registered with individuals' lost passports or fake identities.[1,2,3,4,5]

The three men are facing criminal charges related to the alleged embezzlement (Article 160, Part 3 of the Criminal Code of the Russian Federation, “Misappropriation or Embezzlement”), that carries a financial penalty of 100,000 to 500,000 rubles (US\$3,500 to 17,600) or the amount of the defendant's annual income over a period from one and three years. This criminal charge, if proven, can also prohibit the defendant from occupying certain positions or from carrying out certain business activities for a period up to five years. In addition, other punitive measures embedded in this article include incarceration for a period from two to six years with a possible fine in the amount of up to 10,000 rubles (US\$350) or the amount of one month of the defendant's salary.[6] Reshetin is also facing criminal charges related to the illegal export of technologies that can be used for the creation of weapons of mass destruction (WMD) (Article 189, Part 3, “Illegal Export or Transfer of Raw Materials, Materials, Equipment, Technologies, Scientific-technical Information and Services that Can Be Used for the Creation of WMD, Weapons and Military Equipment”), as well as charges related to the organization of a criminal group.[1,2] The first criminal charge carries the punishment of imprisonment for a period

from three to seven years, with a possible fine in the amount of up to one million rubles (US\$35,000) or the amount of the defendant's salary or any other income for a period of up to five years.[6] If Reshetin is found guilty, he will likely be fined and sentenced to prison for the maximum seven years, according to reports in the Russian media.[7]

All three were arrested in the morning on October 25, 2005, when FSB agents accompanied by armed officers visited their homes and served them search and arrest warrants.[7] An arrest warrant was also issued to TsNIIMASH-Export chief economist Sergei Vizir, who was not at his residence when the FSB officials arrived.[7,8] As of early January, it was not clear whether Vizir was detained or if his name was submitted to the nationwide federal criminal search program. On October 27, 2005, the Lefortovo District Court of Moscow, taking into account the gravity of the alleged crimes, ordered the three to be held in federal custody for two months at the Lefortovo pre-trial detention center.[7,8,9]

In a parallel development, on November 15, 2005, the Russian Federal Space Agency (Roskosmos) issued a statement explaining that the TsNIIMASH-Export was not under its control thereby distancing itself from the ongoing criminal investigation.[10] According to the website of the Russian Federal Space Agency, however, TsNIIMASH-Export's parent company—the Federal State Unitary Enterprise Central Research Institute for Machine Building (or TsNIIMASH)—is an enterprise that is an integral part of the agency's network of industrial assets, suggesting that the space agency maintains an element of control over the export entity.[10,11]

On November 14, 2005, Reshetin's defense lawyers told the Russian news media that they would appeal the arrest and that the FSB charges were illegal and groundless.[12] Reshetin's defense attorney, Anatoly Yablokov, who previously represented Russian scientists Valentin Danilov and Anatoly Babkin in similar cases, noted: “The investigation was based on the conclusions of colonels who are not space experts. Undoubtedly, criminal proceedings on illegally passing technologies should be stopped.”[9,13]

The Investigative Directorate of the FSB began to zero in on TsNIIMASH-Export in December 2003.[7,9] At the time, the investigation focused only on Reshetin, who was suspected of “illegal export of materials and technologies” and other illegal activities that could be used for “making weapons of mass destruction, arms and military equipment.”[7] However, according to Anatoly Yablokov, the crux of the FSB investigation stems from the 1996 contract between the TsNIIMASH-Export and CPMIEC.[7,9] The terms of this agreement stipulated that TsNIIMASH-Export would submit to CPMIEC a report on “quantitative simulation of aerodynamic flow of asymmetrical models under the conditions of supersonic flow,” which the Chinese planned to use in their program for manned spacecraft.[7,9] From 1996 to

2003 TsNIIMASH-Export prepared and 13 such technical reports and sent them to China.[7] Moreover, in order to fulfill the contract, Reshetin invited experts from 13 other scientific and research organizations in Russia to participate in the CPMIEC contract.[7,14] All told, from 1996 to 2003, CPMIEC paid TsNIIMASH-Export and other Russian organizations involved in the project 19 million rubles (US\$661,000), that the Chinese government allocated for funding fundamental scientific research in the area of aerodynamic simulation.[7,8] Russian federal investigators insist that while fulfilling the terms of the agreement, the TsNIIMASH-Export administration had no right to engage other scientific organizations in the project, and, therefore, had no right to pay them.[7] The FSB investigators contend that such payments constitute misappropriation of funds.[7]

In the course of the two years preceding Reshetin's arrest, the Ministry of Economy and Development with the assistance from the Russian Academy of Science (RAS) carried out expert reviews of the technical reports submitted by the TsNIIMASH-Export to CPMIEC twice. Both times the conclusion was that they contained no information that would necessitate an export control license application.[7,14] The FSB investigators requested a third expert review to be scheduled, but the defendants were arrested before it was completed.[7] The third review was carried out by the St. Petersburg-based Center for Industry Development Projects, which is, like the RAS, a government-accredited Product Classification Center established to assist exporters and customs officials in determining whether items intended for export are subject to export control licenses.[14] *[Editor's Note: As of January 2003, there were eight regional Classification Centers in the Russian Federation, but only two of them—the Russian Academy of Science in Moscow and the Center for Industry Development Projects in St Petersburg—possessed the capability to carry out assessments of the entire range of controlled commodities.]*[15] The Center for Industry Development Projects' review supported the FSB investigation. It is noteworthy that the Center also arrived at a conclusion confirming FSB allegations in the case of another Russian scientist, Oskar Kaybyshev, who was accused of illegal transfer of dual-use technologies to South Korea and whose case is currently pending.[14] *[Editor's Note: The Kaybyshev case is discussed in the March 2005 issue of the NIS Export Control Observer.]*[16] It is not clear, however, why there is such a substantial discrepancy between the expert assessments carried out by the two Classification Centers—the RAS and the Center for Industry Development Projects—in the case of Mr. Reshetin's cooperation with CPMIEC.

Reshetin's case fits well into the pattern of recent spy trials of Russian scientists. In fact, closer examination of other similar cases reveals that scientific cooperation with China in the high-tech area appears to be one of the common features in at least three such cases, as illustrated in the following table. In particular, CPMIEC was also mentioned in another high-

profile case involving Russian physicist Valentin Danilov, director of the Thermal Physics Center at the Krasnoyarsk State Technical University.[7,8] In November 2004, a court in Siberia sentenced Danilov to 14 years in prison for allegedly passing materials to CPMIEC on defense systems designed for Russian commercial satellites.[8] *[Editor's Note: In June 2005, the Supreme Court of the Russian Federation reduced this sentence by one year.]*[17] The transfer of information also took place in the context of an officially sanctioned bilateral contract, which later became the focus of the investigation.[7,8]

The natural question that arises from the analysis of these cases is whether Russia's export control system at the time of the transfers in the Reshetin's case was sufficiently developed to properly review such cooperation. Be that as it may, these cases are viewed by the Russian scientific community as examples of FSB harassment. In Reshetin's case, for instance, a prominent expert in the field of aerodynamics, RAS member and academic, Yuriy Ryzhov took the unusual step of writing an open letter to the FSB in which he defended the professional integrity of his colleague and urged the authorities to release him without delay.[14] Furthermore, regarding the expert assessment carried out by the Center for Industry Development Projects, Ryzhov noted, "We do not know the experts who wrote the unjust conclusion that the secret materials had been transferred to China." [2]

