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Recent Developments in the NIS

Russia Introduces Electronic Customs Declaration System for Railroad Commodity Transfers

On October 12, 2004, a demonstration of electronic customs declaration equipment was held at the Moscow railroad customs office located at the Moscow-Tovarnaya railroad station.[1,2] Aleksandr Zherikhov, head of the Russian Federal Customs Service (FCS), and Khasyan Zyabirov, first vice president of the Open Joint Stock Company Russian Railroads, signed the first railroad cargo customs declaration after it was processed by the new electronic customs declaration equipment.[1,2]

This event marked another phase in Russia's customs modernization program, which entails computerization of customs procedures and introduction of paperless customs registration and control. In his comments, Zherikhov noted, "Today we are witnessing a watershed event. We have been trying to reach this moment for some time and we are convinced that in the future, electronic customs technologies will become an integral part in customs processing of railroad cargoes. This is even more important because the main flow of goods from foreign economic activities enters the country by means of railroad transportation." [2] Zherikhov also expressed hope that, "The electronic customs declaration will rule out abuses and will make the work of the customs service more transparent." [3] The electronic customs declaration technology applies primarily to imported and domestic commodity transfers, while Russian exports are not covered by the new technology. However, according to Khasyan Zyabirov, "In the future, electronic declaration technology on railroad transportation should be applied to export deliveries as well." [3]

[Editor's Note: The legal framework for the use of electronic customs declarations was established by the new Customs Code that went into effect on January 1, 2004. One of the provisions of the Customs Code confirms the right to file electronic customs declarations by participants in foreign economic transactions. [1,2] The procedural details of processing and registering electronic customs declarations are defined by the Order of the State Customs Committee of the Russian Federation No. 395 On Approval of the Directive for Conducting Customs Operations during the Declaration of Commodities in an Electronic Form of March 30, 2004, which came into effect on July 26, 2004. [1,2]]

The introduction of the electronic customs declaration system is intended to simplify and facilitate customs procedures, which, in turn, will increase the flow of goods. The operational design of electronic customs technology is such that the idle time that cargo trains spend at railroad customs is reduced substantially because the preliminary processing of electronic customs declarations is completed before cargo trains arrive at their destinations. [1,2] In other words, the electronic customs declaration technology allows a cargo owner or a customs broker (on behalf of the cargo owner) to collect all the necessary documentation in electronic format and to file the electronic cargo customs declaration form (ECCD) with the customs office at the destination point before the cargo arrives. [1,2] Information submitted by a cargo owner or a customs broker, including the ECCD, is protected by electronic digital signature, which identifies the cargo owner or customs broker. When the customs office receives the ECCD, a customs officer enters it into the database and a specific registration number is assigned to it. Subsequently the information system of the customs office verifies the authenticity of the information presented in the ECCD and accompanying documentation, which takes several minutes. If for some reason the ECCD is rejected, it is returned to the cargo owner or broker with an attached list of reasons explaining the decision. If, on the other hand, the ECCD is accepted, then it is reviewed and processed in less than an hour. [1,2] An electronic customs declaration can be processed within three hours from the time the ECCD is received. [4] For comparison, before the introduction of electronic customs declaration technology, one to three days was required to process a typical customs declaration on paper. [2] The electronic customs declaration technology is protected from unauthorized access by elaborate software security features that grant access only to customs officers, cargo owners, and customs brokers with required personal digital signatures.

The Moscow railroad customs office became the sixth customs office under the jurisdiction of the Central Customs Directorate (CCD) to adopt advanced methods of customs control based on information technology. In 2004, the electronic customs declaration system with the use of personal digital signatures

will be installed at eight more customs offices of the Moscow Oblast, which falls under the CCD jurisdiction.[1,2]

In related developments, preparations for implementing electronic customs declaration technology at customs offices were discussed at a staff meeting of the Northwestern Customs Directorate in St. Petersburg on October 12, 2004.[4,5] According to Andrey Maksimov, first deputy head of the Vladivostok customs office (Far Eastern Customs Directorate), electronic customs declaration software will be installed at Primorskiy Krai customs offices in the near future and is expected to be operational at some of these offices before the end of 2004.[6] In addition, electronic declaration technology will be installed at the Fokinskiy customs office in Bryansk (under the CCD) by the end of 2004.[7]

Editor's Note: The enforcement of customs regulations and control in the Russian Federation is carried out by the FCS regional customs directorates. Thus, the territory of the Russian Federation is divided among the following regional customs directorates: Central (headquartered in Moscow), Northwestern (St. Petersburg), Southern (Rostov), Volga (Nizhny Novgorod), Ural (Yekaterinburg), Siberian (Novosibirsk), and Far Eastern (Vladivostok).[8] Subordinated to each of the regional customs directorates are the customs offices. For instance, the CCD controls 22 domestic and five international customs offices.[9]

Sources: [1] "Elektronnoye deklarirovaniye prikhodit na zheleznuyu dorogu" [Electronic [customs] declaration [procedure] comes to the railroad], Press Service of the Federal Customs Service of the Russian Federation, October 12, 2004, FCS website, <http://www.customs.ru/ru/press/of_news/index.php?id305=3766>. [2] "FTS RF predstavila sistemu elektronnoy deklarirovaniya gruzov, peremeshchayemykh po zheleznoy doroge" [Federal Customs Service of the Russian Federation introduced the system of electronic declaration of cargoes that are transported by the railway], Alliance Media Russian business portal, October 12, 2004, <<http://allmedia.ru/headlineitem.asp?id=150630>>. [3] "Elektronnoye deklarirovaniye vvoditsya na zheleznodorozhnom tamozhennom postu v Moskve" [Electronic declaration is being implemented at the railway customs office in Moscow], *Izvestia* online edition, October 12, 2004, <<http://news.izvestia.ru/economic/news89453>>. [4] "SZTU gotovitsya k vnedreniyu elektronnoy formy deklarirovaniya tovarov" [Northwestern Customs Directorate is preparing for introducing electronic form of commodity declaration], Severinform news agency, October 13, 2004, <<http://www.severinform.ru/index.php?page=newsfull&date=13-10-2004&newsid=7124>>. [5] "Tamozhni Severo-zapada vstupayut v mir vysokikh tekhnologiy" [Northwestern customs offices enter the world of high technologies], Regnum news agency, October 12, 2004, <<http://www.regnum.ru/part/yandex/340404.html>>. [6] "Primorye vvedet elektronnoye deklarirovaniye do kontsa 2004 goda" [Primorye region will introduce the electronic declaration before the end of year 2004], Avtomarket.ru Russian automobile information system, October 11, 2004, <<http://www.avtomarket.ru/scripts/news/?id=3061>>. [7] "Na tamozhennom postu v Bryanske budet vvedena sistema elektronnoy deklarirovaniya" [The system of electronic declaration will be introduced at the customs office in Bryansk], Nash Bryansk daily online publication, October 13, 2004, <<http://news.nashbryansk.ru/article/13776>>. [8] FCS website, <<http://www.customs.ru/ru/>>. [9] General information on the Central Customs Directorate, FCS website, <http://www.customs.ru/ru/gtk/regional_office/index.php?mode325=info&ro_id325=1>.

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

On October 14, 2004, during a two-day official visit to the People's Republic of China (PRC), Russian President Vladimir Putin signed a joint declaration with PRC President and Chinese Communist Party Central Committee General Secretary Hu Jintao reiterating both countries' common positions regarding major international issues and on the future development of bilateral relations between the Russian Federation and the PRC.[1,2] Of particular interest is Section V of the joint declaration, in which the two countries express their commitment to ensuring the nonproliferation of weapons of mass destruction (WMD) by reiterating the following main positions:

- The Russian Federation and the PRC consider proliferation of WMD and WMD delivery systems a serious threat to international security. In this regard, the two states welcomed UN Security Council Resolution 1540, which they deem to be "of great significance to the nonproliferation of WMD, WMD delivery systems, and related materials." [2,3] *[Editor's Note: Resolution 1540 was adopted unanimously by the UN Security Council on April 28, 2004, under Chapter VII of UN Charter, which is binding on all UN members and allows for military enforcement if necessary. Resolution 1540 bans and criminalizes the transfers of WMD, WMD-related technologies, and means of delivery to terrorists and non-state actors. With this purpose, Resolution 1540 obliges UN members to take measures aimed at preventing such transfers, including accounting and control of materials of proliferation concern, guaranteeing physical protection of proliferation-sensitive materials, strengthening border control and law enforcement mechanisms, and establishing effective national export control systems. According to Resolution 1540, UN members are to submit initial reports outlining their efforts in implementing the provisions of the resolution*

by the end of October 2004. In addition to this, Resolution 1540 established a special UN Security Council committee that will function for two years and will report directly to the Council on progress in implementing the resolution.[3] The two countries support strict adherence to Resolution 1540 by the international community, something they believe will enhance UN's role in the nonproliferation area.

- Both countries attach a special significance to strengthening the international nuclear nonproliferation regime and they view the Treaty on Non-Proliferation of Nuclear Weapons (NPT) as the cornerstone of this regime. The two states consider it critical to successfully hold the 2005 NPT Review Conference. The joint declaration also states that "considering the importance of the Comprehensive [Nuclear] Test Ban Treaty (CTBT) for the disarmament process and for strengthening the nonproliferation regime," both parties agree that the CTBT, signed on September 24, 1996, should enter into force as soon as possible.[2]

- The joint declaration underlines the importance of coordinating international efforts aimed at preventing nuclear terrorism, including physical protection of nuclear materials and the prevention of illegal nuclear-related transfers. With this purpose, the Russian Federation and the PRC pledged to "undertake measures for developing interaction in the framework of the multilateral mechanism of nuclear export control." [2] However, the declaration does not specify the measures both countries would take.

- Finally, the two countries view the creation of nuclear-weapon-free zones as an important initiative that would guarantee stability in Asia and in the rest of the world. From this point of view, the Russian Federation and the PRC express their support for the establishment of a nuclear-weapon-free zone in Central Asia.[1,2]

Sources: [1] "China, Russia to cooperate in nuclear nonproliferation," Xinhua news agency, October 15, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] "Sovmestnaya deklaratsiya Rossiyskoy Federatsii i Kitayskoy Narodnoy Respubliki" [Joint declaration by the Russian Federation and the People's Republic of China], October 14, 2004, President of Russia website, <http://www.kremlin.ru/interdocs/2004/10/14/0000_type72067_77988.shtml?type=72067>. [3] "UN Security Council Passes Resolution Banning and Criminalizing WMD Transfers to Terrorists and Other Non-State Actors," *NIS Export Control Observer*, May 2004, No. 16, pp. 16-17, <<http://cns.miis.edu/nis-excon>>.

Changes in NIS Export Control Personnel

Yuriy Prokofyev Promoted to CNSD First Deputy Secretary

On September 28, 2004, President of Ukraine Leonid Kuchma signed Edict No. 1153/2004, promoting General Yuriy Prokofyev to the position of first deputy secretary of the Council of National Security and Defense (CNSD) of Ukraine. Previously, Prokofyev served as deputy secretary of the CNSD and head of the Committee on Military and Technical Cooperation and Export Control Policy (CMTCEC), a CNSD component under the president of Ukraine.[1,2] Prokofyev retains his position in the CMTCEC. According to Defense Express news agency sources, Prokofyev's promotion was prompted by the successful September 2004 visit of a Ukrainian delegation headed by Prokofyev to Pakistan. [2] Earlier, in August 2004, Prokofyev met with General Muhammad Aziz Khan, chairman of the Joint Chiefs of Staff Committee of Pakistan's armed forces, who led a Pakistani military delegation for a six-day official visit to Ukraine. Reportedly, the parties discussed the development of bilateral military and military-technical cooperation, and negotiated new multimillion contracts.[3,4]

*Editor's Note: Created by Presidential Edict of August 30, 1996, the CNSD is a government body that coordinates and controls the activities of executive bodies in the sphere of national security and defense. The president of Ukraine serves as the CNSD chairman and determines its composition. CNSD jurisdiction and functions are defined in the law On the Council of National Security and Defense of Ukraine. CNSD decisions are brought into effect by presidential edicts. The CNSD secretary (currently Volodymyr Radchenko), who is responsible for ensuring the effective functioning of the Council and implementing its decisions, is accountable to and is appointed and dismissed by the president. Moreover, the president determines the organizational structure of the Council, which is currently divided into analytical directorates, such as the Directorate of Energy Security and Nuclear Policy and the Directorate of Defense Aspects of National Security. For more information on previous changes in Ukrainian export control personnel, see "Latest Changes in Ukrainian Export Control Personnel" in the November 2003 issue of the *NIS Export Control Observer*, <<http://cns.miis.edu/nis-excon>>. [5]*

Sources: [1] Presidential Edict No. 1153/2004 of September 28, 2004 “On the appointment of Yu. Prokofyev first deputy secretary of the Council of National Security and Defense of Ukraine and Head of the Committee on Military and Technical Cooperation and Export Control Policy under the President of Ukraine” (in Ukrainian), Verkhovna Rada (Parliament of Ukraine) website, <<http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi>>. [2] “Yuriy Prokofyev naznachen na dolzhnost pervogo zamestitelya sekretarya SNBO – glavy Komiteta po voprosam politiki VTS i EK pri Prezidente Ukrainy” [Yuriy Prokofyev appointed CNSD first deputy secretary—head of the Committee on Military and Technical Cooperation and Export Control Policy under the President of Ukraine], Defense Express online news agency, October 1, 2004, <<http://www.defense-ua.com/rus/news/?id=14397>>. [3] “V Ukraine ‘pakhnet’ novym oruzheynym kontraktom?” [Is a new arms contract in the offing in Ukraine?], Defense Express online news agency, August 20, 2004, <<http://www.defense-ua.com/rus/news>>. [4] Valentin Badrak, “Oruzheynyy Rennessans. V Pakistane podumyvayut o novoy sdelke s Ukrainoy” [Arms Renaissance. Pakistan thinks of a new deal with Ukraine], *Voyenno-promyshlennyy kuryer*, No. 35 (52), September 15-21, 2004, <http://www.vpk-news.ru/article.asp?pr_sign=archive.2004.52.articles.weapon_02>. [5] “Council of National Security and Defense of Ukraine,” President of Ukraine website, <<http://www.president.gov.ua/eng/stateauthority/autofstate/prezidlist/defenserada/>>.