Editor's Note: Established in 1980, the China Precision Machinery Import-Export Corporation (CPMIEC) is a subsidiary of the China Aerospace Science and Industry Corporation (CASIC) and a member of the New Era (Xinshidai) Group, which is one of China's two primary industrial associations involved in arms trade. CPMIEC specializes in missile technology, and it is the prime manufacturer of China's M-series of medium-range surface-to-surface missiles, which includes M-9/DF-15 and M-11/DF-11. The United States government has identified CPMIEC as a "serial proliferator" and has sanctioned the company on five occasions since the early 1990s. In May 1991 and August 1993 CPMIEC was sanctioned for missile proliferation, including the transfer of M-11 missiles to Pakistan in 1992. CPMIEC was also sanctioned in 2002 for missile-related trade with Iran. The corporation was sanctioned again in July 2003 for transferring C-801/YJ-1 and C-802/YJ-2 anti-ship cruise missiles to Iran. Most recently, CPMIEC was one of many Chinese companies sanctioned in April 2004 for unspecified trade with Iran. For more information, see CPMIEC's profile at the Nuclear Threat Initiative on-line database: <<http://www.nti.org/db/china/cpmiec.htm>>.[10,18, 19,20,21,22]

The Closed Joint Stock Company TsNIIMASH-Export was established in 1991 to facilitate integration of its sole proprietor—the Federal State Unitary Enterprise Central Research Institute for Machine Building (TsNIIMASH)—into

global rocket and space technology market. TsNIMASH-Export acts as a legal representative of TsNIMASH in relationships with more than 50 foreign entities and it is fully empowered to sign business contracts on behalf of TsNIMASH as well as other Russian space enterprises, according to the company's website.[3,10,23,24]

Table 2: Chronology of Prosecution of Selected Scientists in Russia *

Year(s)	Name (Location)	Scientific Expertise	FSB Accusations	Punitive Measures Taken
1997	Viktor Akulichov (Vladivostok)	Academician, member of Russian Academy of Sciences (RAS), doctor of science in physics and mathematics	Contraband, suspected in espionage, illegal export of technology	4 years on probation
1998-2001	Valentin Moiseyev (Moscow)	Candidate of science in economics, employee of the Department of Asian Countries at the Russian Ministry of Foreign Affairs	Accused of state treason—espionage and transfer of classified information to South Korea	4 years and 6 months in a labor camp
1999-2000	Vladimir Soyfer (Vladivostok)	Professor, head of the laboratory at the Pacific Ocean Institute of Oceanography of RAS	Violating instructions regarding handling classified documents	Court found FSB's actions illegal
2000-2003	Yuriy Khvorostov (Vladivostok)	An employee of the Pacific Ocean Institute of Oceanography of RAS	Contraband, illegal export of dual-use technologies to China	Court exculpated the defendant
2000-2003	Vladimir Shchurov (Vladivostok)	Professor, head of the laboratory at the Pacific Ocean Institute of Oceanography of RAS	Disclosing state secrets, contraband, illegal export of technology to China	2 years on probation, amnestied
2000-2004	Igor Sutyagin (Moscow)	Candidate of Sciences in History, employee of the Institute of U.S.A. and Canada of RAS	Espionage and disclosure of state secrets	15 years in a labor camp
2001	Valeriy Kovalchuk (Chelyabinsk)	Inventor, chief engineer of the Chelyabinsk-based CJSC Efa	Illegal export of technology	Court returned the case for further investigation
2001-2003	Anatoliy Babkin (Moscow)	Professor, head of the department of rocket engines at the N.E. Bauman Moscow State Technical University	Accused of state treason—espionage and transfer of information on Shkval missile to the United States	8 years on probation, prohibition on scientific activities
2001-2004	Valentin Danilov (Krasnoyarsk)	Scientist, physicist, head of the department at the Krasnoyarsk Technological University	Accused of state treason—espionage on China's behalf, and fraudulent activities	13 years in a labor camp
2004	Olga Tsepilova (St Petersburg)	Employee of the Sociological Institute of RAS; studied the living conditions in the radioactively contaminated city of Ozersk	Accused of attempting to access a territory with controlled access and of state treason involving espionage	FSB officials admitted that this case does not have a procedural status
2003-2005	Oskar Kaybyshev (Ufa)	Professor, director of the Ufa Institute of Metals Superplasticity Problems of RAS	Accused of disclosing state secrets (this charge was dropped due to the absence of evidence), illegal transfer of dual-use technologies to South Korea, embezzlement	This case is pending in the court

***Note:** This table was adapted and translated with slight changes from Darya Pylnova and Dmitriy Shkrylev, "Shpionskiy otkat" (Spy Rollover), *Novaya gazeta* online edition, No. 87, November 21, 2005, <<http://2005.novayagazeta.ru/nomer/2005/87n/n87n-s23.shtml>>.

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International Assistance Programs

Japan's Assistance to Export Control Development in Asia in 2005

Over the past year the *Observer* has highlighted international efforts to reinforce export control systems in various regions of the world, including U.S. and European assistance to the former Soviet Union. A less heralded actor is Japan, which nonetheless is emerging as a major contributor to export control development in Asia. Assistance aimed at strengthening domestic export controls is seen by Tokyo as one of the most important and practical measures for reinforcing global nonproliferation regimes. This article highlights some of the activities sponsored by the government of Japan to reinforce export controls in Asia.

Japan continued its efforts in 2005 to strengthen export controls in the Asia-Pacific region through both bilateral and regional cooperation. In light of recent proliferation challenges, including rising tensions over North Korea's nuclear and missile programs and revelations about A.Q. Khan's illicit nuclear trafficking network, the Japanese government has assisted countries in the region with establishing effective export control systems over the past few years. UN Security Council Resolution 1540 (UNSCR 1540), adopted on April 28, 2004, requires all states to establish and maintain effective national export controls. At the same time, it calls on states to assist those governments that lack the legal and regulatory infrastructure, the implementation experience, or the means of fulfilling the resolution's provisions. With a strong nonproliferation background and significant resources available for development assistance, Japan is well suited to aid export control systems in other countries, particularly those in the Asia-Pacific region. For example, Tokyo's recent assistance has targeted Association of Southeast Asian Nations (ASEAN) member states through the 2003 Japan-ASEAN Plan of Action, which recognized the need for more effective export controls.[1] More recently, a joint statement adopted at the December 2005 ASEAN-Japan Summit, held in Kuala Lumpur, Malaysia, promised further cooperation between Japan and ASEAN countries aimed at enhancing regional security, including fulfilling the goals set forth in the 2003 Plan of Action.[2]

During 2005, Japan also conducted both bilateral and regional export control seminars and workshops involving countries in the Asia-Pacific region. On a bilateral basis, Japan conducted export control seminars with four ASEAN countries, namely, Brunei Darussalam, Cambodia, Laos, and Singapore, as well as with Pakistan, and the Republic of Korea. [*Editor's Note: Japan conducted bilateral export control seminars with Indonesia, the Philippines, Thailand, and Vietnam in 2004.*]