Head of Georgian Department of Customs Submits Resignation, Continues to Perform Duties

On October 11, 2004, Georgiy Godabrelidze, head of the Georgian Department of Customs, submitted his resignation to the government.[1,2,3] It was not immediately known what the reason for resignation was or whether the resignation was accepted by Georgian President Mikheil Saakashvili. In a televised interview with journalists, which was broadcast on the same day by the Rustavi-2 TV channel, Saakashvili confirmed the resignation and noted that he was not satisfied with Godabrelidze’s performance because of the latter’s inability to curb corruption in the Department of Customs.[1,2,4]

Speculation about Godabrelidze’s likely resignation began circulating in the Georgian media after Saakashvili harshly criticized him at an October 8, 2004 cabinet meeting.[1,4,5] The president warned the customs chief that if the state budget did not receive 15-20 million Georgian lari (approximately \$8.2 million-\$10.9 million as of October 2004) from the Department of Customs—presumably monies from excise duties—he would be sacked.[1,2,5] In addition to this, the president’s ire was drawn by the fact that Godabrelidze’s recent departure on a business trip abroad was preceded by a lavish farewell party organized by his deputies at the Tbilisi airport in the early morning hours.[1,2,3] Commenting on this incident, Saakashvili remarked, “The popularly elected government ought not to behave in such a manner. We are the government for the people and our officials should learn how to live in the interests of the people.”[2] At the conclusion of the cabinet meeting, the president vowed to continue to pursue a policy of frequent reshuffling and rotation of government officials, which is intended to ensure the efficient functioning of the new government.[1,2,3]

However, as of late October 2004, it appeared that Godabrelidze continued to serve as the head of the Department of Customs. A survey of open media sources yielded no information about his possible replacement. In fact, on October 27, 2004, Godabrelidze met with European Commission representative Adriana Longon to discuss the implementation of the second part of an assistance project aimed at reforming the Georgian customs system.[6,7]

Editor’s Note: The European Commission’s first assistance project for reforming the Georgian customs system began in the spring of 2002 and ended in October 2003. In the course of this project, with the assistance of experts from Austrian and Dutch customs services, the initial draft of the new Customs Code of Georgia was developed and recommendations for improving the management of the customs system were made. The first assistance project cost €850,000 (\$1,095,055), which was paid through the EU’s TACIS (Technical Assistance to the Commonwealth of Independent States) technical assistance program. The second assistance project entails development of implementing legislation and other regulatory documents that are necessary for improving secondary customs legislation of Georgia. The duration of this assistance project is 10 months and its total cost is €700,000 (\$901,810), which will be provided by the European Commission.[6,7]

Sources: [1] “Glava tamozhennogo departamenta Gruzii Georgiy Godabrelidze podal v otstavku” [Head of the customs department of Georgia Georgiy Godabrelidze resigned], RIA Novosti, October 11, 2004, <http://www.rian.ru/rian/intro.cfm?nws_id=704273>. [2] Novosti-Gruzia news agency, in “Glava tamozhennogo departamenta Gruzii Georgiy Godabrelidze podal v otstavku” [Head of the customs department of Georgia Georgiy Godabrelidze resigned], Azerbaijani on-line information channel Day.AZ, October 12, 2004, <<http://www.day.az/news/georgia/14169.html>>. [3] Melsida Akopyan, “Glava tamozhennogo departamenta Gruzii Georgiy Godabrelidze podal v otstavku” [Head of the customs department of Georgia Georgiy Godabrelidze resigned], Information Agency Novosti-Gruzia, October 11, 2004; in Integrum Techno, <<http://www.integrum.com>>. [4] “Saakashvili Criticizes Customs Chief

Again,” United Nations Association of Georgia’s (UNA-Georgia) online magazine Civil.GE, October 11, 2004, <<http://www.civil.ge/eng/article.php?id=8036>>. [5] “Saakashvili Slams Customs Chief,” Civil.GE, October 8, 2004, <<http://www.civil.ge/eng/article.php?id=8020>>. [6] “Yevrokomissiya nachnet realizatsiu vtorogo proyekta reformirovaniya tamozhennoy sistemy Gruzii” [European Commission will begin implementing a second project aimed at reforming the customs system of Georgia], RIA Novosti, October 27, 2004, <http://www.rian.ru/rian/intro.cfm?nws_id=717992>. [7] Lela Iremashvili, “Yevrokomissiya pristupit k realizatsii vtorogo proyekta po sodeystviyu reformirovaniya tamozhennoy sistemy Gruzii” [European Commission will begin implementing a second project aimed at providing assistance for reforming the customs system of Georgia], Novosti-Gruziya news agency, October 27, 2004; in Integrum Techno, <www.integrum.com>.

International Supplier Regimes

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

by Dr. Dana Perkins, Senior Research Scientist with the Calspan-University at Buffalo Research Center, Inc. (CUBRC) in Washington, DC. Before joining CUBRC, she served with the U.S. Department of Commerce, Office of Nonproliferation and Treaty Compliance as an Export Licensing Officer/Microbiologist.

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

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

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

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

1) Bacteria:

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

2) Viruses:

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

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

Therefore, it is not surprising that the European Union (EU) promoted these additions to the plant pathogens list.

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

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

Xanthomonas oryzae pv. oryzae was previously listed among the AG's "Items for inclusion in awareness-raising guidelines" and has now been promoted to the core list. *X. oryzae pv. oryzae* is the causative agent of Rice Blight (also known as Bacterial Leaf Blight or Kresiek Disease), a common and destructive disease of rice in many countries in Asia (Bangladesh, India, China, Indonesia, Japan, Korea, Lao, Malaysia, Nepal, etc.) but also in Africa (Madagascar, Mali, Niger, etc.), South America (Venezuela, Ecuador, Bolivia, Colombia), and Oceania (Australia). Rice Blight has also been reported in North America (Mexico and the United States). This disease has also been found but is not "established" in Russia and is absent in the EU countries.

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

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

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

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

usually more than offset expenses related to disinfection of equipment and storage/packing facilities, prohibition of potato cultivation and/or potato exports.

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

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

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

Sources: [1] R. A. Zilinskas, “Iraq’s biological weapons,” *Journal of American Medical Association*, No. 278 (1997), pp. 418-424. [2] J. Pate and G. Cameron, “Covert biological weapons attacks against agricultural targets: assessing the impact against U.S. agriculture”, BCSIA Discussion Paper 2001-9, ESDP Discussion Paper ESDP-2001-05, John F. Kennedy School of Government, Harvard University, August 2001. [3] G. D. Easton, “The biology and epidemiology of potato ring rot,” *American Potato Journal*, No. 56 (1979), pp. 459-460.

MTCR Holds 19th Plenary in Seoul

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

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

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

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

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

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

Editor’s Note: The MTCR is an informal and voluntary association of countries that share the goals of nonproliferation of unmanned delivery systems capable of delivering WMD. Member countries seek to

coordinate national export licensing efforts aimed at preventing the proliferation of such delivery systems. The MTCR was originally established in 1987 by Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. Since that time, the number of MTCR member countries has increased to a total of 34 countries, all of which have equal standing within the regime.[4]

Sources: [1] "Plenary Meeting of the MTCR," October 8, 2004, Ministry of Foreign Affairs and Trade of the Republic of Korea website, <http://www.mofat.go.kr/en/press/e_info_view1.mof>. [2] Mike Nartker, "MTCR Members Discuss Work to Slow Missile Spread," Global Security Newswire, October 13, 2004, Nuclear Threat Initiative website, <<http://www.nti.org>>. [3] "Missile Technology Control Regime warns North Korea against missile test," Yonhap news agency, October 8, 2004; in Lexis-Nexis Academic Universe, <<http://lexis-nexis.com>>. [4] "The Missile Technology Control Regime," MTCR website, <<http://www.mtrc.info/english/>>.

International Export Control and WMD Security Assistance Programs

June-October 2004 International Export Control Assistance to Central Asian States

In June-October 2004, a number of Central Asian states received export control assistance from the United States and the Organization for Security and Cooperation in Europe (OSCE). The following is a summary of these assistance efforts.

Kyrgyz Republic

In June 2004, the Border Guard Service of Kyrgyzstan received four KamAZ trucks and one Volga car worth more than \$130,000 from the United States.[1] In addition, on July 13, 2004, the U.S. Embassy in the Kyrgyz Republic donated three KamAZ-43114 heavy duty trucks valued at \$95,718 to the Kyrgyz Ministry of Ecology and Emergency Situations followed by the donation on July 23, 2004 of four UAZ-396259 vans and two CT-30 inspection tool kits valued at \$51,600 to the Department of Customs Service of the Committee on Revenues under the Ministry of Finance of the Kyrgyz Republic.[2,3,4] This technical assistance to Kyrgyz government agencies was provided under the U.S. State Department Export Control and Border Security (EXBS) program and will be used for nonproliferation and border security efforts.

In addition to the above donations, on July 22, 2004, the U.S. Embassy handed over four Niva-21213 and one UAZ vehicles, and computer, radio and investigative equipment valued at \$130,000 to the Drug Control Agency of the Kyrgyz Republic under the International Narcotics and Law Enforcement Affairs (INL) project implemented by the U.S. Department of State. This donation was only a part of the equipment that will be provided under a larger agreement, valued at \$465,000.[5]

Tajikistan

On July 22, 2004, the U.S. Embassy in Tajikistan transferred 15 generators and 15 fuel tanks valued at \$240,000 to the State Border Protection Committee (SBPC) of Tajikistan. The generators and fuel tanks, donated by the U.S. Department of Defense (DOD), will enhance the border guards' ability to protect the country's borders by providing improved power continuity at 15 border outposts. The U.S. DOD also provided the SBPC with mapping computers, printers, scanners, and laminators worth \$110,000. The computers will help the SBPC to update Tajikistan's maps that have not been updated since 1985. In addition, border guards can mark the exact locations of the border outposts.[6]

Turkmenistan

In late June 2004, the OSCE Center in Ashgabad in cooperation with Turkmenistan's State Customs Service (SCS) and the European Commission launched a series of three-month training sessions for Turkmen customs officials. To implement the training program, the OSCE Center provided computer specialists and English language trainers, and installed modern learning facilities and computers in the SCS Training Center in Ashgabad. Up to 90 customs officials will participate in this training program, which runs until the end of 2004, to improve their English language skills and knowledge of computers. The program aims to strengthen the SCS capabilities since good command of English and adequate computer skills will allow customs officials to work with international partner organizations and to secure cross-border trade, combat terrorist activities, fight international trafficking, and control international migration. The training program will also improve communication with foreign citizens crossing the border and help customs officers with the maintenance of a computer database. It is expected that the project will be extended into 2005.[7]

On July 26-27, 2004, the OSCE Centre in Ashgabad, the OSCE's Action against Terrorism Unit, and Turkmenistan's Ministry of Foreign Affairs organized in Ashgabad a two-day joint seminar aimed at providing the Turkmen government with up-to-date information on legal instruments, as well as policies and activities of the international community in its global fight against terrorism. Participants included representatives from the General Prosecutor's Office, Ministries of Foreign Affairs, Internal Affairs, National Security, Defense, and Justice, as well as of State Border Guard and Customs Services of Turkmenistan. The event offered participants an opportunity to share experience and practice with international experts on combating terrorism. Seminar participants discussed the political, economic, and social aspects of terrorism and expanded their knowledge about the relevant UN and OSCE principles, documents, and bodies. The discussions also addressed techniques on combating terrorism, with a focus on regional and international cooperation and prevention measures.[8]

On July 15, 2004, the U.S. Embassy in Turkmenistan donated an X-Ray scanner to the SCS. The HI-SCAN 100100V X-ray scanner, manufactured by the German company Heimann Systems GmbH, was installed at the Serhedabat customs checkpoint. The Russian company Wlibor Systems, an authorized distributor of Heimann equipment, provided a one-year extended maintenance warranty for the equipment, and one of its engineers conducted a short training seminar for eight checkpoint officers. The HI-SCAN 100100V X-ray scanner is specifically designed to meet the needs and applications of airports, customs facilities, transportation operations, carriers, parcel services, and warehouses to screen oversized packages without any loss of X-ray image quality. It offers technologically advanced security solutions to detect and identify explosives, chemical and biological agents, weapons, and contraband.[9]

On August 16-20, 2004, a Native American unit of the U.S. Customs Service conducted in Ashgabad a Strategic Enforcement Tracker (SET) training course for 25 officers of the State Border Guard Service (SBS) of Turkmenistan. A group of three Native American Indians, nicknamed "Shadow Wolves," who work to track down illegal smuggling along the U.S.-Mexico border, visited Turkmenistan to share their tracking experience with local border guards. The Shadow Wolves were founded in 1972 under a program created by the U.S. Congress to track drug smugglers transporting contraband—mostly marijuana—on Indian reservation lands. Smuggling detection skills, such as night tracking, counter tracking, tactical awareness of immediate surroundings, and techniques for discovering weapons of mass destruction, were taught during the course. The EXBS program sponsored the trackers' visit and the training course. The course included one day of theoretical studies and four days of field trips to areas with surroundings reminiscent of Turkmenistan's border areas. The EXBS program also donated to the SBS 25 handheld GPS devices, 25 tool kits, and 25 flashlights, which were used during the training.[10]

On August 19, 2004, the U.S. Embassy provided 20 drug/precursor test kits and office equipment to the State Forensic Service of Turkmenistan. The equipment was donated through the INL project. Drug/precursor test kits are intended to provide law enforcement officers with rapid and simple color tests for preliminary identification of drugs and precursors most commonly encountered in the illicit trade.[11]

In late September 2004, Turkmenistan's State Customs and Border Guard Services each received 40 radiation pagers—personal gamma-ray radiation detectors that are hundreds of times more sensitive than traditional Geiger counter type detectors—from the U.S. Embassy. The radiation pagers, donated as part of the EXBS program, will increase the capacity of Turkmen customs inspectors and border guards to identify and interdict nuclear materials.[12]

Uzbekistan

On August 19-20, 2004, a two-day Radiological Detection and Response course was conducted at the Institute of Nuclear Physics (INP) in Tashkent under the U.S. DOD's International Counterproliferation (ICP) program. The course focused on providing more advanced radiological detection and analysis equipment and training to relevant Uzbek government agencies. Twenty participants representing the INP, the State Customs Committee, and the Ministries of Emergency Situations and Public Health attended the course. The tailored equipment package delivered to Uzbekistan consisted of \$199,000 worth of advanced radiological detection equipment that will increase the capability of radiation response teams to localize a radiological source, more accurately determine the nature of the source, and make recommendations on its

final disposition. Course participants received familiarization training on the equipment followed by practical exercises that enabled participants to use the new equipment to detect and identify radiological sources. This course was part of a larger cooperative effort between the Uzbek and U.S. governments. Since 1997, the ICP program has worked with mid- and senior-level Uzbek officials to improve the capability of Uzbek agencies to detect and interdict WMD and related materials along the borders, and to effectively investigate WMD incidents.[13]

Sources: [1] Vladimir Alov, "Kurs – na granitsu" [Heading to the border], *Vecherniy Bishkek* online edition, June 28, 2004, No. 116 (8543), <<http://www.vb.kg/2004/06/28/panorama/12.html>>. [2] Anastasiya Karelina, "Chrezvychaynyye KamAZy" [Emergency KamAZs], *Vecherniy Bishkek* online edition, July 14, 2004, No. 128 (8555), <<http://www.vb.kg/2004/07/14/panorama/12.html>>. [3] "Three KAMAZ-43114 trucks to the Ministry of Ecology and Emergency Situations," U.S. Embassy in the Kyrgyz Republic press release, <http://bishkek.usembassy.gov/press_releases_archives_2004.htm>. [4] "UAZ-396259 vans and two CT-30 inspection tool kits to the Customs Services Directorate of the Committee on Revenue under the Ministry of Finance of the Kyrgyz Republic," U.S. Embassy in the Kyrgyz Republic press release, <http://bishkek.usembassy.gov/press_releases_archives_2004.htm>. [5] "Vehicles and equipment to Kyrgyz Counter Narcotics Organs," U.S. Embassy in the Kyrgyz Republic press release, <http://bishkek.usembassy.gov/press_releases_archives_2004.htm>. [6] "U.S. Government Donates 15 Generators and Fuel Tanks to the State Border Protection Committee," U.S. Embassy in Tajikistan press release, July 22, 2004, <<http://usembassy.state.gov/dushanbe/wwwhpr220704.html>>. [7] "OSCE Centre trains Turkmen customs officials in English language and use of computers," OSCE press release, June 25, 2004, <http://www.osce.org/news/show_news.php?id=4183>. [8] "OSCE Centre in Ashgabat organizes seminar on combating terrorism," OSCE press-release, July 27, 2004, <http://www.osce.org/news/show_news.php?id=4260>. [9] "U.S. Embassy Donates an X-Ray Scanner to the Turkmen Customs Service," U.S. Embassy in Turkmenistan press release, July 19, 2004, <<http://www.usemb-ashgabat.rpo.at/pr123.html>>. [10] "Native American Trackers Train Turkmen Border Guards to Detect Smugglers," U.S. Embassy in Turkmenistan press release, August 18, 2004, <<http://www.usemb-ashgabat.rpo.at/pr126.html>>. [11] "U.S. Embassy Donates Drug/Precursor Test Kits and Office Equipment to the Turkmen State Forensic Service," U.S. Embassy in Turkmenistan press release, August 19, 2004, <<http://www.usemb-ashgabat.rpo.at/pr127.html>>. [12] "U.S. Embassy Donates 80 Radiation Pagers to Turkmen Customs and Border Guard Services," U.S. Embassy in Turkmenistan press release, October 1, 2004, <<http://www.usemb-ashgabat.rpo.at/pr130.html>>. [13] "Radiological Detection and Response Course Conducted in Tashkent," U.S. Embassy in Uzbekistan press release, August 20, 2004, <<http://www.usembassy.uz/home/index.aspx?&=mid=283&overview=952>>.

Export Control Training Seminars in Latvia, Georgia, and Lithuania

by Richard Talley, U.S. Department of Energy

In August and September 2004, the U.S. Department of Energy (DOE) conducted several export control training seminars in Latvia, Georgia, and Lithuania. This article provides a short description of these events.

Latvia

In late August, the U.S. DOE's National Nuclear Security Administration (NNSA) held a training seminar in Riga on nuclear-related export controlled commodities for Latvian technical experts from the Radiation Safety Center. The purpose of the training was to prepare these technical experts to teach customs cadets and front-line personnel to recognize, and thereby to interdict, illicit shipments of export-controlled goods. These experts will teach the first group of customs cadets about commodity recognition in the fall of 2004, with the course slated to be a regular part of the curriculum for all new customs inspectors. The NNSA will continue to support this work to ensure that on-duty personnel eventually receive this training as well.

Georgia

A team of NNSA technical export control experts from the Argonne and Los Alamos national laboratories and Georgian technical export control specialists from the E. Andronikashvili Institute of Physics (IP) conducted two multi-day Nuclear Commodity Identification Training (CIT) courses in Grigoleti and Bakuriani, Georgia, on September 15-17 and 19-22, 2004. The workshops, sponsored by the NNSA's International Nonproliferation Export Control Program (INECP), were designed to familiarize customs and border guard officers with controlled items from the Nuclear Suppliers Group (NSG) control lists that are part of Georgia's new export control law. Forty-one Georgian customs, border guard, and coast guard officers from five border posts attended. The courses included presentations on international nonproliferation regimes, nuclear commodities subject to export controls, practical exercises, and Georgian export control legislation. Georgian presenters were drawn from the IP, Department of Customs, State Border Guard Department, and the Ministry of Environmental Protection and Natural Resources.

As with all partner countries, NNSA's goal in Georgia is to eventually hand over responsibility for continued updating and presentation of the training modules to Georgian technical experts. A multiple

choice test administered at the end of each of the workshops showed that the material presented by Georgian presenters was more readily absorbed than material presented by the U.S. team. The U.S. team members believe that this validates the need for the majority of the training to be done by Georgian export control technical experts.

Lithuania

In late September, a team of NNSA experts participated in a training of Lithuanian customs and border guard officials at the Lithuanian Customs Training Center. NNSA's participation involved familiarizing Lithuanian customs and border guard personnel with the scope of commodities controlled by the various WMD nonproliferation regimes. Presentations provided by Lithuanian customs officials and by Lithuania's Radiation Protection Center were designed to inform the audience about controlled commodities either used and produced in Lithuania, or transiting the region. The NNSA will continue working with Lithuanian partners in the years to come so that their technical experts become proficient in training frontline officials in the recognition of controlled items, and in conducting the analysis of commodities in order to determine whether or not they are controlled for nonproliferation purposes.

Embargoes and Sanctions Regimes

United States Sanctions 14 Foreign Entities for WMD Proliferation

According to a September 29, 2004, U.S. Department of State notice in the *Federal Register*, the United States imposed sanctions on 14 foreign entities under Section 2 of the Iran Nonproliferation Act of 2000, which "provides for penalties on entities for the transfer to Iran since January 1, 1999, of equipment and technology controlled under multilateral export control lists [...] or otherwise having the potential to make a material contribution to the development of weapons of mass destruction (WMD) or cruise or ballistic missile systems."

The sanctioned foreign entities include: Beijing Institute of Aerodynamics, Beijing Institute of Opto-Electronic Technology (BIOET), China Great Wall Industry Corporation, China North Industries Corporation (NORINCO), LIMMT Economic and Trade Company, Ltd., Oriental Scientific Instruments Corporation (OSIC), and South Industries Science and Technology Trading Co., Ltd. (China); Belvneshpromservice (Belarus); Changgwang Sinyong Corporation (North Korea); Dr. C. Surendar and Dr. Y.S.R. Prasad (India); Khazra Trading (Russia); Telstar (Spain); and Zaporizhzhya Regional Foreign Economic Association (Ukraine). The sanctions will remain in place for two years from their effective date—September 23, 2004.

Under the terms of the sanctions, no U.S. government department or agency may procure any goods, technology, or services from these foreign entities or provide any assistance to them, and these entities shall not be eligible to participate in any U.S. government assistance program. The sanctions also ban the U.S. government from selling to the entities any items on the U.S. Munitions List, and any defense articles, defense services, or design and construction services under the Arms Export Control Act. In addition, all existing export licenses will be suspended and no new export licenses will be issued for the transfer to these entities of items "controlled under the Export Administration Act of 1979 or the Export Administration Regulations." [1]

According to Richard Boucher, U.S. Department of State spokesman, "there was credible information that these entities had transferred one of several categories of items to Iran since January of 1999," but he did not specify what items were transferred. Boucher also pointed out that "the penalties apply to the entities themselves and not to countries or governments." [2] Some of the blacklisted companies, such as Belarusian Belvneshpromservice, Chinese BIOET, NORINCO, OSIC, and South Industries Science and Technology Trading Co., Ltd., as well as North Korean Changgwang Sinyong Corporation, were already sanctioned in April 2004 under the Iran Nonproliferation Act of 2000. [3] The imposition of new sanctions brought to 23 the number of entities that have been subject to sanctions under this act. Referring to successive sanctions, Boucher noted that their main effect is "to extend the period of time that the entity would be subject to sanctions for." He continued, "It is a requirement of law that we make these determinations and impose

sanctions. And somebody who has been doing something more recently deserves to suffer the consequences for a longer period of time.”[2]

The imposition of sanctions caused vehement reactions in the countries whose entities were hit by U.S. penalties. The Ministry of Foreign Affairs of Belarus stated: “U.S. actions are beyond international law and were carried out based solely on U.S. domestic legislation,” and the Unitary State Trade Enterprise Belvneshpromservice, specializing in the export of military hardware and equipment, did not violate the country’s international commitments.[4,5] The company also denied the U.S. accusations, claiming it has had no contracts with Iran for the past several years.[6]

Officials from Russia’s state-owned arms export and import company Rosoboronexport stated that Khazra Trading is not registered with the Russian Military Industrial Complex and that the sanctions were imposed on a non-existent entity.[7] Some Russian analysts contemplate the possibility of a so-called “one-day company” created with the sole purpose of a one-time sale of some goods to Iran.[8,9] Commenting on the sanctions, Konstantin Kosachev, chairman of the State Duma Committee on International Affairs, complained that the United States never presented convincing evidence in support of its sanctions.[10]

The Ukrainian Ministry of Foreign Affairs stated that “the economic cooperation between Ukraine and Iran is carried out in compliance with international law as well as Ukraine’s international export control commitments.” The Ukrainian Embassy in the United States requested that the U.S. State Department provide explanations for the sanctions. Nevertheless, Ukrainian authorities announced their intention to investigate the activities of the Zaporizhzhya Regional Foreign Economic Association specializing in the export/import of items in the machine-building and metallurgical sectors and exports of dual-use goods. Company director Vitaliy Krasnoselskiy dismissed U.S. accusations of WMD trade with Iran and blamed the United States for engaging in unfair competition for the Iranian high-technology market. Claiming that his enterprise does not cooperate with U.S. companies, he stated that the association will not cease its cooperation with Iran.[11]

India’s Foreign Ministry denied that the two sanctioned Indian scientists were involved in sales of WMD materials, equipment, or technologies to Iran and asked the United States to withdraw its sanctions. According to ministry spokesperson Navtej Sarna, Dr. Surender had never visited Iran, and Dr. Prasad initially visited Iran under a technical cooperation program and “thereafter he provided consultancy on safety related aspects connected with a nuclear power plant there which is under the International Atomic Energy Agency safeguards.” Sarna claimed that Prasad had not visited Iran since mid-2003.[12]

There are no openly available Chinese or Western sources on China’s reaction to the latest U.S. sanctions. According to the Russian RIA Novosti news agency, Beijing protested the sanctions expressing its strong dissatisfaction with the U.S. decision, saying that the U.S. action does not promote Sino-U.S. cooperation in nonproliferation and overall bilateral relations.[13] Such statements are similar to previous statements made by Chinese Foreign Ministry officials. Earlier, on September 24, 2004, China criticized U.S. sanctions imposed on September 20, 2004, against the Xinshidai company (also known as the China New Era Group), an arms trade-related import/export company with ties to the Chinese military, for allegedly aiding the WMD-capable ballistic missile program of an unidentified country. Chinese Foreign Ministry spokesman Kong Quan then said that the United States “takes actions against some Chinese companies and entities on the basis of their domestic laws.” “We cannot accept such actions at all. We believe such actions by the U.S. will not help expand China-U.S. cooperation on nonproliferation and require the U.S. side to revoke the wrong decision,” he added.[14]

The sanctioned Spanish company Telstar was reported to be the first company from a NATO country to “face penalties under the Iran Nonproliferation Act.”[15] However, Richard Boucher didn’t confirm this saying that “this law applies internationally and globally.”[2]

Sources: [1] U.S. Department of State Bureau of Nonproliferation Public Notice 4845, “Imposition of Nonproliferation Measures Against Fourteen Foreign Entities, Including Ban on U.S. Government Procurement,” *Federal Register*, September 29, 2004, Vol. 69, No. 188, pp. 58212-58213, <<http://www.gpoaccess.gov>>. [2] Daily Press Briefing by Richard Boucher, September 29, 2004, U.S. Department of State website, <<http://www.state.gov/r/pa/prs/dpb/2004/36605.htm>>. [3] U.S. Department of State Bureau of Nonproliferation Public Notice 4680, “Imposition of Nonproliferation Measures Against Thirteen Entities, Including Ban on U.S. Government Procurement,” *Federal Register*, April 7, 2004, Vol. 69, No. 67, p. 18415, <<http://www.gpoaccess.gov>>. [4] Aleksandr

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Illicit Trafficking in the NIS

Kyrgyz "Plutonium" Harmless

Two men were arrested near Bishkek, Kyrgyzstan, in September 2004 while trying to sell 60 "containers" with plutonium-239, BBC News reported on September 27, 2004 referring to the country's National Security Service (SNB).[1]

The arrests were the result of a sting operation that concluded on September 21, 2004, with SNB agents posing as buyers from one of the Baltic states.[2,3,4] The primary suspect, a 50 year-old farmer from Malovodnyy, a settlement in Moskva Rayon of Kyrgyzstan's Chuy Oblast, reportedly asked \$3,000 for the plutonium.[4,5] [Editor's Note: *The media reports do not provide the profile of the second suspect.*] SNB agents first bought several "containers" as a sample and then submitted them to the Department for State Sanitary and Epidemiological Oversight at the Kyrgyz Ministry of Public Health for examination.[5] The suspects were apprehended after the tests showed that the items were Soviet-era smoke detectors, which use a minuscule amount of plutonium-239.[6] [Editor's Note: *According to numerous sources, Soviet-made RID-6M and RID-1 type smoke detectors contained a few micrograms of plutonium-239 as an ionization source. Thus, one would need at least a million smoke detectors to create a potent nuclear weapon or a radiological dispersal device ("dirty bomb"). U.S. ionizing detectors usually contain a very small quantity of the artificially produced radioisotope americium-241, a decay product of plutonium-241.*]

According to the SNB, a total of 60 RID-6M and RID-1 type smoke detectors produced in 1981-1989 in the Soviet Union were seized from the farmer who had been storing them in an abandoned sheep barn a few kilometers away from the Manas Airport outside Bishkek, where the international antiterrorist coalition airbase is located.[4,5,6] The Kyrgyz authorities are investigating the case trying to establish the origin of the smoke detectors.