In addition, in an on-going effort to improve regional cooperation in the field of nonproliferation, the Japanese Ministry of Foreign Affairs (MOFA) hosted the second Asian Senior-Level Talks on Nonproliferation (ASTOP) meeting in Tokyo on February 9, 2005.[3] [Editor's Note: *The ASTOP was first held in November 2003 as a response to the WMD threat and the need to strengthen the nonproliferation and export control regimes in the Asia-Pacific region.*] All ASEAN member states (excluding Myanmar), Australia, China, the Republic of Korea, and the United States participated in this meeting. High-ranking officials (director-general level) from each country conducted practical discussions on improving export control systems in Asia. At the meeting, proliferation threats in the region, including North Korea's nuclear and missile programs, and A.Q. Khan's nuclear smuggling network, were addressed. The participating states discussed the need for further strengthening the IAEA safeguards system and international export control regimes, including the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), and the Hague Code of Conduct against Ballistic Missile Proliferation (HCOG). ASTOP discussions also reviewed the legal issues and problems in implementing the Proliferation Security Initiative (PSI), in which Japan is an active participant. Delegations agreed that assisting developing countries improve their export control systems was vital. Participants also discussed methods for overcoming difficulties and obstacles facing export control systems in Asia such as capacity building and information sharing.

Tokyo accelerated its bilateral assistance for export controls of ASEAN governments in 2005. Recent trends in illicit trafficking networks have seen smugglers using countries in the Asia-Pacific region as transshipment points. The Japanese government has therefore felt it imperative to further strengthen export controls in the region to prevent WMD proliferation. To advance this goal, on January 12, 2005, the Japan International Cooperation Agency (JICA) sponsored a seminar in Phnom Penh, Cambodia.[4] The Japanese delegation at the seminar included officials from the Ministry of Economy, Trade and Industry (METI) and JICA. The Cambodian delegation included officials from agencies in charge of export controls, such as the ministries of Foreign Affairs and International Cooperation, and Commerce. This seminar was followed by bilateral export control seminars in Laos on February 7, 2005 (sponsored by JICA) and with Brunei on May 29, 2005 (sponsored by METI).[5,6] On May 30-31, 2005, METI and Singapore Customs jointly hosted an export control seminar aimed at refining Singapore's export investigation system and improving private sector export control capabilities and compliance.[7] [Editor's Note: *Japan and Singapore signed a bilateral agreement to enforce export control systems in April 2004.*][8]

The Japan-Republic of Korea Joint Seminar on Export Control was held in Seoul on February 22, 2005. The seminar was co-

sponsored by the Center for Information on Security Trade Control (CISTEC), and South Korea's Ministry of Commerce, Industry and Energy (MOCIE).[9] [Editor's Note: *CISTEC, officially a nongovernmental organization, is a public service corporation established in accordance with the guidelines of the Japanese government to work with government authorities on maintaining international peace and security by supporting the development of export controls consistent with Japanese economic activities. CISTEC works to promote the harmonization of international export control laws and regulations.*] At this seminar, Japan's METI and South Korea's MOCIE encouraged domestic industry to improve its understanding of South Korea's export control systems, and the importance of specific measures taken by private firms, such as internal compliance programs (ICPs). Representatives of the private sector from Japan and the ROK exchanged ideas on areas for future cooperation between the two countries. Japan's CISTEC and Korea's Strategic Trade Information Center (STIC) again held a seminar in November 2005 in Seoul where CISTEC dispatched lecturers to discuss voluntary ICPs now being undertaken in Japanese enterprises.[10]

In a notable attempt to strengthen export control systems in South Asia, Japan's METI conducted an export control seminar with Pakistan, in Islamabad on May 9, 2005. In the aftermath of the revelations surrounding the A.Q. Khan nuclear smuggling ring, Japan had encouraged Pakistan to strengthen its export control system. As a result, Pakistan, for the first time, participated in the Asia Export Control Seminar held in Tokyo, in October 2004.[11] As part of a bilateral effort to improve Islamabad's export control system, on January 21-February 4, 2005, the Pakistani government sent a delegation to Japan to learn more about its advanced export control system.[12] [Editor's Note: *Pakistan's new export control law, which was adopted in September 2004, was developed with Tokyo's assistance. The new law is aimed at strengthening the country's export control system and Japan has been instrumental in assisting Islamabad with its effective implementation.*]

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International Supplier Regimes

Overview of International Export Control Regimes in 2005

In 2005, in response to the revelations regarding global illicit trafficking networks, several of the nonproliferation regimes adopted new policies and guidelines to reinforce international export controls. Several of the regimes have also accepted, rejected, or are preparing to accept new members. Following is a summary of the major events of 2005 for the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), the Wassenaar Arrangement (WA), as well as export control and other related activities of the Organization for the Prohibition of Chemical Weapons (OPCW).

Australia Group

For the Australia Group, the major event of 2005 was its plenary meeting from April 18-21, 2005, held in Sydney, Australia, during which the group accepted Ukraine as a new member, announced the establishment of a Secure Information Exchange Network, and expanded its control lists.

The AG's 2005 plenary meeting marked the group's 20th anniversary, and was the first one held in Australia since the establishment of the organization in 1985. More importantly, the AG accepted Ukraine as its 39th member. As stated in the AG media release issued in April 2005, because of "its large chemical manufacturing sector," Ukraine's entry into the AG has been hailed as "a valuable contribution to the effectiveness of the Group." [Editor's Note: *Ukraine inherited several biological facilities from the Soviet Union, including the I.I.Mechnikov Anti-Plague Scientific Research Institute in Odessa and the State Research Institute of Epidemiology and Hygiene in Lviv, which before the breakup of the USSR were engaged in some aspects of biological warfare research. Ukraine also had several chemical facilities, including chemical weapons stockpiles and storage bases located in Zolotonosha (Cherkasy Oblast), Ochakiv (on the Dnepr River estuary and on the Black Sea), and Fastiv (Kyiv Oblast). In January 1992, then-Russian president Boris Yeltsin declared that all former Soviet chemical weapons had been moved to Russia. For more information, see Ukraine's profile on the Nuclear Threat Initiative website at <http://www.nti.org/e_research/profiles/Ukraine/index.html>.]*

The AG plenary welcomed Israel's announcement, which was made prior to the plenary meeting, regarding its intention to adhere to the AG export control guidelines in administering chemical and biotechnology exports. The 2005 plenary was also noteworthy because of the establishment of the Australia Group Information System, which now serves as a secure electronic communications tool for AG members to exchange information on denied export license applications and other relevant aspects of export control.