According to Melissa Fleming, spokesperson for the International Atomic Energy Agency (IAEA), the smoke detectors seized in Kyrgyzstan did not pose a nuclear proliferation threat.[7] However, Fleming did point out that despite the minuscule amount of material involved, a seller searching for illegal buyers for plutonium is still a cause for concern.[7] On October 1, 2004, the Kyrgyz daily *Vecherniy Bishkek* also noted that such smoke detectors—which were widely used in the Soviet Union at industrial facilities—have been involved in a number of similar incidents in the NIS. Although existing regulations call for these detectors to be sent to radioactive waste storage sites, economic difficulties at many industrial facilities have led to them being abandoned and often disposed of improperly.[2]

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Americium Seized in Kiev

On September 2, 2004, the Podrobnosti news agency reported that two men transporting a container of americium-241 in their car were arrested at a roadside checkpoint by Ukrainian police and Security Service officers. According to Dmitriy Andreyev, head of the Kiev Main Directorate of the Ukrainian Ministry of Internal Affairs, the suspects—52- and 46-year-old residents of Kiev Oblast—planned on selling the americium in Kiev for at least \$2,000.[1] The capsule containing americium-241 was removed from the vehicle belonging to the suspects by Ministry of Emergency Situations specialists. Ukrainian officials did not report the quantity of americium involved in the incident, but stated that there was no threat to the health of the local population or the environment.[2,3] The Desnyanskiy District of the Kiev Police Department has launched an investigation into the case in accordance with Article 265 of the Criminal Code of Ukraine (illegal handling of radioactive materials).[1] The origin of the material remains unknown, although press reports indicate that the suspects have revealed the name of the person who supplied them with the americium to the police.[1,2,3,4]

Editor's Note: Americium-241 is a radioactive substance that emits alpha radiation that can ionize atoms and molecules in the human body, potentially harming health. Because alpha radiation is not very penetrating (a sheet of paper or the dead outer layer of skin can stop it), americium-241 would not pose an external health hazard. However, it could present an internal health threat if it were inhaled or ingested and stayed resident within the body. Many radioactive sources contain americium-241, including smoke detectors, oil-well logging probes, and thickness or density gauges. According to the International Atomic Energy Agency, at least two curies of americium-241 would be needed to reach the threshold of making a potent radiological dispersal device, or "dirty bomb." For comparison, smoke detectors contain only a minuscule amount of americium-241—about one one-millionth of a curie or a "microcurie." But certain models of oil-well logging or gauge sources include several curies of americium-241.

Sources: [1] "U dvukh zhitel'ey Kiyevskoy oblasti izyat konteyner s radioaktivnym veshchestvom 'ameritsiy-241'" [A container with radioactive substance 'americium-241' was seized from two residents of Kiev Oblast], Podrobnosti news agency, September 2, 2004; in Integrum Techno, <<http://www.integrum.com>>. [2] "V Kiyevе zaderzhany dva cheloveka, nelegalno perevozhivshye radioaktivnyye materialy" [Two individuals illegally transporting radioactive materials detained in Kiev], Novosti—Ukraina news agency, September 2, 2004; in Integrum Techno, <<http://www.integrum.com>>. [3] "Kapsulu s radioaktivnym materialom pytali vyvezti zhiteli Kiyevskoy oblasti" [Kiev Oblast residents attempted to bring out a capsule with radioactive material], Ukrainian portal of business information LIGA Biznesinform, September 2, 2004; in Integrum Techno, <<http://www.integrum.com>>. [4] "Pod Kiyevom pravookhraniteli izyali radioaktivnyuyu kapsulu" [Law enforcement officers seized a radioactive capsule near Kiev], ForUm news agency, September 2, 2004; in Integrum Techno, <<http://www.integrum.com>>.

Summaries from the NIS Press

Russian Newspaper Article Analyzes the Threat of Nuclear Terrorism

In an article published on October 8, 2004, in the weekly supplement *Nezavisimoye voyennoye obozreniye* (Independent Military Review) of the Russian newspaper *Nezavisimaya gazeta*, retired Russian Major General Vladimir Semyonovich Belous discusses the threat of nuclear and radiological terrorism in Russia by analyzing the following three main scenarios.[1]

According to Belous, the biggest threat is the possible seizure and use of *nuclear weapons* by terrorists. The author, however, dismisses reports about missing portable nuclear devices in Russia (so-called "suitcase bombs") as groundless, stating that Russia has destroyed all portable nuclear devices. [*Editor's Note: It is important to qualify this statement in light of research conducted by CNS senior research associate Nikolai Sokov. Based on his 2002 study " 'Suitcase Nukes': A Reassessment" and analysis of more recent media reports, Sokov concludes that the implementation of the 1991 unilateral Soviet initiative to eliminate "nuclear mines"—the category of tactical nuclear weapons that includes portable nuclear devices—may not have been completed by the Russian Federation. In 2002, Russia announced that the deadline for*

completion of this process was extended to 2004 due to the lack of funds. Because there has been no official status update on progress in this direction, the assertion by Belous that Russia had allegedly destroyed all portable nuclear devices has yet to be confirmed by other sources. However, Sokov also notes that there is now strong evidence that no portable nuclear weapons are missing from the Russian arsenal.][2,3]

Belous also quotes the head of the 12th Main Directorate of the Russian Ministry of Defense—responsible for the protection of military nuclear sites—Colonel General Igor Valynkin, as stating that there had been no attacks on military nuclear facilities in Russia, even though in 2001, the Russian special services thwarted surveillance of two military nuclear material storage sites by unidentified terrorist groups.[1]

A second type of threat is posed by the risk of theft of *nuclear or radioactive materials* by non-state actors, including terrorist organizations. The author notes that the widespread use of the radioactive materials in industry, medicine, and other areas makes the physical protection of such materials extremely problematic and leads to the loss of thousands of radioactive sources, which increases the likelihood that they might be easily obtained by the terrorist groups. In order to illustrate the gravity of this threat, Gen. Belous cites select cases involving nuclear and radioactive materials smuggling. In 1992-1995, there were 52 cases of theft of radioactive materials in Russia, according to an unnamed high-ranking official from the Federal Atomic Energy Agency (FAEA, former Ministry of Atomic Energy). According to the same official, in some of these cases, the stolen radioactive materials were never recovered. Furthermore, during the active phase of the Chechen conflict there was a real danger that radioactive materials might be stolen from the Radon storage facility, which houses radioactive waste from 72 industrial enterprises of the North Caucasian region of Russia.[1] However, when the Russian federal troops regained control of the situation in Chechnya, the Radon facility was placed under armed protection and the perimeter of the compound was walled off.[4,5] *[Editor's Note: The Radon radioactive waste storage facility in Chechnya, which is located in the northeastern part of the Grozny district, is a part of a network of 16 such facilities located across the Russian Federation. Built in the 1960s, the Special Combines "Radon" (the official title of these facilities) are designed to house radioactive waste emitting medium and low levels of radioactivity.[1,6] As of 1997, the Grozny Radon facility no longer receives radioactive waste.[6] The radioactive materials stored at this facility consisted mainly of cobalt-60, cesium-137, thulium-170, and iridium-192, which can be used by the terrorists for construction of radiological dispersal devices, also known as "dirty bombs." The site did not contain materials that could be used for a nuclear weapon.][1]*

Finally, Mr. Belous concentrates on the potential threat posed by a possible act of *sabotage at nuclear facilities*, and, in particular, nuclear power plants, which could become potential terrorist targets. In the early 1990s, the directors of the Kursk and Smolensk nuclear power plants received letters threatening attacks on their facilities, but fortunately these threats did not materialize. In 1998, the Russian Federal Assembly (Russian parliament) passed the law *On the Fight against Terrorism*, which provided the legal framework necessary for coordinating the actions of federal agencies, federation subjects (Russia's regions), and government officials in their collective effort to carry out systematic counter-terrorism activities in the Russian Federation. Furthermore, a special government decree approved a list of radioactive and nuclear facilities that could pose a threat in the event of a terrorist attack. Apart from the secret facilities of the Ministry of Defense, the list also includes 57 FAEA facilities; 29 nuclear power generating units; reactors used for the production of weapons-grade nuclear materials; radiochemical enterprises specializing in nuclear waste disposal; storage sites; and factories specializing in nuclear weapons assembly and destruction. The author concludes by stating that providing physical security for the wide range of facilities represents a very serious challenge, especially from the financial point of view. Creating such a system, however, will still be less costly than mitigating consequences from a possible terrorist attack on such facilities.[1]

Editor's Note: Since 2001, Vladimir Belous has been a leading researcher at the Institute of World Economy and International Affairs (IMEMO) of the Russian Academy of Sciences in Moscow. He holds a doctorate degree in technical sciences and is a professor at the Russian Academy of Military Sciences. Belous held various positions in the Russian Strategic Rocket Forces before joining the Center of Scientific Studies of the Committee of Scientists for Global Security and heading the Center of International and Strategic Studies of the scientific-research corporation Russian-American University (RAU) in the 1990s.

Sources: [1] Vladimir Belous, "Yadernyy terrorizm: popytki uzhe byli" [Nuclear terrorism: there have already been some attempts], *Nezavisimoye voyennoye obozreniye*, October 8, 2004, No. 38 (398), <http://nvo.ng.ru/concepts/2004-10-08/4_terrorism.html>. [2] Nikolai Sokov, "Suitcase Nukes": A Reassessment," CNS website, September 23, 2002, <<http://cns.miis.edu/pubs/week/020923.htm>>. [3] Nikolai Sokov, "Suitcase Nukes": Permanently Lost Luggage," CNS website, February 13, 2004, <<http://cns.miis.edu/pubs/week/040213.htm>>. [4] "Federal Troops in Grozny Have Placed the Radon Facility Under Special Guard," Interfax, January 18, 2000; CNS NIS Nuclear Trafficking Database, Document Code: 20000030, <<http://www.nti.org/db/nistraff/2000/20000030.htm>>. [5] "Grozny: powerful radioactive source discovered in Zavod region," Regions.ru, April 16, 2003; CNS NIS Nuclear Trafficking Database, Document Code: 20030280, <<http://www.nti.org/db/nistraff/2003/20030280.htm>>. [6] Gosudarstvennyy komitet Rossiyskoy Federatsii po okhrane okruzhayushchey sredy. Gosudarstvennyy doklad "O sostoyanii okruzhayushchey sredy Rossiiskoy Federatsii v 1997 godu." Chast 1 "Kachestvo prirodnoy sredy i sostoyaniye prirodnokh resursov." Razdel 6 "Radiatsionnaya obstanovka" [State Committee of the Russian Federation on Environmental Protection. State Report *On Environmental Conditions of the Russian Federation in 1997*. Part I. Quality of Environment and Conditions of Natural Resources. Section 6. Radiation Conditions], EKOKOM information and technical center website, <<http://www.ecocom.ru/arhiv/ecocom/Gosdoklad/Section6.htm>>.

Kazakhstani Expert Warns of Radiation Danger

In an October 5, 2004, interview to the Kazakhstani daily *Ekspress K*, Larisa Ptitskaya, director of the Institute of Radiation Safety and Environment in the city of Kurchatov, warned of a radiation danger posed by a gamma-irradiator located in the former Semipalatinsk test site area. The gamma-irradiator, which she calls "a delayed time bomb," was built in the 1950s and used to test radiation effects on animals. It was abandoned after the test site was closed in August 1991. According to Ptitskaya, the gamma-irradiator consists of 160 radiation sources located one and a half meters underground. The site is not properly protected, and there is only an old brick laboratory building above the sources surrounded with a barbed-wired fence. According to Ptitskaya, the gamma-irradiator poses a significant radiological threat to people and the environment; however, it is unknown how much radioactive material the sources contain since no documented records are left.[1]

Institute specialists suggested building a concrete sarcophagus above the gamma-irradiator, but the Kazakhstani Ministry of Environment rejected the suggestion, arguing that concrete would not provide 100% protection from radiation. Russian nuclear scientists offered assistance, suggesting that the gamma-irradiator be transported to a burial site near Lake Baikal, provided the Kazakhstani side pays for the disposal, estimated to cost more than 20 million tenge (more than \$150,000 as of October 2004). East Kazakhstani Oblast authorities promised to find the necessary funds in the oblast budget.[1]

Environmentalists are also concerned about local residents, who disregard health hazard and breach sealed underground testing tunnels in search of scrap metal, thus increasing the threat of radioactive contamination. An existing special group that patrols the area is useless, according to Ptitskaya, since it has no right to punish intruders. Ptitskaya proposes the creation of a radiation rescue service in the former test site area to deal with possible radioactive incidents. She did not elaborate on the exact role and specific responsibilities of the proposed rescue service.[1,2]

Sources: [1] Svetlana Mikhaylova, "Besshumnaya gibel" [Quiet death], *Ekspress K*, October 5, 2004, No. 191 (15598), p. 4. [2] Interfax, October 3, 2004; in "Kazakhstani Official Proposes Forming Rescue Radiation Service in Semipalatinsk," FBIS Document CEP20041003000022.

Georgian Military Officers Arrested for Loss of MANPADS Missiles

On October 4, 2004, the NIS mass media reported the arrest by the Georgian Military Prosecutor's Office of two senior Georgian military officers accused of losing several missiles from a Strela-2 man-portable air defense system (MANPADS). The arrests were made following an internal investigation conducted by the Main Military Inspectorate of the Georgian Ministry of Defense (MOD). Colonel Aleksandr Diasamidze, head of the Department of Strategic Research and Planning at the MOD General Staff, who previously served as a commander of military unit 16435 where the loss was discovered, and Major Archil Gegelashvili, former head of this unit's financial service, were charged with neglect of duty and abuse of power. They face four-years' imprisonment under Section 1, Article 332 of the Criminal Code of Georgia.[1,2,3,4] According to MOD spokesperson Natiya Chikovani, the loss took place when Diasamidze and Gegelashvili served at military unit 16435.[3] Both officers are now being held in pre-trial detention while the Military and General Prosecutors' Offices investigate the case. The MOD press service refused to make further comments while the investigation is underway.[1,2,3,4]

According to reports in the Russian newspapers *Krasnaya zvezda* and *Vremya novostey*, military unit 16435 had 10 Strela-2 systems. Regular inventory checks conducted since 1999 confirmed their presence. But the latest check, conducted in May 2004, revealed that eight MANPADS had no missiles: one missile container had a fake missile, three were empty, and four others were filled with sand. The newspapers reported that Georgia inherited those MANPADS from the Soviet Union.[4,5] Another Russian newspaper, *Komsomolskaya pravda*, claimed that Georgia inherited several hundred Soviet MANPADS, and that the theft of MANPADS is the most often encountered crime in the Georgian army. The newspaper also alleged that Georgian MANPADS are often found in the possession of Chechen militants, who have used them to shoot down several Russian aircraft and helicopters.[6] However, Georgian military expert Koba Liklikadze told RIA Novosti that the Georgian army has up to 15 MANPADS; in 2000-2001, Georgia bought several Strela MANPADS to counter possible air attacks on the Pankisi Gorge, while some MANPADS were seized in May 2004 from the personal depot of former Ajarian leader Aslan Abashidze. According to Liklikadze, the current incident is the first known case in which MANPADS have gone missing.[2] More than two years ago, on July 27, 2002, the police in Senaki, western Georgia, detained Major Georgiy Mamardashvili from the Vaziani military base who was transporting four Strela-2 MANPADS in the trunk of his car. Georgian officials then announced that the MANPADS were not from the Georgian military stocks and were purchased in Abkhazia, possibly from the Russian peacekeeping forces located there.[7,8]