In addition, following the exposure of the nuclear proliferation network led by the Pakistani nuclear scientist A.Q. Khan, AG plenary participants discussed proposals for imposing tighter controls on brokering and intermediary activities in trade involving chemicals and biotechnology. Finally, the AG members agreed to expand the lists of controlled items by including new categories, such as certain types of spraying and fogging systems, which are capable of disseminating biological agents as infectious aerosols.[1,2]

Organization for the Prohibition of Chemical Weapons (OPCW)

In 2005 the OPCW welcomed eight new members, bringing its total membership to 175 states as of January 2006. The Kingdoms of Cambodia and Bhutan, the Republic of Honduras, the Democratic Republic of the Congo (DRC), Grenada, the Pacific island nation of Niue, and the Caribbean island nations of Antigua & Barbuda and Vanuatu deposited their instruments of CWC ratification with the UN secretary-general. [Editor's Note: *The instruments of CWC ratification were deposited with the UN secretary-general on the following dates: April 21, 2005 (Niue), June 3, 2005 (Grenada), July 19, 2005 (Cambodia), August 18, 2005 (Bhutan), August 29, 2005 (Honduras), August 29, 2005 (Antigua & Barbuda), September 16, 2005 (Vanuatu), and October 12, 2005 (DRC).]* In accordance with the provisions of the CWC, 30 days after depositing their instruments of ratification, the aforementioned states became states parties to the CWC and OPCW members. [3,4,5]

In addition, to prepare Iraq for future accession to the CWC, the OPCW organized on July 6-9, 2005, a CWC implementation training workshop for nine Iraqi government representatives in The Hague. The workshop aimed at acquainting Iraqi government officials with the requirements that Iraq must meet after it accedes to the CWC. The workshop was organized with support from the Japanese government.[6]

The OPCW also made major changes to the rules pertaining to the conversion of chemical weapons. On July 29, 2005, changes to Part V of the Chemical Weapons Convention (CWC) Verification Annex (Destruction of Chemical Weapons Production Facilities and Its Verification Pursuant to Article V, Section D – Conversion of Chemical Weapons Production Facilities (CWPF) to Purposes Not Prohibited

under this Convention) went into effect, in accordance with Article XV (Amendments) of the CWC, and pursuant to the Depositary Notification C.N.610.2005 TREATIES-4. The change was decided on November 30, 2004, by the OPCW Conference of the States Parties (CSP) to make it possible for new CWC members to convert former CWPFs for use for non-prohibited purposes. The change was necessitated by Libya's request to convert two former CWPFs at Rabta into pharmaceutical plants. Prior to this change, in accordance with the item 72 of Part V, all CWC member states were required to complete conversion of their CW facilities by April 29, 2003 or within six years of the entry into force of the CWC. [Editor's Note: The CWC entered into force on April 29, 1997.] However, considering that Libya acceded to the CWC in January 2004, and submitted its conversion request in November of the same year, Tripoli could not meet the aforementioned deadline. Therefore by decision of the CSP, Libya's request was approved and it is now expected to complete the conversion of the CW facilities in Rabta within three years after the entry into force of the change to Part V.

As a result of the change, a new paragraph (72bis) was added to item 72. According to the newly added paragraph, "If a State ratifies or accedes to this Convention after the six-year period for conversion set forth in a paragraph 72, the Executive Council shall, at its second subsequent regular session, set a deadline for submission of any request to convert a chemical weapons production facility for purposes not prohibited under this Convention." After that the CSP decides whether to approve the Executive Council's recommendation regarding a conversion request and establishes "the earliest practicable deadline for completion of the conversion." Furthermore, the new paragraph clearly stipulates that conversion should be completed "as soon as possible, but in no case later than six years after this Convention enters into force for the State Party." This effectively means that Libya must complete the conversion of CWPFs at Rabta by 2010 at the latest.[7,8]

Another interesting event of the year 2005 was the official visit to the OPCW of the president of the Federal Republic of Nigeria and current chair of the African Union (AU) Olusegun Obasanjo, on June 28, 2005. During the visit, Olusegun Obasanjo met with the OPCW director-general, Ambassador Rogelio Pfirter, and addressed the 41st Session of the Executive Council. In his address, Obasanjo pointed out that this was the first visit by the AU chair to the OPCW, indicating the importance that the AU places on banning chemical weapons. At the same time Obasanjo expressed his concern over the slow pace of the CW destruction. In his remarks Obasanjo also focused on the AU's commitment to the OPCW and CWC and noted that at the summit held in Khartoum, Sudan, in March 2002, the AU member states agreed to declare Africa a CW-free zone. Obasanjo urged the OPCW leadership to "strongly consider" the proposal to set up a regional office in Africa. In a further demonstration of

Nigeria's growing relations with the OPCW, the capital of Nigeria, Abuja, was chosen to host the third regional meeting of National Authorities of States Parties in Africa, held on October 20-21, 2005.[9,10,11]

On October 4-5, 2005, the OPCW, with support from the EU, held the Workshop for Customs Authorities on Technical Aspects of the Implementation of the Chemicals Transfer Regime in The Hague, the Netherlands. Representatives from more than 20 states parties and two international organizations—the United Nations Environmental Program (UNEP) and the World Customs Organization (WCO)—attended the workshop, which was aimed at providing information to customs authorities on ways to improve domestic capabilities for tracking transfers of chemicals controlled under the CWC. The participants delivered presentations on specific implementation-related issues, including how states and organizations can cooperate with the OPCW to deal with the transfer of controlled chemical substances.[12]

Missile Technology Control Regime (MTCR)

During its 20th plenary meeting held in Madrid, Spain on September 12-16, 2005, the MTCR discussed the proliferation of weapons of mass destruction (WMD) delivery systems in the context of the rise in international terrorism. In response to the ongoing technological advancements and evolving international security environment, the MTCR partner nations agreed to a number of technical amendments to the MTCR Equipment, Software and Technology Annex. The plenary was also noteworthy because China's second request to become a member of the regime was rejected due to Beijing's questionable commitment to export control enforcement.[13] (For more information on China's export control efforts in 2005, see the section entitled "Mixed Reviews for China's Export Controls" on page 4 of this issue.)

In a related development, on June 2-3, 2005, the states subscribing to the Hague Code of Conduct against the Proliferation of Ballistic Missiles (HCOG) held its Third Regular Meeting, chaired by the Philippines, in Vienna, Austria. The meeting discussed ways to strengthen confidence building measures—pre-launch notifications and annual declarations of ballistic missile launches and launches of space vehicles—and promote the globalization of the Code by focusing outreach activities on Northeast Asia, South Asia, and the Middle East. In conclusion, the subscribing states agreed on a text for a draft resolution that was to be submitted to the United Nations General Assembly in late 2005.[14]

Wassenaar Arrangement (WA) on Export Controls for Conventional Arms and Dual-Use Goods and Technologies

In April-June 2005, Croatia, Estonia, Latvia, Lithuania, Malta, and Slovenia became new WA members. These countries attended the WA's 11th plenary meeting held in Vienna on December 13-14, 2005, in which South Africa was also

invited as the first African state to join the Arrangement. The agenda of the WA plenary focused on the threat of terrorist acquisition of military and dual-use goods. The WA members agreed to a number of amendments to the control lists, “including in relation to items of potential interest to terrorists such as jamming equipment and unmanned aerial vehicles.”[15] In addition, the WA plenary approved and made public an indicative list of end-use assurances, which the WA member states require as a necessary condition for export of controlled items.[15,16]

Nuclear Suppliers Group (NSG)