Sources: [1] Kavkasia-Press news agency, October 4, 2004; in "Senior Georgian Officers Arrested Over Disappearance of Anti-Aircraft Missiles," FBIS Document CEP20041004000174. [2] Marina Kvaratskheliya, "V Gruzii arestovan vysokopostavlennoy ofitser Minoborony" [High-ranking Ministry of Defense officer arrested in Georgia], RIA Novosti, October 4, 2004; in Integrum Techno, <<http://www.integrum.com>>. [3] Interfax; in "Gruzinskiy ofitser arestovan v svyazi s propazhey PZRK 'Strela-2'" [Georgian officer arrested in connection to the loss of the 'Strela-2' MANPADS], Gazeta.Ru, October 4, 2004; in Integrum Techno, <<http://www.integrum.com>>. [4] Mikhail Vignanskiy, "Rakety prevratilis v pesok" [Missiles turned into sand], *Vremya novostey*, October 5, 2004, No. 181 (1099); in Integrum Techno, <<http://www.integrum.com>>. [5] Roman Streshnev, "Pesok i kamni vmesto boyepripasov" [Sand and stones instead of munitions], *Krasnaya zvezda*, October 12, 2004, No. 191; in Integrum Techno, <<http://www.integrum.com>>. [6] Viktor Baranets, "Kto voroval 'Strely'?" [Who was stealing 'Strelas?'], *Komsomolskaya pravda*, October 5, 2004, No. 187; in Integrum Techno, <<http://www.integrum.com>>. [7] Anatoliy Gordienko, "Gruzinskiye spetssluzhby demonstriruyut svoyu deystvennost'" [Georgian special services demonstrate their effectiveness], *Nezavisimaya gazeta* online edition, July 29, 2002, No. 153 (2707), <http://www.ng.ru/cis/2002-07-29/6_georgia.html>. [8] "Zaderzhanny po obvineniyu v trgovle oruzhiyem Georgiy Mamardashvili nazval familii lits, u kogo priobrel oruzhiye" [Georgiy Mamardashvili detained on arms trafficking charges named those he bought weapons from], Prime-News agency, August 1, 2002; in Integrum Techno, <<http://www.integrum.com>>.

Russian Minister of Defense Confident in Security of Nuclear Munition Sites

On two occasions in October 2004, Russian Minister of Defense Sergey Ivanov publicly stated that Russia's nuclear sites are reliably protected against terrorist threats. On October 1, speaking at a press conference after his inspection of a military storage site in Orel Oblast, Ivanov stated, "Nuclear munitions storage sites are and have been guarded very seriously. Therefore, no additional measures to guard them are being taken in relation to a possible terrorist threat." According to Ivanov, the Russian government approved a special federal program initiated by the Ministry of Defense that aims to reequip all military storage sites. Ivanov emphasized that since he became minister of defense three and a half years ago, anti-terrorist exercises are regularly held at all storage sites.[1,2]

On October 14, 2004, speaking at an informal Russia-NATO Council meeting held in Poiana Brasov, Romania, Sergey Ivanov stated that Russia maintains a high level of security at its nuclear sites. To support his statement, the minister referred to the Avariya-2004 (Accident-2004) exercise held on the Kola Peninsula in August 2004 under the auspices of the Russia-NATO Council.[3] The exercise scenario involved a simulated terrorist attack during the transportation of nuclear materials. For the first time, 49 observers from 17 NATO member states were authorized to attend the event. According to Ivanov, the presence of NATO observers was allowed at the exercise because Russian representatives were invited to attend similar anti-terrorist exercises to be held in 2005 by NATO countries possessing nuclear weapons.[3,4]

Sources: [1] "Ivanov zaveryayet, chto obyekty khraneniya yadernykh boyepripasov okhranyayutsya ochen seryezno" [Ivanov reassures that nuclear munitions storage sites are guarded very seriously], RIA Novosti, October 1, 2004, <http://www.rian.ru/rian/intro.cfm?news_id=696512>. [2] Andrey Naryshkin, "Ministr oborony RF proveril gotovnost voyennoy bazy pod Orlom k otrazheniyu ugrozy napadeniya terroristov" [Russian Federation minister of defense checked the preparedness of a military base near Orel to counter a terrorist attack threat], ITAR-TASS, October 1, 2004; in Integrum-Techno, <<http://www.integrum.com>>. [3] Aleksey Berezin, "Rossiya nadezhno kontroliruyet bezopasnost yadernykh ob'ektov – glava

Minoborony RF" [Russian Federation minister of defense: Russia fully controls the security of nuclear sites], RIA Novosti, October 14, 2004; in Integrum-Techno, <<http://www.integrum.com>>. [4] "Sergey Ivanov dolozhil Prezidentu RF o sostoyavshikhysya ucheniyakh na Kolskom poluostrove i Kirgizii" [Sergey Ivanov informed the president of the Russian Federation on exercises held on the Kola Peninsula and in Kyrgyzstan], RIA Novosti, August 9, 2004; in Integrum-Techno, <<http://www.integrum.com>>.

Kyrgyz Government Bans Imports of Radioactive Waste

On September 23, 2004, *The Guardian* reported that British Nuclear Fuels (BNFL) would ship about 1,800 tons of radioactive waste from British first-generation Magnox nuclear reactors, stored at the Springfields reactor fuel manufacturing plant near Preston, northwest England, to Kyrgyzstan for reprocessing at the Kara-Balta Ore Mining Combine.[1] However, on September 28, 2004, the Kyrgyz government announced a ban on imports of British radioactive waste—in this case, uranium-containing graphite crucibles that are comprised of 5% metal uranium and 95% graphite—because of safety concerns.[2,3,4] The ban was re-released in English in London on October 5, 2004.[5] The government decision came after vigorous protests from Kyrgyz environmentalists.

According to some reports, German contractor RWE Nukem GmbH has been negotiating the waste shipment on behalf of BNFL with the Kyrgyz government since early 2004, but it failed to get an import license after Kyrgyz environmental groups supported by some Zhogorku Kenesh (Kyrgyz parliament) deputies appealed to the Kyrgyz government in July 2004.[5] However, Emil Akmatov, spokesman for the Kyrgyz Ministry of Environment and Emergencies, claims that "nobody, neither a legal entity nor a real person, has applied to us for a license to import this uranium waste." [6]

Under the proposed transaction, Kara-Balta Ore Mining Combine was to separate uranium from the radioactive waste and return it to the United Kingdom for reuse, while the remains were to be disposed of in Kyrgyzstan. Both BNFL and Nukem denied allegations that they were attempting to dump radioactive waste in Kyrgyzstan. According to BNFL spokesman Alan Beauchamp, "we are not looking to dispose of the waste," adding that the material that would stay in Kyrgyzstan is not known as waste but "processed residue." He insisted that the company "has not received any official notification" of the government ban. "We will find an alternative to the Kyrgyz plant if necessary but we do not have any lined up at the moment because we hope to get the [Kyrgyz import] license," he said.[5,6]

The government decision pleased environmentalists but disappointed Kara-Balta Ore Mining Combine officials who dismiss any radioactive contamination risks. The officials fear that the government ban will hurt the already poor financial position of the enterprise. Boris Karpachov, head of the radiation safety service at the State Agency for Geology and Mineral Resources, argues that earnings would have allowed the country to address economic and social problems, and pay for cleanup and maintenance of uranium tailing sites.[3,5]

In February 2004, Kyrgyz Prime Minister Nikolay Tanayev said that the government would not allow the country to be turned into a uranium waste dump. "The country first needs to solve problems of its own uranium waste sites," he said.[6]

Sources: [1] Owen Bowcott, "UK sends uranium to Kyrgyzstan," *The Guardian* online edition, September 23, 2004, <<http://www.guardian.co.uk/nuclear/article/0,2763,1310557,00.html>>. [2] "Informatsionnoye soobshcheniye" [Information release], Government of the Kyrgyz Republic press service, <<http://www.gov.kg/modules.php?op=modload&name=News&file=article&sid=667>>. [3] Interfax, September 29, 2004; in "Government Says Nuclear Waste Not Being Shipped to Kyrgyzstan from UK," FBIS Document CEP20040929000105. [4] "Zdes ne yadernaya svalka" [Here is not a nuclear dump], *Vecherniy Bishkek* online edition, October 4, 2004, No. 182 (8612), <<http://vb.kg/2004/10/04/panorama/4.html>>. [5] Gulnura Toralieva, "Kyrgyzstan Blocks Nuclear Shipments," Reporting Central Asia, October 13, 2004, No. 320, Institute of War and Peace Reporting, <http://www.iwpr.net/index.pl?archive/rca2/rca2_320_1_eng.txt>. [6] "KYRGYZSTAN: Not ready to import nuclear fuel for reprocessing," Integrated Regional Information Networks, September 23, 2004, <http://www.irinnews.org/report.asp?ReportID=43320&SelectRegion=Central_Asia&SelectCountry=KYRGYZSTAN>.

International Developments

South Korea Admits Unauthorized Exports of Nerve Agent Precursor to DPRK

In September 2004, South Korea's Ministry of Commerce, Industry, and Energy (MOCIE) admitted that several cases of unauthorized exports of dual-use materials have occurred in recent years.[1] One such case

of illegal export involved 107 metric tons of sodium cyanide that originated in South Korea and was shipped to North Korea through China. It is believed that between June and September 2003, a South Korean businessman exported the chemical without governmental approval to a Chinese importer in Dandong near the North Korean border. The shipment was then sent to North Korea by an unidentified Chinese company.[2]

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

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

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

Since 2002, South Korea exported over 146 thousand tons of sodium cyanide to 10 countries, including China, Indonesia, Russia, Thailand, and others. China is the largest importer of sodium cyanide from South Korea.[2] According to a MOCIE official, the South Korean government made efforts to improve control of exports of strategic materials. The official, however, admitted that it is difficult to track such exports when third countries are involved.[4] The ministry plans to develop a new online system to help traders identify strategic materials subject to export controls and receive government permission for their shipment.[6] Currently, South Korean exporters can identify strategic commodities by referring to the Public Notice on Export and Import of Strategic Items published annually as an annex to the Foreign Trade Act. The Public Notice includes guidelines close to the Australia Group, the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), and the Wassenaar Arrangement. In addition, the Public Notice contains, as a supplement, texts of the NSG and MTCR guidelines, and the Wassenaar Arrangement in Korean.[7,8]

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

Bush Extends Export Administration Act

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

The United States has used export controls in time of war since the country’s earliest days. It was not until the start of the Cold War, however, that the United States began to create a peacetime export control system to address the new security threat posed by the Soviet-bloc countries. The Export Control Act of 1949

controlled scarce commodities and items to serve U.S. foreign policy goals, and examined exports to Communist countries. The U.S. Congress passed the EAA of 1969 to replace the near-embargo nature of the 1949 act following the détente of the late 1960s and the resulting pressure to liberalize controls. The EAA of 1969 was later replaced by the EAA of 1979.

The collapse of the Soviet Union in 1991 changed the nature of the threat faced by the United States. During the first Bush and Clinton administrations, the export control system was reduced in scope, but the structure of the law remained intact. Government and industry representatives called for a revamping of the EAA, whether to enhance exports, to shift the focus to new post-Cold War threats, or to increase penalties.

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

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

U.S. Assistant Secretary of Commerce for Export Administration Peter Lichtenbaum noted in his October 4, 2004, remarks to the Update 2004 conference (see “United States Holds Annual Update 2004 Conference” in this issue) that it is important to renew the EAA “in order to have a permanent foundation for our controls—particularly in light of the recent passage of United Nations Security Council Resolution 1540.” A new, revised EAA “should focus on today's national security risks, not yesterday's,” said Lichtenbaum, referring to the EAA's Cold War origins. According to Lichtenbaum, the U.S. Department of Commerce will continue to work with the Congress towards revising and renewing the EAA. The President's Export Council, the principal national advisory committee on international trade, will be focusing on the EAA in the coming year.[4]

Editor's Note: The President's Export Council advises the president on government policies and programs that affect U.S. trade performance; promotes export expansion; and provides a forum for discussing and resolving trade-related problems among the business, industrial, agricultural, labor, and government sectors. The Council consists of 28 private sector members; five U.S. senators; five members of the House of Representatives; the Secretaries of Commerce, Agriculture, Energy, Homeland Security, Labor, State, and Treasury; the Chairman of the Export-Import Bank of the United States; the U.S. Trade Representative; and the Administrator of the Small Business Administration.[5]

Sources: [1] R. G. Edmonson, “Bush Signs Export Controls Extension,” *The Journal of Commerce*, August 9, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] Fergusson, et al., “RL30169: Export Administration Act of 1979 Reauthorization,” CRS Report for Congress, updated March 26, 2001, National Council for Science and the Environment website, <<http://www.ncseonline.org/NLE/CRSreports/international/inter-22.cfm?&CFID=16608047&CFTOKEN=24577886>>. [3] “Statement of Kenneth I. Juster, Under Secretary for Export Administration, Department of Commerce before the Committee on International Relations, U.S. House of Representatives,” May 23, 2001, U.S. Department of Commerce Bureau of Industry and Security website, <<http://www.bxa.doc.gov/News/archive2001/justerb4hseintlrelations52301.htm>>. [4] U.S. Department of Commerce Bureau of Industry and Security, “Export Controls in a Changing World,” Prepared Remarks of the Honorable Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration, Update 2004 Conference on Export Controls and Policy, October 4, 2004, BIS website, <<http://www.bis.doc.gov/News/2004/update04Peter.htm>>. [5] “About the President's Export Council,” International Trade Administration website, <<http://ita.doc.gov/td/pec/>>.