In 2005, the NSG welcomed a new member: Croatia became the 45th member of the NSG on July 15, 2005. A few weeks earlier, on June 23-24, 2005, during the 15th annual plenary held in Oslo, Norway, NSG members adopted three measures aimed at strengthening each country’s national export controls. These measures include: (1) the halting of all nuclear transfers to states that are non-compliant with their International Atomic Energy Agency (IAEA) safeguards agreement; (2) the development of fall-back safeguards if the IAEA cannot carry out its safeguard mandate in a recipient country; and (3) the creation of a new guideline stipulating that the existence of effective export controls in recipient states should be added as a criterion for supplying nuclear material, equipment, and technology and the chief factor for consideration for dual-use items and technologies.[17]

On April 11, 2005, then NSG chair Richard Ekwall of Sweden and current NSG chair Roald Naess of Norway, visited Pakistan for meetings with senior government officials. In the course of the visit the NSG representatives met with senior officials from the Pakistani Foreign Ministry, who explained steps taken by the country to establish an effective national export control system. This was the first such meeting between NSG representatives and Pakistani government officials. The Pakistani officials emphasized that while Islamabad was interested in developing cooperation with NSG members in the area of peaceful uses of nuclear energy, it was equally committed to maintaining its nuclear deterrent, which in their minds represents a cornerstone of Pakistani national security. On the eve of the visit, the Pakistani side issued statements signaling Islamabad’s interest in potentially joining the NSG. However, even prior to their arrival in Pakistan, the NSG representatives reacted negatively to these proposals. [Editor’s Note: In order for a country to be accepted into the NSG, approval must be received by all current members of the group. Since Pakistan remains outside the Nuclear Nonproliferation Treaty (NPT) and is seen by many NSG members as a potential source of nuclear proliferation, it is very unlikely that consensus could be reached on its membership in the near future.][18]

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Embargoes and Sanctions Regimes

Legislation to Amend Iran Nonproliferation Law Introduced in U.S. Senate

On November 8, 2005, U.S. senators Jon Kyl (Republican-Arizona) and Russell Feingold (Democrat-Wisconsin) introduced legislation aimed at strengthening nonproliferation sanction laws designed to slow Iran’s acquisition of biological, chemical, and nuclear weapons and related delivery systems. If passed, Bill S. 1976, also known as the *Iran Nonproliferation Enforcement Act of 2005*, would amend the Iran Nonproliferation Act of 2000 (INA) by: (1) requiring, rather than authorizing, the president to impose sanctions on violators; (2) requiring more detailed justifications for presidential waivers of sanctions on national security grounds; (3) expanding the application of penalties to include the parent company of the sanctioned entity; and (4) broadening the

impact of the sanctions to include prohibitions on U.S. persons financing, investing in, and providing financial assistance to sanctioned entities.[1] The Kyl-Feingold legislation was referred to the Senate Foreign Relations Committee for further consideration.

Separately, on November 22, 2005, the INA was amended to apply to Syria, as well as Iran, and was renamed the *Iran and Syria Nonproliferation Act* (ISNA).[2] Thus, if ultimately passed into law, the Kyl-Feingold bill, would also apply to Syria.[3]

Introducing the Iran Nonproliferation Enforcement Act bill on the floor of the Senate, Senator Feingold stated that while the INA (now ISNA) “has winnowed the pool of transgressors by highlighting the most egregious among them...determined governments, industries, and individuals continue to find it a worthwhile risk to trade in goods and technology that can contribute to an Iranian WMD program.” He continued by saying that “it is time to strengthen the INA [now ISNA]” and that “the current sanctions mechanism is too weak.”[3]

Assuming that it will be modified to amend the Iran-Syria Nonproliferation Act, the Iran Nonproliferation Enforcement Act of 2005, as submitted by Kyl and Feingold, specifically would amend Sections 3 and 4 of the ISNA. Section 3, subsection (a) currently states that “the President is authorized to apply with respect to each foreign person identified...for such a period of time as he may determine, any or all” of the stipulated measures.[4] The proposed legislation would alter the language in a number of respects. First, it would mandate the imposition of penalties on violators, stating that “the President shall apply” relevant sanctions. Second, the Kyl-Feingold legislation would also require that each sanction be in place “for a period of not less than 2 years,” thereby limiting presidential discretion in determining the duration of the penalties.[5]

A third change to Section 3, subsection (a) of the ISNA, and potentially the most significant and controversial, would be the addition of language that requires the application of sanctions against “any entity (if operating as a business enterprise) that owns more than 50 percent of, or controls in fact, any such foreign person and any successors, subunits, and subsidiaries of such entity.”[5] Expanding the scope of these sanctions to include the parent companies of sanctioned entities would, according to Gary Milhollin of the Wisconsin Project on Nuclear Arms Control, close a “giant loophole” in U.S. sanctions policy. However, such language would most likely be opposed by the U.S. business lobby due to its potentially substantial impact on trade.[6,7]

Fourth, the proposed bill would strike the words “any or all” from the phrase “any or all of the measures” in Section 3 of the ISNA, thereby requiring the imposition of all the measures as described in subsection (b), to which the Iran

Nonproliferation Enforcement Act of 2005 would add three new penalties. Currently, the ISNA stipulates that arms exports and dual-use exports shall be banned to any sanctioned entity. The Kyl-Feingold legislation would broaden the impact of these sanctions in three respects. First, it would, by adding paragraph (4) to Section 3, subsection (b), prohibit “any new investment” by a U.S. person in any property—including entities—owned or controlled by the sanctioned party, their subsidiaries, and their parent companies.[5] Second, under the new paragraph (5), it would ban the approval, financing or guarantee of any transaction “by a United States person, wherever located,” to the sanctioned entity, their subsidiaries, and their parent companies. Third, it would add paragraph (6) to subsection (b), which would deny “any credit, credit guarantees, grants, or other financial assistance by any department, agency, or instrumentality of the United States Government” to the sanctioned entity, its subsidiaries and parent companies.[5]

The Iran Nonproliferation Enforcement Act of 2005 would also amend Section 4 of the ISNA by requiring the president to provide a more specific justification in the event that he decides that waiving an individual sanction is in the interest of national security. Currently under the ISNA, such a submission may be provided in a classified form.[4] However, the proposed changes stipulate that “the written justification shall be submitted in unclassified form, but may contain a classified annex.”[5] The proposed amendment to the ISNA would require: (1) the name and address of the entity to whom the waiver was applied be included in the written justification; (2) a list of the specific items, services and technologies that were involved in the activity that triggered the potential sanctions; and (3) the name and address of the recipient of the items in question. The Executive Branch is required to provide this information to the House Committee on International Relations and the Senate Committee on Foreign Relations within 15 days of the decision to issue a waiver.[5]

Noting continued assistance from China, India, and Russia to Iran as cause for concern, Senator Feingold stated that the bill would “ensure that all the significant tools in our sanctions arsenal are brought to bear on proliferators.”[3] Senator Kyl meanwhile, citing recent comments made by Iranian President Mahmoud Ahmadinejad that Israel should be “wiped off the map,” said that “it is incumbent on the U.S. government to do everything we can to prevent Iran from acquiring weapons of mass destruction, not just for Israel’s sake, but for the world’s.”[1]

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2005 Sees U.S. Sanctioning DPRK Companies, as Nuclear Talks Make Slow Progress

2005 was a complicated year for the relationship between the United States and North Korea and for the six-party process aimed at eliminating North Korea's nuclear weapons programs. The endorsement of a set of "Agreed Principles" in September, at the conclusion of the fourth round of the six-party talks, was viewed by many as a significant step toward the eventual goal of a denuclearized Korean peninsula. However, the contrasting interpretations of the "Agreed Principles" issued by the individual parties after the fourth round talks concluded in September 2005, revealed that significant obstacles remained. Other events and developments, especially the recent sanctions placed by the U.S. government on a number of North Korean entities, have increased tensions between the two countries and stalled resumption of the multilateral negotiations.

On October 21, 2005, under Executive Order 13382 (E.O. 13382), the U.S. Department of Treasury designated eight North Korean firms as proliferators of weapons of mass destruction (WMD) and delivery vehicles and therefore subject to U.S. sanctions.[1,2,3] Pursuant to E.O. 13382, issued on June 29, 2005, the sanctions prohibit all transactions with the designated entities and freeze all U.S.-based assets of the designated entities until the Secretaries of Treasury and State determine that sanctions are no longer necessary.[1,2] Previously, a one-page annex to E.O. 13382 also published in June 2005 designated eight entities operating out of North Korea, Iran, and Syria for sanctions.[1,2,3]

The North Korean entities sanctioned in October 2005 were: Hesong Trading Corporation, Tosong Technology Trading Corporation, Korea Complex Equipment Import Corporation, Korea International Chemical Joint Venture Company, Korea Kwangsong Trading Corporation, Korea Pugang Trading Corporation, Korea Ryongwang Trading Corporation, and Korea Ryonha Machinery Joint Venture Corporation.[1,3,4] The two parent companies of these eight firms had already been identified and sanctioned in the June 2005 annex to E.O. 13382. These parent companies are Korea Mining Development Corporation (parent company to Hesong Trading Corporation and Tosong Technology Trading Corporation) and Korea Ryonbong General Corporation (parent company to the other six entities).[1,2,3]

The sanctioning of the North Korean firms came a month after the U.S. government imposed sanctions on Banco Delta Asia of Macau, pursuant to Section 311 of the U.S. Patriot Act, for

having helped Pyongyang distribute counterfeit U.S. currency and engage in other illicit activities.[4,5]

North Korean officials have strongly denied any wrongdoing and accused the United States of blocking legitimate financial transactions, labeling the sanctions as "a smear campaign" designed to pressure it into relinquishing its nuclear program.[6,7] Furthermore, Kim Kye-Gwan, the chief North Korean negotiator to the six-party talks, in Beijing, stated immediately following the fifth round of talks in November 2005 that future six-party talks would not progress unless Washington lifted its financial sanctions.[8,9,10]

The United States has maintained that the legal actions against North Korean financial activities are pursuant to E.O. 13382 and the Patriot Act, and therefore separate from the nuclear negotiations.[9,10] On December 7, 2005, U.S. Undersecretary of State for Arms Control and International Security Robert Joseph said the United States will continue its financial sanctions against North Korea and will make efforts to share information on the basis for the sanctions with South Korea, Japan, and China and to seek their cooperation in implementing the restrictions. [11,12]

Prospects for improved U.S.-DPRK relations and progress in the six-party talks do not appear very promising in 2006. Pyongyang reported in December 2005 that, in addition to restarting its graphite-moderated reactor program (which supports its nuclear weapons effort), North Korea intends to build its own light-water reactors for electricity production. The issue of North Korea's right to build light-water reactors has become one of the most contentious elements of the six-party talks in Beijing. [13,14,15,16]

Editor's Note: South Korea's Minister of Unification Chŏng Tong-yŏng and Minister of Foreign Affairs Pan Ki-mun have stated that U.S. financial sanctions should be left for bilateral discussions and not included in the six-way talks. Most recently, the head of Asian and Oceanian Affairs at the Japanese Foreign Ministry, Kenichiro Sasae, and Chinese Vice Foreign Minister Wu Dawei were reported to agree that the two issues should be resolved separately.[17,18]

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International Developments

Maritime and Shipping Security—2005

The past year has seen the progressive expansion of U.S. programs to secure international maritime shipping and prevent the illicit transport of radioactive materials or equipment and materials that could be used in the development of WMD. The U.S.-sponsored Proliferation Security Initiative (PSI), the Container Security Initiative (CSI), and the Megaports Initiative have received growing acceptance from many countries in the international community. This increased acceptance was evident in 2005 as two international organizations concerned with maritime shipping—the World Customs Organization (WCO) and the International Maritime Organization (IMO)—both adopted concrete measures to support the PSI and the CSI.

Proliferation Security Initiative

The PSI was introduced on May 31, 2003 by the United States and aims to prevent WMD proliferation by utilizing existing national and international authorities to interdict illicit shipments of WMD-related materials to states or non-state actors while in transit. Currently over sixty countries have publicly endorsed the PSI Statement of Principles.[1] Over the past year, the United States negotiated and signed ship boarding agreements with Croatia on June 1, Cyprus on July 25, and Belize on August 4. Six PSI exercises were held in

2005, including three with maritime components: Exercise Ninfa in Lisbon, Portugal, April 8-15; Exercise Deep Sabre in Singapore, August 15-17; and Exercise Exploring Themis in the United Kingdom, November 14-18.[2] Brunei, Malaysia, Pakistan and Vietnam joined Deep Sabre, the first PSI exercise held in Southeast Asia, as observers, suggesting growing acceptance of the PSI in the region.[3] The PSI was significantly fortified by the adoption by the International Maritime Organization of an amendment to strengthen the 1988 *Convention for the Suppression of Unlawful Acts of Violence Against the Safety of Maritime Navigation* (discussed below).

Container Security Initiative

A second U.S.-sponsored initiative, launched in January 2002, the CSI is operated by Customs and Border Protection (CBP) under the U.S. Department of Homeland Security. Under the CSI, CBP agents are assigned to foreign ports and work with host nation counterparts to identify and pre-screen high-risk containers destined for the United States. During 2005, the CSI added nine more ports to reach a total of 42 operational ports, pre-screening more than 75 percent of all container traffic to the United States. By the end of 2005, CSI ports could be found in most regions of the world, including the Middle East, South America, and Central America. The nine ports added in 2005 (and their starting dates of operation) were: Marseilles, France (January 7) [4]; Dubai, United Arab Emirates (March 26), Shanghai, China (April 28) [5]; Shenzhen, China (June 24) [6]; Kaohsiung, Taiwan (July 25); Santos, Brazil (September 22); Colombo, Sri Lanka (September 29) [7]; Buenos Aires, Argentina, (November 17) [8]; and Lisbon, Portugal (December 14).[9] The Sultanate of Oman and the government of Honduras have signed declarations of principles to implement CSI at the Port of Salalah [10] and the Port of Cortes [11], respectively, (see Megaports Initiative below). The CBP intends to have fifty operational ports by the end of 2006, accounting for 90 percent of total container traffic coming to the United States.