South African Nuclear Trafficking Investigation Continues

South African authorities, in cooperation with a number of other countries, including the United States and the International Atomic Energy Agency (IAEA), have been conducting an investigation in South Africa during the past several months related to the illegal transfer of nuclear technology to states of concern, including Libya and Iran. According to a September 10, 2004 press statement issued by the South African Department of Foreign Affairs, the investigation has “taken place in the context of the so-called Khan network through which certain countries were provided with nuclear technology through, among other, networks established in various countries, as well as the information obtained following Libya’s announcement of the abandonment of its nuclear weapons programme.” The investigation has sought to research allegations relating to the import and export of a lathe as well as the production and possession of centrifuge enrichment plant components intended for the now-abandoned Libyan nuclear weapons program.[1,2] According to IAEA Director General ElBaradei, the IAEA is receiving “a lot of information that could have an impact on our understanding of both the Iranian programme and the Libyan programme.”[3]

On September 2, 2004, South African authorities arrested Johan Andries Muller Meyer, 53-year-old director of Trade Fin Engineering, a South African manufacturing company, and charged him with contravening the Non-Proliferation of Weapons of Mass Destruction Act by importing and exporting a flow-forming lathe without the necessary permits. He was also charged with contravening the Nuclear Energy Act by possessing and producing certain components of a centrifuge enrichment plant without the necessary authorization of the Minister of Minerals and Energy.[1,4]

According to the South African charge sheet, Meyer “unlawfully and deliberately had equipment that could be used to design, manufacture, develop, expose, and maintain the application of weapons of mass destruction.” Trade Fin was allegedly involved with gas centrifuges that can be used to enrich uranium; feed and piping systems that can be used to deliver uranium inside the centrifuges; and a Spanish-made machine (lathe) that produces high-precision rotor tubes for centrifuges.[4,5] Eleven containers filled with components associated with centrifuge enrichment plants were seized from Trade Fin’s premises and shipped to South Africa’s nuclear research center at Pelindaba. On September 8, 2004, the South African National Prosecuting Authority announced that all charges against Meyer had been dropped.[1,2] Media reports speculated that Meyer cut a deal in exchange for cooperating with the investigation, although South African officials refused to comment, saying only that the investigation was continuing.[6,7]

On the day Meyer was released, South African officials arrested two German citizens with South African residency—Gerhard Wisser and Daniel Geiges—in Durban and Johannesburg, respectively, on similar charges. Wisser is the owner of Krisch Engineering, which specializes in the repair of vacuum pumps and leak detectors, located in the Johannesburg suburb of Randburg. Both technologies are relevant to centrifuge uranium enrichment. Geiges is an employee of Krisch Engineering.[8] Two weeks earlier, on August 25, 2004, German authorities had charged Wisser with complicity in treason or assisting treason and for the violation of arms control legislation.[1] He was accused of acting as a middleman in a 2001 request to provide pipes for Libya’s uranium enrichment program.[8] Wisser was released on bail and returned to South Africa, only to be arrested two weeks later.[1]

A report released in September 2004 by the Institute for Science and International Security (ISIS), a Washington, DC-based think tank, suggested that nuclear smugglers used South Africa as a transit point for illicit trade in nuclear components because they perceived the country’s export control system to be weak. “South Africa’s enforcement of export controls needs to be improved. Proliferant states, such as Pakistan, have targeted South Africa to obtain controlled nuclear items,” the report said.[9] According to Abdul Minty, chairman of the South African Council for the Non-Proliferation of Weapons of Mass Destruction, no country has “perfect” control systems, and South Africa’s regulations are compliant with its international undertakings.[8]

According to the ISIS report, South Africa’s membership in the Nuclear Suppliers Group (NSG)—a group of 44 states that seek to restrict the transfer of nuclear technology to nonmembers if there is the chance the technology will be used in nuclear weapons programs—may have made it easier for traffickers to use the

country as a transit point for nuclear dual-use components. Because each NSG member is expected to prevent the transfer of dual-use items if there is a risk of proliferation, fellow “NSG members allow the transfer of dual-use items to other NSG members with less scrutiny. Weak enforcement of export controls by one member can weaken the export controls of the entire group, allowing traffickers to acquire controlled items that are made in some NSG states, such as spark gaps, by re-exporting them through another NSG member.”[9] For the full version of the ISIS report, go to <<http://www.isis-online.org/publications/southafrica/asherkami.html#south%20africa>>.

Editor’s Note: In the 1960s, South Africa began to explore the technical utility of “peaceful nuclear explosions” for mining and engineering purposes. In 1973, then Prime Minister Johannes Vorster approved a program to develop a limited nuclear deterrent capability. Ultimately, South Africa manufactured six air-deliverable nuclear weapons of the “gun-type” design, using highly enriched uranium produced through the use of the jet-nozzle enrichment process. In parallel with the decision to end apartheid, the government halted the bomb program in 1989 and dismantled existing weapons and associated production equipment. South Africa acceded to the Treaty on the Non-Proliferation of Nuclear Weapons as a non-nuclear weapon state in 1991, and IAEA inspectors subsequently verified the completeness of its nuclear dismantlement. South Africa joined the Zangger Committee in 1994 and the NSG in 1995.[10]

Sources: [1] “South African Council for the Non-Proliferation of Weapons of Mass Destruction, Press Release,” September 7, 2004, Department of Foreign Affairs Republic of South Africa website, <<http://www.dfa.gov.za/docs/2004/weap0906.htm>>. [2] “South African Council for the Non-Proliferation of Weapons of Mass Destruction, Press Statement,” September 10, 2004, Department of Foreign Affairs Republic of South Africa website, <<http://www.dfa.gov.za/docs/2004/weap0910b.htm>>. [3] “South Africa Works with IAEA to Crack Down on Smuggling of Nuclear Materials,” AFX News, September 15, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [4] Dafna Linzer and Craig Timberg, “S. African’s Arrest Seen as Key to Nuclear Black Market,” *The Washington Post*, September 4, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [5] Stephen Fidler and John Reed, “South Africa Makes Nuclear Arrest Libyan Proliferation,” *Financial Times*, September 4, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [6] Tiziana Cauli, “Charges Dropped Against South African Accused of Trafficking in Nuclear Equipment,” September 8, 2004, Associated Press; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [7] Tiziana Cauli, “Two More Arrested in South Africa in Investigation into Nuclear Arms Equipment Trafficking,” Associated Press, September 9, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [8] Stephen Fidler and John Reed, “Nuclear Trade Smugglers Home in on Loopholes in South Africa,” *Financial Times*, September 14, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [9] Jacob Blackford, “Asher Kami Case Shows Weakness in Nuclear Export Controls,” September 8, 2004, ISIS website, <<http://www.isis-online.org/publications/southafrica/asherkami.html>>. [10] “South Africa,” Nuclear Threat Initiative country profiles, <<http://www.nti.org>>.

Pakistan Adopts Export Control Bill

On September 18, 2004, the Pakistani Senate passed legislation aimed at halting the transfer of nuclear and biological weapons technology. The bill, approved three days earlier by the lower house of parliament—the National Assembly—was signed into law by Pakistani President Musharraf.

The Export Control on Goods, Technologies, Material and Equipment Related to Nuclear and Biological Weapons and their Delivery Systems, Bill, 2004 lays down tough penalties for violators of up to 14 years in jail and a fine of five million rupees (\$109,000 as of October 2004).

According to Pakistani Minister of Foreign Affairs Khurshid Mahmud Kasuri, the new legislation is the product of two years of inter-ministerial meetings between the ministries of Foreign Affairs, Commerce, Defense, Customs, and other governmental departments. Kasuri maintained that Pakistan had always abided by its international commitments and is seriously committed to nuclear nonproliferation.

In the senate debate preceding the approval, opponents of the bill asserted that the legislation was being passed at the behest of the International Atomic Energy Agency and the United States, and that the debate on the bill was insufficient. Kasuri disagreed that Pakistan was under any external pressure to pass the legislation and maintained that its passage was in the interest of the country.

Pakistani government officials asserted that the new legislation brings Islamabad into compliance with United Nations Security Council Resolution 1540, which directs all countries to tighten domestic export controls over sensitive technologies to keep terrorists from acquiring WMD.

The passage of the new export control legislation comes eight months after Pakistani scientist A.Q. Khan revealed that he had transferred nuclear technology to Iran, Libya, and others. Kasuri noted that the new legislation does not apply retroactively, and thus will not have any impact on the cases of Khan and other scientists who participated in the Khan nuclear trade ring.[1,2,3,4,5,6,7]

Pakistan previously released export control regulations in July 1998, February 1999, and August 1999, as well as the *Export Policy and Procedures Order* of November 2000. These Statutory Regulatory Orders (SRO) banned the export of fissile material and required a “no objection certificate” to be issued by the Pakistani Atomic Energy Commission for the export of nuclear substances, radioactive material, and nuclear energy-related equipment. However, the controversy of the A.Q. Khan episode shed light on the weaknesses in Pakistan’s export control legislation.

Previous regulations contained contradictions. For example, the July 1998 SRO banned all exports of nuclear material; however, subsequent regulations laid out procedures for acquiring a certificate and license for the export of nuclear energy-related items, including nuclear substances, such as heavy water and enriched uranium.[8] Another major loophole in the 2000 export control regulations was the provision that granted automatic exemptions to agencies under the Ministry of Defense. In addition, Pakistani law also allowed the “Vice Chairman” of the Export Promotion Bureau to waive regulations on behalf of any enterprise. Little information exists detailing which enterprises have been exempted in the past, and there does not appear to be any oversight authority to audit the use of this provision.[9]

Khan did not use the numerous loopholes present in Pakistan’s export control regulations. Instead, he used his status as one of the leaders of Pakistan’s nuclear efforts to conduct his black market sales of nuclear material and technology. He had established black market channels initially to acquire nuclear technology for Pakistan, but slowly the direction of the flow reversed. His old black market channels became the new channels by which Khan distributed nuclear technology and material to Iran, North Korea, and Libya. Khan did not appear to take advantage of the loopholes in the old Pakistani export control system. He had little or no oversight from the government. According to an aide close to President Musharraf, “Khan had a complete blank check. He could do anything. He could go anywhere. He could buy anything at any price.”[10]

Sources: [1] “Pakistan’s Senate Passes Export Control Bill for Nuclear, Biological Goods,” Associated Press of Pakistan news agency, September 18, 2004; in BBC Worldwide Monitoring, Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] “Foreign Minister Says Nuclear Export Bill Not to Apply Retroactively,” Associated Press of Pakistan news agency, September 18, 2004; in BBC Worldwide Monitoring, Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [3] “Senate (Senate passes Export of Nuclear weapons bill, 2004),” The Pakistan Newswire, September 18, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [4] “Pakistani Senate Approves Nuclear Export Control Bill,” Agence France Presse, September 18, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [5] Munir Ahmad, “Pakistan’s Upper House Approves Nuclear Nonproliferation Law,” Associated Press Worldstream, September 18, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [6] “Pakistan Minister Urges ‘Comprehensive’ Export Controls on Nuclear Goods,” Associated Press of Pakistan news agency, September 18, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [7] Zulfikar Ahmed, “Senate Endorses Nuke Exports Control Law,” *The Daily Mail* online edition, September 19, 2004, <<http://dailymailnews.com/200409/19/news/102.html>>. [8] Alex Wagner and Seth Brugger, “Pakistan Clarifies Nuclear Export Control Guidelines,” *Arms Control Today* online edition, September 2000, <<http://www.armscontrol.org/act>>. [9] Anupam Srivastava and Seema Gahlaut, “Curbing Proliferation from Emerging Suppliers: Export Controls in India and Pakistan,” *Arms Control Today* online edition, September 2003, <<http://www.armscontrol.org/act>>; Government of Pakistan, Ministry of Commerce, “Export Policy and Procedures Order 2000,” November 7, 2000, <<http://www.epb.gov.pk/jspsmartupload/upload/epbdocs/sro880.pdf>>. [10] William J. Broad, David E. Sanger, and Raymond Bonner, “How Pakistani Built His Network,” *New York Times* online edition, February 12, 2004, <<http://www.nytimes.com>>.

Germany and Switzerland Investigate Suspected Members of Proliferation Network

On October 7, 2004, German authorities in the central German state of Hesse arrested Urs Tinner, a 39-year old Swiss engineer, on suspicion that he had assisted Libya in its nuclear weapons program.[1,2] *The Washington Post* characterized him as a “member of a Swiss engineering family that has drawn scrutiny from European authorities and nonproliferation experts for more than two decades.”[1] According to German prosecutors, Tinner will be charged with conspiracy to commit treason. The arrest followed a February 2004 Malaysian police report, which identified Mr. Tinner and his father, Friedrich Tinner, as accomplices in the clandestine international nuclear smuggling network headed by Pakistani nuclear scientist Abdul Qadeer Khan. The report alleged that Urs Tinner was hired by Sri Lankan businessman Bukhari Sayed Abu Tahir as a technical consultant for Scomi Precision Engineering (SCOPE), a Malaysian

company that built uranium enrichment centrifuges for Libya.[1,2] U.S. President George Bush called Tahir a financier of the nuclear smuggling network.[3]

According to the Malaysian report, Urs Tinner served as a SCOPE consultant from April 2002 to October 2003, supervising the production of more than 2,000 centrifuge parts intended for Libya and training Libyans in their use.[1,2] The report also alleged that upon leaving the company, Tinner erased technical drawings from the company's computers and took other records, giving "the impression that [he] did not wish to leave any trace of his presence there." [1]

At the time the Malaysian report was issued, in February 2004, the International Atomic Energy Agency (IAEA) provided the Swiss State Secretariat for Economic Affairs with a list of two Swiss companies and 15 Swiss nationals suspected of assisting secret nuclear programs in Iran and Libya.[4,5] The Swiss authorities launched an investigation but did not reveal the names on the list; however, the list reportedly included the names of Friedrich Tinner, Urs Tinner, his brother Marco Tinner, and Gotthard Lerch, a German residing in Switzerland.[4,5,6] Othmar Wyss, Swiss State Secretariat for Economic Affairs spokesperson, then stated, "The names of 11 people on the list sent by the IAEA are unknown to us." However, Wyss acknowledged that the IAEA had already requested information from the Swiss government about two persons in the list, during an investigation seven years ago.[5] In 1996, the Swiss authorities reportedly investigated Friedrich Tinner for attempting to ship controlled items to Iraq for possible use in uranium enrichment centrifuges. "We investigated companies run by Mr. Tinner in the past and our conclusions were that they did not violate Swiss export laws," said Wyss. Referring to the Malaysian police report, Wyss told Swissinfo that the facts outlined in the report would be investigated to see if there had been a violation of the Swiss export control legislation.[6] Later he admitted that Urs Tinner would not be prosecuted unless Swiss authorities could prove he knew what was being produced by SCOPE. "It is very difficult for us to prove that he knew," said Wyss.[7]

In a March 2004 interview, Urs Tinner said his family had not been involved in any wrongdoing. He acknowledged working for SCOPE, but said he was unaware of what the company's products were intended for.[1] "I had no idea what was going on," he was quoted as saying. "If I had been working in the final production, where one could see the final product, then I would be guilty. But I didn't know what we were making." [7]

In early September 2004, a month before the arrest of Urs Tinner in Germany, Swiss police raided three unnamed companies in the canton of St. Gallen in response to a German request for assistance.[8,9] The raids may have involved St. Gallen-based PhiTec company owned by Friedrich Tinner. On October 11, Othmar Wyss stated that the Swiss State Secretariat for Economic Affairs completed an inquiry into the business activities of Tinner and his family and passed on the case to the Swiss federal prosecutor in late September.[1,2] On October 13, Hansjuerg Mark Wiedmer, Public Ministry of the Confederation spokesman, announced that the Swiss government launched its own investigation, separate from the one in Germany.[9,10]

A similar investigation related to illegal nuclear technology transfers to Libya is underway in South Africa, where several alleged members of Khan's network were arrested recently. (See "South African Nuclear Trafficking Investigation Continues" in this issue of the *NIS Export Control Observer*.)

Editor's Note: Malaysian-made centrifuge parts were interdicted in October 2003 en route to Libya, in the port of Taranto, southern Italy, as a result of a joint U.S.-British effort. [11]

Sources: [1] Craig Whitlock and Shannon Smiley, "Germany Arrests Man In Libyan Atomic Case," *The Washington Post* online edition, October 12, 2004, p. A17, <<http://www.washingtonpost.com/wp-dyn/articles/A24420-2004Oct11.html>>. [2] "Swiss engineer arrested in Libyan nuclear probe," Swissinfo news agency, October 11, 2004, <<http://www.swissinfo.org/sen/Swissinfo.html?siteSect=105&sid=5268371>>. [3] Rohan Sullivan, "Malaysia: Bush Overplaying Nuclear Role," Associated Press, February 12, 2004; in Lexis Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [4] "UN nuclear agency sends Swiss list of nuclear suspects," Agence France Press, February 19, 2004; in Yahoo News UK-Ireland, <<http://uk.news.yahoo.com/040219/323/emgul.html>>. [5] Scott Capper, "Swiss deny being soft on nuclear exports," Swissinfo news agency, February 20, 2004, <<http://www.swissinfo.org/sen/Swissinfo.html?siteSect=105&sid=4735044>>. [6] "Switzerland confirms arrest of engineer in S. Africa nuclear smuggling probe," Agence France Press, September 26, 2004; in SpaceWar.com, <<http://www.spacewar.com/2004/040926160138.9xr8tcvp.html>>. [7] Farah Stockman, "US prods UN for a nuclear export rule," *The Boston Globe* online edition, April 4, 2004,

<http://www.boston.com/news/nation/washington/articles/2004/04/04/us_prods_un_for_a_nuclear_export_rule/>. [8] "Police Raids in Switzerland," Paris Intelligence Online, September 10, 2004; in "Swiss Police Dismantle Nuclear Materials Trafficking Ring," FBIS Document EUP20040913000020. [9] "Switzerland opens probes into claims of nuclear material smuggling," Agence France Press, October 13, 2004; in SpaceWar.com, <<http://www.spacewar.com/2004/041013184621.sidddn4yc.html>>. [10] "Switzerland Opens Nuclear Investigation," Associated Press, October 13, 2004, <<http://abcnews.go.com/International/wireStory?id=162517&CMP=OTC-RSSFeeds0312>>. [11] "Proliferation Security Initiative: Libyan Case Crowns First Year's Achievements," *NIS Export Control Observer*, December 2003/January 2004, No. 12, pp. 25-27, <<http://cns.miis.edu/nis-excon>>.

Workshops and Conferences

United States Holds Annual Update 2004 Conference

The U.S. Department of Commerce Bureau of Industry and Security (BIS) held its 17th annual Conference on Export Controls and Policy, otherwise known as Update 2004, on October 4-5, 2004, in Washington, DC. The purpose of the conference was to provide a forum for the domestic and international business community to ask questions about U.S. export control issues and to provide input on ways the system might be improved.

In his remarks to conference participants, Assistant Secretary of Commerce for Export Administration Peter Lichtenbaum noted that BIS is reviewing regulations and processes to keep pace with technology trends. Lichtenbaum noted three areas in particular:

1. The "de minimus" rule. This rule is used to determine whether foreign-made items, software, and technology that contain U.S. content are subject to U.S. export control regulations when reexported. Industry representatives have urged a review of this rule to account for changes in technology, such as how software is incorporated into hardware—for example, when a U.S. origin chip provides instructions for a foreign car's engine.
2. Deemed export controls. These controls regulate the release of technology to foreign nationals in the United States. BIS plans to review these rules to ensure that they continue to protect national security and, at the same time, allow U.S. industry and research centers to employ the foreign nationals who play an increasingly important role in their operations.
3. U.S. military products use of components used in commercial products, and vice versa. BIS is seeking to improve standards and procedures to account for these trends.

In his remarks, Undersecretary of Commerce for Industry and Security Kenneth I. Juster noted that BIS has taken many steps to streamline export controls. It has prepared draft rules relaxing controls on exports of computer technology and increasing the microprocessor technology license requirement threshold level for foreign nationals working in the United States. Juster also noted that BIS has conducted nearly 200 outreach events, both in the United States and abroad, to help industry understand and comply with U.S. export control regulations.

U.S. officials in attendance encouraged industry representatives to partner with BIS by telling officials when changes in technology warrant changes in controls and by keeping internal compliance programs up to date.[1,2]

Sources: [1] "Keynote Address of Kenneth I. Juster, Under Secretary of Commerce for Industry and Security, at the Update 2004 Conference on Export Controls and Policy," October 4, 2004; in Lexis-Nexis Academic Universe, <<http://www.lexis-nexis.com>>. [2] U.S. Department of Commerce Bureau of Industry and Security, "Export Controls in a Changing World," Prepared Remarks of the Honorable Peter Lichtenbaum, Assistant Secretary of Commerce for Export Administration, Update 2004 Conference on Export Controls and Policy, October 4, 2004, BIS website, <<http://www.bis.doc.gov/News/2004/update04Peter.htm>>.

Biosecurity/Biosafety and Nonproliferation Workshop Held in Almaty

On September 20-21, 2004, the Center for Nonproliferation Studies (CNS) and the M. Aikimbaev Kazakh Science Center for Quarantine and Zoonotic Diseases (KSCQZD) organized the Biosafety, Biosecurity, and Nonproliferation Workshop for Central Asia and the Caucasus in Almaty, Kazakhstan. The government of Canada sponsored the workshop through the International Science and Technology Center, in Moscow. Fifty-four delegates representing anti-plague and other bio-research institutes, public health ministries, and customs agencies of eight NIS countries—Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—as well as observers from Belarus, Moldova, and Ukraine

attended the workshop. In addition, biosecurity/biosafety and export control experts from Canada, Russia, the United States, and the World Health Organization participated in the meeting. The workshop proceedings were opened by Anna Biolik, Canadian ambassador to Kazakhstan, Kyrgyzstan, and Tajikistan, and Anatoliy Belonog, first deputy minister of health of the Republic of Kazakhstan.

The workshop aimed to strengthen cooperation between NIS and international researchers in the area of biosafety/biosecurity; accelerate the adoption of national biosecurity/biosafety standards and export control legislation in the NIS; and raise the awareness among NIS scientists and government officials about issues related to biological weapons (BW) proliferation and export control.

Workshop participants discussed a variety of issues, including biosecurity/biosafety practices and guidelines, risk assessment, transfer of dangerous pathogens, and international assistance programs. NIS participants made presentations describing the status of biosecurity/biosafety, disease surveillance, BW-related material export controls, and relevant national legislation in their respective countries. Experts' presentations dealt with biological and toxin weapons threat assessment in relation to terrorism, ballistic and cruise missiles as BW delivery systems, personnel background checks, ethics in the conduct of science, role of national authorities in threat reduction, international export control regimes, the Biological and Toxin Weapons Convention, and U.S. export controls of biological agents.

Export Control Seminar Held in Astana

On September 27-28, 2004, the Atomic Energy Committee of the Republic of Kazakhstan and the Kazakhstani Scientific-Technical Nuclear Technology Safety Center (NTCS), in cooperation with the U.S. Department of Energy and the Pacific Northwest National Laboratory, organized a seminar entitled "Kazakhstani Export Control System for the Transfer of Nuclear and Nuclear-Related Dual-Use Materials," in Astana, Kazakhstan. The attendees included representatives from Kazakhstani government agencies, scientific institutions, and industrial enterprises, including the Office of the Prime Minister, Ministry of Foreign Affairs, Ministry of Industry and Trade (MIT), Customs Control Agency (CCA), National Security Committee, Kazatomprom National Atomic Company, Ulba Metallurgical Plant, Mangyshlak Atomic Energy Complex, Institute of Nuclear Physics, and Institute of Atomic Energy, as well as the NIS Representative Office of the Monterey Institute's Center for Nonproliferation Studies (CNS).

The main purpose of the seminar was to provide a forum to discuss progress in the implementation of Kazakhstan's export control system and future steps to make this system work more effectively. Kazakhstani government officials made presentations on the country's export control system and licensing procedure for transfers of nuclear and dual-use commodities in Kazakhstan and the roles of relevant state agencies in implementing nuclear export control, as well as strengths and weaknesses of the existing system. The MIT, as a government agency responsible for export control, put forward its plan to introduce the so-called "one-window" principle for export license applications by making the MIT the single point for the submission of license applications. According to the plan, all communication between exporters and government agencies involved in the application review process would go through the MIT, while at present exporters deal directly with these agencies. The plan also provides for the increase in the number of government agencies involved in the review process. Industry representatives voiced concerns that the new procedure might create additional problems for them, such as lengthy license application reviews. The participants agreed that industry suggestions should be taken into account in drafting new export control implementing legislation and introducing new export control procedures.

In addition, the participants discussed the use of modern technical tools and automated systems to control nuclear transfers. For instance, customs officials familiarized the participants with equipment and methods used by the CCA to implement radiation control at the border. One of the sessions was devoted to internal compliance programs (ICP), their goals, and implementation practices. Industry representatives described ICPs currently being implemented at their enterprises. U.S. participants made a presentation on U.S. activities to support nuclear export and border control efforts in Kazakhstan. NTSC and CNS representatives focused their presentations on activities of non-governmental organizations and their roles in supporting the country's export control system.

Special Report

Duelfer Report Finds Iraq Lacked WMD, Many Countries Provided Illegal Arms to Iraq

by Sarah J. Diehl, Center for Nonproliferation Studies

On October 6, 2004, the United States released a 918-page report written by Charles Duelfer, a special adviser to the director of the U.S. Central Intelligence Agency, detailing the 1,200-member Iraq Survey Group's (ISG) findings on the state of Iraq's weapons of mass destruction (WMD) programs between the Gulf War in 1991 and the U.S.-led invasion of Iraq in March 2003.[1] The report draws on interrogations of captured Iraqi experts and regime officials, including Saddam Hussein; physical inspections of suspected WMD sites; and tens of millions of pages of documents recovered during the war and occupation. The report concludes that the 1991 Gulf War and subsequent UN sanctions[2] and inspections[3] had effectively destroyed Iraq's ability to build a nuclear weapons program, and eliminated its long-range missile inventory and production infrastructure. The ISG also found that while Iraq might retain the know-how to create chemical weapons, it does not have any chemical processes or production units configured to produce chemical weapons or key precursors. According to the report, Iraq abandoned its interest in biological weapons in the mid-1990s. While the ISG found that Saddam Hussein's regime had no practical plans for reviving WMD programs if UN sanctions were lifted and inspections stopped, Saddam hoped to recreate the WMD capability destroyed in 1991 in order to deter Iran, Iraq's main enemy in the region.

The Duelfer Report concludes that despite the UN prohibitions on trade with Iraq and other export control measures, many governments and private companies engaged in procurement of conventional arms and WMD-related items for Iraq from the end of the Gulf War in 1991 to the 2003 U.S.-led invasion. Governments that directly supported or endorsed private company efforts to provide conventional arms to Iraq in breach of UN sanctions included Syria, Belarus, North Korea, the former Federal Republic of Yugoslavia, Yemen, and probably Russia. A few of Iraq's neighbors—Syria, Jordan, Turkey, Egypt and Yemen—entered into bilateral trade agreements with Iraq and provided financial and banking services and transport routes to Iraq for the illegal goods. The number of companies and countries that helped Saddam's regime undermine UN sanctions increased dramatically after Iraq accepted the UN Oil-for-Food (OFF) program in 1996.[4] Under the OFF program, Iraq was allowed to sell a limited amount of petroleum products in order to pay for badly needed humanitarian goods, such as medical supplies and food. Beginning in 1997, the trade allowed under the OFF program permitted Saddam to develop numerous illicit money-making schemes and to generate large amounts of cash beyond the purview of the United Nations. Saddam also used oil vouchers to pay off foreign officials who helped his illicit procurement efforts. According to the Duelfer Report, at Saddam Hussein's request, Russian, Yugoslav, Ukrainian, and Belarusian individuals who had contributed to Iraq's military capabilities received vouchers for oil shares. Voucher recipients included the speaker of the Supreme Soviet Parliament under Yeltsin, the head of the Communist Party of the Russian Federation, the director of a major Belarusian foreign trade company, an officer in the Belarusian security network, and directors of several Ukrainian firms. (According to the report, individuals and companies in at least 44 countries—including France, China, and the United States, and Indonesia—received oil vouchers in an effort by Saddam Hussein to thwart UN restrictions.)

The Duelfer Report described the countries and companies that provided Saddam with weapons-related assistance from 1991 to 2003. This part of the report divides the *beginning* of trade relations into three periods: (1) the Decline Phase, 1991 to 1996 when Iraq's economy hit rock bottom under UN sanctions that prohibited oil exports; (2) the Recovery Phase 1996 to 1998 when Saddam accepted the OFF program which eased the humanitarian crisis and produced illegal profits; and (3) the Transition and Miscalculation Phase when Saddam first suspended cooperation with the International Atomic Energy Agency (IAEA) and UN Special Commission inspectors and used illicit revenues to buy weapons, then in September 2002, permitted IAEA and United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC) inspectors to return. The report groups trade by the period in which it began, although in almost all cases it continued beyond the initial period. The following is a summary of findings related to NIS and former Soviet satellite states.

During the decline phase of the early 1990s, Romania and Ukraine began selling some of their excess Soviet military hardware and expertise to Iraq, and Jordan facilitated the illicit trade with lax border

regulation and access to financial institutions. In the mid-1990s, Iraq's Military Industrialization Commission (MIC) and Ministry of Foreign Affairs became "interested in changes to Romanian export controls over nuclear, biological, and chemical weapons and their associated technologies." In February 1994, Iraq set up a procurement relationship with the Romanian firm Aerofina; it sought expertise and parts to correct design and guidance and control problems in the Al Fat'h missile (later called "al-Samud"). Aerofina sold parts to Iraq via a company in Jordan. The Duelfer Report also states that a Romanian source "provided analytical equipment and testing for SG-4 tank gyroscopes and gyroscopes intended for missile applications to Iraq..." Iraq's trade with Romania continued beyond the decline phase. Evidence suggests that Iraq tried to smuggle tanks and other military equipment from Romania in 1998. In 2001, Romania's Uzinexport SA agreed in a contract worth over \$4 million to provide Iraq with equipment and materials for a magnet production line for an Iraqi V-belt drive project; the magnets could have been used to produce gas centrifuges for enriching uranium, although there is no evidence that they were used that way.