Megaports Initiative

The Megaports Initiative is one component of the Second Line of Defense Program operated by the National Nuclear Security Administration (NNSA) under the U.S. Department of Energy. The Megaports Initiative supplements CSI by providing radiological detection equipment and training to local personnel at CSI ports in order to improve their capacity to identify illicit shipments of radioactive material.

During 2005, the Megaports Initiative expanded rapidly, especially toward the end of the year. NNSA signed agreements with the governments of the Bahamas (January 3) [12], Singapore (March 10) [13], Ukraine (April 22), Philippines (July 20) [14], Oman (November 17), China (November 19), Israel (December 7), and Honduras (December 15).[15] In comparison, NNSA signed only six agreements in total in 2003 and 2004, pledging to provide

detection equipment to ports in Greece, the Netherlands, and Sri Lanka in 2003 and Belgium and Spain, as well as airports in Lithuania, in 2004. The Oman and Honduras agreements marked greater cooperation between CBP and NNSA, as both the CSI and Megaports Initiative agreements were negotiated and concluded jointly.[16, 17]

During the first half of 2005, the U.S. Government Accountability Office (GAO) released a series of reports examining U.S. maritime security policy. Among other issues, the GAO noted problems with a lack of minimum technical requirements for detection equipment under CSI and the lack of progress expanding the Megaports Initiative to new countries.[18, 19] Both CBP and NNSA have been working to address these concerns. As noted above, the NNSA has signed a number of new agreements in the past few months, including two agreements signed in cooperation with the CBP. By packaging the CSI with Megaports, the CBP can ensure that CSI ports have effective non-intrusive monitoring equipment for inspecting high-risk containers.

Support of Maritime Security by International Organizations

The Bush administration has worked to spread the maritime security principles enshrined in the CSI and the PSI throughout the international community. In 2005, the World Customs Organization (WCO) and the International Maritime Organization (IMO) adopted measures that further legitimize pro-active efforts to prevent the illicit transfer of WMD.

The World Customs Organization is an independent intergovernmental body working to enhance the efficiency and effectiveness of customs procedures. In June 2005, members of the WCO unanimously adopted the "Framework of Standards to Secure and Facilitate Global Trade," internationalizing many of the components of the U.S. government's maritime security programs. The Framework calls for harmonizing advance electronic manifests, using risk management to target illicit shipments, providing inspections of outward-bound shipments at the reasonable request of importing countries, and providing customs benefits to businesses that strengthen their internal supply chain security. The last two components of the new framework mirror the U.S. CSI and Customs-Trade Partnership Against Terrorism (C-TPAT) programs. [Editor's Note: The C-TPAT program was launched by the CBP on November 27, 2001. C-TPAT is a voluntary initiative that provides priority customs processing and reduced inspections at the U.S. border for participating companies that shore up their security practices and verify the integrity of their supply chain partners.] The WCO began work on the security elements of the Framework shortly after the terrorist attacks against the United States in 2001 amid concerns that terrorists would use the international shipping system to transport WMD and related materials. Adoption of the Framework is voluntary, so effective implementation will require significant cooperation among customs agencies and between business and government.[20] As of December 2005,

122 of 169 WCO members had signed letters of intent to implement the Framework.[21]

On October 14, 2005, members of the International Maritime Organization (IMO) concluded two protocols to amend and strengthen the 1988 *Convention for the Suppression of Unlawful Acts of Violence Against the Safety of Maritime Navigation* (SUA Convention). The IMO is the UN specialized agency tasked with developing international regulations to promote maritime safety and security. The new protocols criminalize the use of nonmilitary ships to transport or launch attacks using unconventional weapons and outlaw the transport of equipment and technology intended to contribute to the manufacture of WMD. The revisions also provide comprehensive procedures for boarding ships suspected of an SUA Convention offense, further legitimizing the interdiction activities of the Proliferation Security Initiative.[22] Japan in particular has been a strong advocate for the changes.[23] The protocols will be open for signature on February 14, 2006.

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Myanmar to Construct Nuclear Reactor with Russian Supervision

Burmese exiles report that Myanmar has resumed talks with the Russian Federal Atomic Energy Agency (Rosatom) on building a nuclear research reactor in the country.[1,2] The Russian government concluded an agreement with Yangon on cooperation in the construction of a nuclear research center in Myanmar in 2002.[3] According to the agreement drafted by the then-Russian Ministry of Atomic Energy, and approved by Russian Government Decree 312 of May 15, 2002, Myanmar's nuclear research center would include a 10 MW pool-type light-water nuclear reactor using low-enriched uranium fuel, a medical isotope production laboratory, an installation for silicon irradiation doping, and facilities for radioactive waste processing and storage.[4] In 2002, it was expected that construction would begin in 3-4 years. In late October 2005, *Mizzima News*, a news service maintained by Burmese exiles, reported that talks with Russia had resumed. They had stalled earlier this year due to funding difficulties. According to the latest reports, Russia will supervise construction and provide nuclear fuel, but not build the reactor itself.[2]

The reactor is reportedly being built at the Pyin Oo Lwin site in Kyaukse, Mandalay division, about 42 miles east of Mandalay.[2,5] The area is often shrouded in mist, which could make satellite monitoring difficult. The site is also very close to the location of Myanmar's new capital, Pyinmana, to which the Burmese government relocated in early November 2005.[5] Some concerns have been voiced over Myanmar's ability to safely and securely build and maintain the facility, as well as the possibility that it could become a cover for a nuclear weapons program. Myanmar is a party to the Nuclear Nonproliferation Treaty, and member of the International Atomic Energy Agency (IAEA). In 2002, there were some reports that the IAEA was concerned about the lack of a regulatory framework in Myanmar to ensure plant safety.[6]

Melissa Fleming, head of IAEA media outreach at the time, was quoted as saying that a peer review mission on upgrading radiation protection sent to Burma in November 2002 found Burmese standards sub-par.[1]

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Workshops and Conferences

U.S., Vietnam Co-Sponsor APEC Conference on Export Controls

On November 1-3, 2005, the United States and Vietnamese governments co-hosted a conference entitled "The Effective Elements of Export Control Cooperation for Asia-Pacific Economic Cooperation (APEC) Economies." The conference, which took place in Hawaii, and was a part of the U.S. Department of State's Export Control and Related Border Security (EXBS) Program, brought together 71 participants representing 16 APEC economies and one international organization—the United Nations—to discuss current issues in export controls, port security, and trade facilitation.

The main theme of the conference was the assertion that effective export controls and port security measures promote trade while enhancing security. This theme was highlighted by a number of plenary presentations, including one detailing Singapore's export control system by an official from Singapore Customs and another by a representative from the U.S. Department of Commerce on the specific advantages of trade security for APEC economies. Other plenary presentations focused on recent trends in WMD proliferation, the proliferation of man-portable air defense systems (MANPADS), the status of United Nations Security Council Resolution 1540, and a briefing on Japan's industry outreach activities.

While the conference began and ended in a larger plenary session, most of the presentations and discussions took place within the context of two smaller breakout sessions. The "Legal and Policy" breakout session concentrated on

establishing universal norms and harmonizing policies to improve export controls globally. Participants in the Legal and Policy group identified the absence of a common baseline for export control systems among APEC economies as one of the most pressing issues. The group noted, however, that many cooperative mechanisms are already in existence. These include training programs, the Proliferation Security Initiative (PSI), and the exchange of information on forfeiture funds. Participants suggested that methods such as these with a good record of success should be expanded in both scope and range.