Also beginning during the decline phase, Ukraine started to provide Iraq with prohibited technologies and equipment, primarily in the missile field; this cooperation extended until the March 2003 invasion. According to information obtained by U.S. inspectors from the Iraqi Intelligence Service, Ukraine was an important political ally and Saddam hoped to gain access to Ukraine's large military production facilities, specifically the former Soviet space and rocket industry. Ukrainian suppliers, particularly Yuri Orshansky from MontElect Company, made numerous visits to assist with Iraq's missile program. MontElect transferred a range of equipment and expertise to the Iraqi Al-Karamah State Establishment, including engines for surface-to-air Volga 20DCY missiles, 300 liquid fuel motors for al-Samud missiles, and help building a missile fuel plant. Orshansky and others also signed a protocol with Iraq to provide technology for guidance components for surface-to-surface missiles, batteries for anti-aircraft missiles, and equipment for missile research. For his efforts, Orshansky was awarded vouchers for approximately 7.5 million barrels of oil, which translated into about \$1.85 million.

According to the Duelfer Report, the highest levels of the Ukrainian government, including President Leonid Kuchma, were probably complicit in this ongoing illicit trade with Iraq. President Kuchma allegedly personally approved the sale of a Kolchuga anti-aircraft radar system to Iraq in 2000 for approximately \$100 million. The Ukrainian government lifted export restrictions on Kolchuga radars after this deal was approved. However, no Kolchugas were found in Iraq, and the Ukrainian government denied that the sale went through. Also in 2000, Ukraine and Iraq signed a trade and technical cooperation agreement, which the Ukraine parliament ratified in November 2002. From 2001-2003, Iraq purchased five motors for unmanned aerial vehicles, and sought missile engines, gyroscopes, and missile fuel from Ukraine. By 2003, a Russian-Iraqi joint venture, the Baghdad-based ARMOS Trading Company (a front company established in 1998 by a Russian General named Anatoliy Makros and the Iraqi Military Industrialization Commission), was acting as an intermediary between Ukraine and the Iraqi MIC and other ministries. ARMOS brought both Russian and Ukrainian experts into Iraq and facilitated military goods transactions.

During the period from 1991 through 1999, Jordanian companies aided Iraq's procurement of prohibited military equipment by providing a "transportation hub, financial haven, one of several illicit revenue sources," and acting as an "overall illicit trade facilitator." Through Jordan, Iraq front companies received missile parts, compressors used in nitric acid production, Russian missile control systems, and BMP-2 (armored vehicle) 30-mm cannon barrel manufacturing technology. The BMP-2 technology originated with an arms firm known for violating UN sanctions on Iraq called Yugoimport-FDSP, based in the FRY. Jordanian companies also offered Iraq items "such as global positioning system equipment, meteorological balloons, gyroscopes, video gun sights, electronic countermeasures equipment, and communications equipment." The UN OFF program was one method used to conduct illicit trade through Jordan. The Jordanian government allowed Iraqi front companies on its border to receive special treatment, provided a primary route for transporting illicit materials to Iraq, and gave Iraqi military procurement agencies access to Jordan's financial and banking system.

Once the OFF program was implemented after 1996, Iraq had more oil and cash to use to pursue its military procurement program. In addition to Romania, Ukraine, and Jordan, companies in many more countries became willing to aid Iraq's illicit procurement. The ISG "identified companies in the following

seven additional countries willing to engage in unsanctioned [illegal] trade with Saddam during this phase: Syria, Turkey, South Korea, China, France, the former Republic of Yugoslavia, and Bulgaria.” This cooperation continued until the U.S.-led invasion in March 2003.

Iraq and Syria signed the Iraq-Syria Trade Protocol under which Iraqi ministries could contract with Syrian companies for goods and services prohibited by the UN OFF program. Iraq, the report states, signed contracts worth \$1.2 billion with payments due from October 2000 through April 2003; the MIC, Ministry of Defense, and other Iraqi military agencies contracted for 24% of the total or \$284 million of goods. Syrian front companies had connections to high-level Syrian government officials, and from 2001 to 2003, Syria became the primary route for Iraq’s illicit imports. For example, 257 military-related contracts worth approximately \$187 million were signed with one company, SES International, owned by Dhu al-Himma Shalish, head of Syrian Presidential Security and a relative of Syrian President Bashar al-Asad. SES International was the primary transshipment point for weapons and munitions as well as other goods purchased outside UN channels. The Duelfer Report does not give many details on the types of arms procured from Syria but it does note that Iraq sought IGLA man-portable air defense systems (MANPADS), Kornet anti-tank guided missiles, rocket-propelled grenades, and heavy machine guns from one company, although the U.S. invasion intervened before delivery. Both the IGLA defense systems and Kornet missiles are produced in Russia.

According to documents captured by the ISG and interviews with a senior MIC executive, the former Republic of Yugoslavia (FRY) and Iraq cooperated extensively economically and militarily when Slobodan Milosevic was in power. Yugoslav Federal, a military institution under the control of the FRY Ministry of Defense, signed trade agreements with Iraqi front companies on behalf of military production companies in exchange for a percentage of the profits. Financial transfers for the contracts were supervised by the Belarusian Infobank and payments were usually made through a Syrian-based company under the Iraqi-Syrian Protocol. FRY government experts and ex-military officials provided technical expertise and technology for military projects. In 2002, documents found in the ORAO Aviation Company in Bosnia and Herzegovina showed an agreement between ORAO and the Iraqi Ministry of Defense for an illegal shipment of engines for the MiG-21, as well as a schedule for enlarging the capacity of overhauling R13-300 and R25-300 jet engines. Forty-five overhauled engines were delivered by May 2000; the parties disputed terms for the delivery of the 19 remaining engines.

In 1998, Bulgaria began a trade relationship with Iraq that intensified from 2000 until the 2003 U.S.-led invasion despite UN sanctions. In 1998, Iraq received numerous dual-use items, such as ammonium perchloate, aluminum powder, carbon fiber, and machine tools to be used in the Al Fat’h missile. From 2001, the Iraqi MIC traded with the JEFF Company located in Sofia, Bulgaria; according to a MIC executive, the Bulgarian government knew about the illicit trade. Through the JEFF Company, Iraq procured numerous prohibited military items, including engines and maintenance parts for the T-72 tank and IGLA MANPADS; missiles with tandem warheads, launcher units, thermal imagers, test units, and simulators; and 175 Kornet anti-tank guided missiles. (The Duelfer Report provides a comprehensive list of dual-use items that Iraq imported from Bulgaria.) In 2001, through the Iraqi-Syrian Protocol, Iraq acquired numerous machine tools from Bulgaria that were not pre-approved by the United Nations. Many of the tools could be used to produce conventional military items or chemical weapons, or support a reconstituted nuclear weapons program.

According to the Duelfer Report, during the final years—the so-called transition and miscalculation phase—of Saddam Hussein’s regime, Iraq gained eight new partners for illicit military trade. Companies from Russia, North Korea, Poland, India, Belarus, Taiwan, and Egypt began providing military or dual-use goods, while Yemen became a transshipment facilitator. The Duelfer Report attributes this upswing in prohibited trade to “a lack of international condemnation, poor oversight of supplying companies by their governments, poor export controls, and the high profits to be had from Saddam’s illicit revenue.” The report also notes the shift in Saddam’s supporters from former-Soviet and Arab states pre-1998 to some global powers, including members of the UN Security Council.

The Russian government denies involvement in illicit trade with Iraq, although many high placed officials, including the speaker of the Supreme Soviet Parliament under Yeltsin and the head of the Russian

Communist Party, received oil vouchers awarded by Saddam Hussein. However, numerous Russian companies provided military goods to Iraq, and in 1998, the Iraqi MIC and a Russian general, Anatoliy Ivanovich Makros, established a joint front company named ARMOS to handle the Russian military trade. A former Iraqi diplomat told ISG investigators about weekly flights from Moscow through Damascus, to Baghdad carrying prohibited items. The flights took place from 2001 until the March 2003 invasion and involved the transfer of such sophisticated military items as “radar jammers, global positioning system jammers, night-vision devices, and small missile components.” In 2003, Iraq entered into a deal to purchase air defense equipment, anti-tank weapons, night-vision devices, upgraded air defense equipment, and radars from a Russian company Rosoboronexport. This company offered IGLA MANPADS and Kornet anti-tank missiles, as well as larger to medium-to-long range advanced air defense systems and T-90 tanks. During negotiations Rosoboronexport pointed out that it was a government agency and could not supply weapons directly to Iraq; it demanded that Iraq use false end-user certificates from the Syrian Ministry of Defense for the MANPADS and anti-tank missiles, the first items shipped. It is not known how much of the equipment Iraq received before March 2003. Russian companies also supplied spare parts for Iraqi aircraft, missiles, tanks, and armored vehicles using Yemen as an intermediary.

Other Russian companies, according to the report, signed contracts with Iraq to provide technical assistance. In one example, TECHNOMASH employees offered to provide “technical assistance in developing guidance and control systems, aerodynamic structures, and a test bench for missile engines.” Russian companies signed contracts with a MIC front company in December for a range of anti-aircraft, radar, missile, and UAV items. Iraq also had contracts worth \$20 million with Systemtech, run by Alexander Degtyarev, a Russian missile scientist, for missile guidance and control systems. The Duelfer Report refers to Systemtech as both a Russian and Belarusian company. According to the report, Degtyarev was an important supplier of illegal items to Iraq. His companies, Systemtech and ElectricGazCom (ECG) had contracts with the Belarusian company Infobank (directed by Viktor Shevtsov who was involved in providing military goods to Iraq) and Iraq to supply radars and control and guidance systems for SA-2 missiles through Syria. Degtyarev was a frequent visitor to military entities in Iraq.

From 2001 until the end of Saddam Hussein’s regime, the Duelfer Report states, Belarus “was the largest supplier of sophisticated high-technology conventional weapons to Iraq,” and this illegal trade was promoted at the highest levels of the Belarusian government. According to the report, Belarusian President Lukashenko “agreed to support Saddam because of the Iraqi President’s support of the 2001 Belarusian Presidential elections.” Reportedly, in a September 2002 meeting with Iraqi MIC and MFA officials, President Lukashenko even “expressed his willingness to support Iraq and to send air defense experts to help Iraq fight the United States.” Lukashenko also requested that a joint Iraqi-Belarusian company called Belarus Afta, based in Baghdad, be set up as a clearinghouse for illegal military trade. Many high ranking Belarusian officials and businessmen received oil vouchers at Saddam’s behest, and an Iraqi-Belarusian Joint Committee, co-chaired by the Iraqi Minister of Finance and an official from the Belarusian Presidential office, was formed to promote the illegal trade. (The Duelfer Report contains a list of the key Belarusian individuals linked to illicit trade with Iraq.) Belarus sought to market products of its post-Soviet defense industry for hard currency, while Iraq sought Belarus’ aid in radars, laser technology, metallurgy, and electronic warfare systems.

A major player in the illicit trade was Viktor Shevtsov, mentioned above, who was the director of both Infobank, which helped finance deals with Iraq, and Belarusian MetalEnergO (BME), which supplied machinery for T-72 tanks and for modernizing SA-2 air defense missiles and associated radar systems. Shevtsov worked with the Russian missile scientist Degtyarev to provide radar and control and guidance systems for SA-2 missiles to Iraq. Degtyarev’s Belarus-based company ElectricGazCom (ECG) contracted with Iraq to build a facility for manufacturing the control and guidance systems for surface-to-surface missiles such as al-Samud, to supply gyroscopes and accelerometer testing stages, and to transfer technology for an Iraqi satellite research project. The ISG found evidence that Belarus and Iraq jointly developed an improved P-18 (Mod Spoon Rest) early warning radar, which was used against Coalition aircraft after March 2003. Iraqis signed a contract with Systemtech for an S-300 air defense system, but the contract was never fulfilled because of fears the international community would detect the illegal activities. Belarus provided military items to Iraq until the March 2003 invasion. Among other illicit goods, Belarus provided Iraq with “equipment for T-72 and T-55 tanks; Volga, Pechora (SA-3) and other air defense

missile systems; Mi-17 helicopters; spares and repairs for MiG-23, -25 and -29 plus Sukhoi 25 jets; laser guidance systems; fiber optics, infrared spare parts; GPS jammers; and radios." According to the ISG, the Belarusian government received nearly \$114 million in payments from Iraq; most of the funding for this trade came from the Iraq-Syria Trade Protocol.

During this time, Iraq received important help with its al-Samud II missile program from Poland; the al-Samud missile exceeded the 150km range limit permitted under UN Security Council Resolution 687. From 2001 to 2003, the Polish front company Ewex sold by the ISG's estimate about 280 Polish SA-2 Volga surface-to-air missile engines and related items to Iraq. Ewex was supported by the Iraqi Intelligence Service, and these engines, taken from missiles that had been decommissioned, were purchased for the Iraqi Al-Karamah State Establishment through the Iraqi-Russian procurement entity, the ARMOS Trading Company. According to the Duelfer Report, the Volga engines were the primary propulsion system for the liquid-propellant al-Samud II missile. To avoid UN inspectors, the missiles were shipped to Iraq via Syria and Jordan. Despite the delivery of a number of the Polish missile engines, the ISG discovered no evidence that they were ever fitted to active Iraqi missile systems. The Iraqi government and Ewex Company tried to hide the prohibited shipment of missiles by using various front companies and transshipment routes and financial deals through Syria and Jordan. Nonetheless, in 2003, Polish authorities arrested Ewex Company officials for illegal arms deliveries to Baghdad.

The Duelfer Report found that while UN sanctions and inspections prevented Iraq from developing weapons of mass destruction, they could not prevent a complicated network of trade in illegal conventional arms and certain dual-use items. It concluded that many companies and government officials in NIS countries and former Soviet satellites were willing to trade their military technology and know-how for hard currency and oil vouchers.

For more information on Russian transfers to Iraq, see "Controversy over Russian Supplies of Military Equipment to Iraq," *NIS Export Control Observer*, No. 5, May 2003, pp. 5-8, Center for Nonproliferation Studies website, <http://cns.miis.edu/pubs/nisexcon/pdfs/ob_0305e.pdf>.

Sources: [1] *Comprehensive Report of the Special Advisor to the DCI on Iraq's Weapons of Mass Destruction*, September 30, 2004, U.S. Central Intelligence Agency website, <http://www.cia.gov/cia/reports/iraq_wmd_2004>. [2] UN Security Council Resolution 661 (August 6, 1990) prevented all states from importing or transshipping products, most significantly oil, from Iraq and from sending any commodities, products or funds to Iraq except for strictly humanitarian purposes. [3] UN Security Council Resolution 687 (April 3, 1991) provides that Iraq shall destroy all of its chemical and biological weapons facilities and components and ballistic missiles with a range greater than 150km. It approved the formation of a special commission to carry out inspections and oversee destruction. [4] UN Resolution 986 (April 14, 1995) sets out the terms for Iraq selling oil and using the proceeds to purchase humanitarian items.

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