The “Enforcement” breakout session focused on targeting and risk management strategies that serve to both enhance and secure trade between economies. Echoing comments in the Legal and Policy group, participants highlighted the need for continued and increased international cooperation, especially with regards to information sharing and training. The Enforcement group also identified data collection as a vital element of effective risk management and targeting practices.

A copy of the final report of the conference proceedings will be posted on the website for the U.S. State Department’s EXBS program at <<http://www.exportcontrol.org>>.

Editor’s Note: The APEC members in attendance were: Australia, Canada, Chile, Chinese Taipei, Indonesia, Japan, Korea, Malaysia, Mexico, Papua New Guinea, Peru, Philippines, Singapore, Thailand, the United States, and Vietnam.

South Korea’s MOCIE Hosts International Export Control Workshop

On December 2, 2005, South Korea’s Ministry of Commerce, Industry and Energy (MOCIE) hosted an international workshop on export control norms and their impact on the South Korean private sector.[1] The workshop was organized by the Korea Institute for Industrial Economics and Trade (KIET) and sponsored by the newspaper *Maeil Kyöngje Sinmun* (Economic Daily).

The workshop gathered about 200 CEOs of major South Korean firms and reviewed the international and domestic rules and norms required for an effective export control system in Korea. After the opening remarks delivered by MOCIE Minister Lee Hee-beom, the first session, explored compliance with international norms and reviewed U.S. and European export control systems. Brazilian Professor Roque Monteleone-Neto, a former UNSCOM inspector, delivered a presentation on United Nations Security Council Resolution 1540 (UNSCR 1540), which requires national governments to take effective measures to prevent the illicit transfer of weapons of mass destruction (WMD) and related materials and technologies.[2] Professor Quentin Michel of the University of Liège in Belgium, and Daniel E. Waltz of the Patton Boggs law firm in the United States each gave

presentations on the export control regimes of the European Union and the United States, respectively.[3,4]

In the second session, Mr. Shim Soung-kun, director of MOCIE’s Export Control Policy Division, explained the international context and need for an effective Korean export control system. Mr. Shim discussed the national requirements under UNSCR 1540, and provided an overview of the Container Security Initiative (CSI), the Proliferation Security Initiative (PSI), the U.S. Megaport Initiative, the concept of “catch all” provisions, as well as the Japanese export control system. Mr. P’yo In-su of the Bae, Kim & Lee Pacific Law Firm gave a detailed account of the South Korean export control system and the private sector response to it.[5,6] Professor Choi Seung-hwan of Kyung Hee University in Seoul delivered a presentation on export controls and the Kaesöng Industrial Complex in North Korea, which has generated concerns as a potential conduit for controlled items reaching North Korea for illicit purposes. Lee Seog-ki, a KIET research fellow, gave a presentation on Korean methods for dealing with corporate certification. [7]

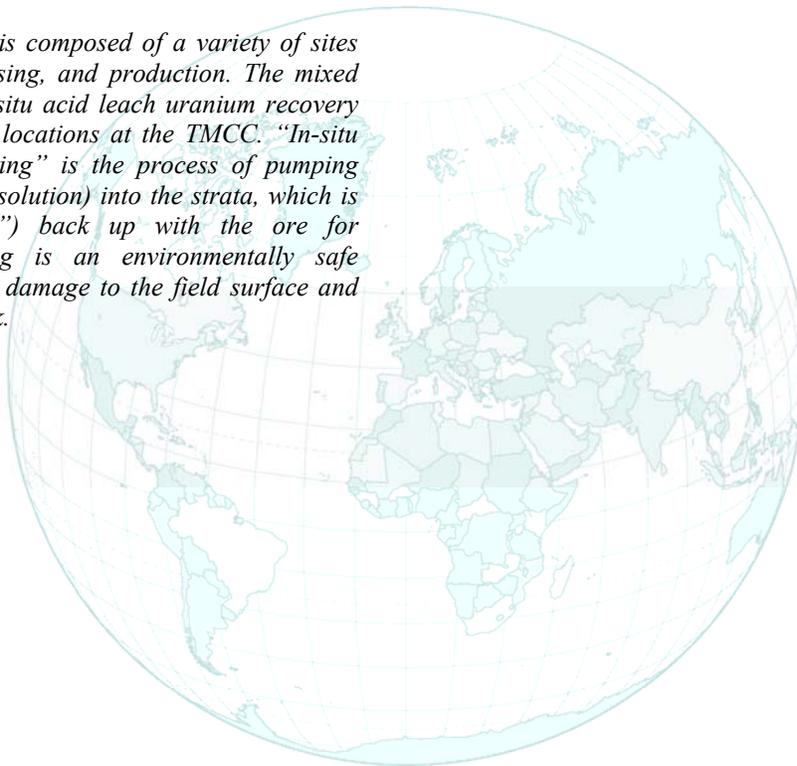
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ICP Workshop Held in Southern Kazakhstan

On November 15-17, 2005, representatives from the U.S. Department of Energy’s National Nuclear Security Administration (NNSA) and Pacific Northwest National Laboratory (PNNL) participated in an Internal Compliance Program (ICP) workshop in Shymkent, Kazakhstan. This was the fourth ICP workshop in the country funded by the U.S. Department of State’s Export Control and Related Border Security (EXBS) Assistance Program. Approximately 16 participants attended the workshop, including representatives from Kazakhstan’s nuclear enterprise community, as well as representatives from the Ministry of Industry and Trade, Customs Control Committee, Atomic Energy Committee, the Institute of Atomic Energy, the Nuclear Technology Safety Center, and the A.E. Leypunskiy Institute for Physics and Power Engineering in Obninsk, Russia.

The workshop addressed such issues as international perspectives on nonproliferation; the Kazakhstani export control system; the control of sensitive items by Kazakhstan's customs agency; and discussions on methods for strengthening compliance of enterprises with Kazakhstani export control laws and regulations. The workshop included excursions to the Taukent Mining and Chemical Combine's (TMCC) mixed oxide refinery plant, and to an in-situ acid leach uranium recovery facility in the Moinkum uranium fields. The purpose of the tour was to provide a frame of reference for workshop attendees both in and outside the industrial community. Specifically, the TMCC illustrated the safety and security of its mining process, scope of production, and territorial situation.

Editor's Notes: The TMCC is composed of a variety of sites for uranium mining, processing, and production. The mixed oxide refinery plant and in-situ acid leach uranium recovery facility are at two separate locations at the TMCC. "In-situ leaching" or "solution mining" is the process of pumping liquid (in this case, an acid solution) into the strata, which is then sucked (or "leached") back up with the ore for refinement. In-situ leaching is an environmentally safe practice, which causes little damage to the field surface and doesn't create any waste rock.



International Export Control Observer (<http://cns.miis.edu/pubs/observer>) is devoted to the analysis of WMD export control issues. It is published monthly for the 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 State. 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 International 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 2006 by MIIS. May be freely reproduced and distributed with proper citation.

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