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ENHANCING NON-PROLIFERATION PARTNERSHIPS IN THE BLACK SEA REGION

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LETTER OF TRANSMITTAL

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, DC, September 27, 2011.

DEAR COLLEAGUES: In July 2011, I directed my Senate Foreign Relations Committee professional staff for European affairs to travel to the Black Sea region to assess the recent seizure of weapons grade highly-enriched uranium-235 (HEU) in Moldova and U.S. assistance programs to counter the threat of loose nuclear material. The Defense Threat Reduction Agency Project Officer for Ukraine joined the delegation.

The Government of Moldova should be commended for interrupting an extremely troubling illicit sale of fissile material. The 9 kg of HEU on offer would have fetched \$30 million on the black market and contributed significantly to the 25 kg of HEU necessary to fashion a small nuclear weapon. The sellers also claimed to possess plutonium, an even more disturbing proliferation material. The interrupted sale was the 19th publicly known interdiction of fissile material since 1993. Destined for criminal or terrorist elements in North Africa, this interdiction demonstrates that the threat of loose nuclear material remains a central U.S. national security challenge and that the creation of layered U.S. defenses overseas against nuclear threats through the Nunn-Lugar Cooperative Threat Reduction Program and other U.S. assistance programs remains unfinished. Several apparent links to the Russian Federation suggest that continued cooperation to strengthen its nuclear security, law enforcement, and export control policies, laws, and culture remains an urgent priority.

The United States should intensify Nunn-Lugar WMD Proliferation Prevention Program (WMD-PPP) work with Moldova in light of two attempted sales over the last year of material purported by the sellers to be HEU. Our partners in Ukraine should be encouraged to also eliminate the bureaucratic delays that may hinder new phases of highly successful WMD-PPP programs, as well as the prompt removal of all HEU from Ukraine. Even as our non-proliferation work continues with these partners, the United States must also continue to highlight troubling developments in the realm of civil rights, political prosecutions, and the rule of law.

This staff report examines current non-proliferation programs in the northern Black Sea region and offers tangible recommendations to the United States and our partners for enhancing this cooperation. I welcome any comments you may have.

Sincerely,

RICHARD G. LUGAR,
Ranking Member.

ENHANCING NON-PROLIFERATION PARTNERSHIPS IN THE BLACK SEA REGION

At the direction of Senator Richard G. Lugar, Ranking Republican Member on the Senate Foreign Relations Committee (SFRC), a delegation of minority SFRC professional staff and Defense Threat Reduction Agency (DTRA) personnel¹ traveled to the Black Sea region to assess non-proliferation cooperation in light of several recent interdictions of uranium on the black market. The delegation visited Ukraine (Kyiv, the Chernobyl Exclusion Zone, and Odessa) and Chisinau, Moldova. The purpose of the trip was to:

- Examine two recent seizures of uranium in Moldova, one of which was highly-enriched and usable in a nuclear weapon;
- Assess ongoing efforts to combat and interdict illicit WMD materials and components;
- Discuss prospects for enhancing non-proliferation partnerships in a region still plagued by porous borders and large amounts of fissile material.

INTRODUCTION

On June 27, 2011, Moldovan officials arrested six persons in Chisinau purporting to possess 9 kilograms of highly-enriched uranium-235 (HEU), material for a nuclear weapon or dirty bomb, in an attempted sale for €23 million (\$30 million). Plutonium, an even more troubling proliferation material, was also on offer. During the arrest, a vial containing 4.4 grams of highly-enriched uranium-235 (HEU) oxide was purchased in a fake sale for €420,000 (\$600,000) in a sting operation organized by officers from the Moldovan Ministry of Internal Affairs, some of whom had coincidentally received routine counterproliferation training in the United States only weeks earlier. The sellers sought “non-Western” buyers; one potential buyer, currently being sought, has been identified as a resident of a country of North Africa. Should the existence of a legitimate buyer (or middleman) from a region with a history of terror cells be confirmed, then the case would be substantially more alarming than other recent fissile material interdictions, where official agents were the sole potential buyers.²

Outside experts believe that the HEU oxide may have been enriched at certain sites in Russia. The HEU transited through Transnistria, the Russian-backed breakaway enclave of Moldova with weak law enforcement and border security controls, and several persons central to the sale were Transnistrian residents. One

¹This report does not reflect the views of the Department of Defense and was prepared solely by Senate Foreign Relations Committee staff.

²See, e.g., Lawrence Scott Sheets, “A Smuggler’s Story,” *The Atlantic*, April 2008.

theory is that the HEU arrived there by air from Russia and was transported across the porous administrative boundary line into Moldova proper. In addition to the North African, Moldovan authorities are seeking one Russian national, who was the alleged ringleader and fled from Transnistria to Russia, where he and other cohorts are suspected by officials to currently reside. Russian authorities have received official notification of the arrests.

This operation is the second interdiction in Moldova of uranium purported to be highly-enriched in the past year³ and the 19th unclassified seizure of weapons grade plutonium or uranium worldwide since 1993.⁴ Most experts agree that HEU would be a terrorist organization's preferred bomb-making material due to its widespread availability in more than 30 countries. The United States, Russia, and Kazakhstan each reportedly possess more than 10,000 kg of HEU, whereas an HEU bomb requires only 25 kg of HEU. A recent joint U.S.-Russia Nuclear Terrorism Threat Assessment concluded that the most plausible scenario for a terrorist-acquired nuclear weapon is through "theft or black-market purchase of previously stolen nuclear material."⁵

These developments underscore that the threat posed to the United States of America by loose nuclear material endures to this day. U.S. efforts to create layered defenses, including at known fissile material storage sites overseas, at foreign customs and border inspection posts, and within the U.S. homeland, should continue. As one Moldovan law enforcement official noted, "Because the United States is often the end target of such illicit sales, we are happy to work with the United States on these issues."

But too often, bureaucratic delays in both the United States and partner nations have hampered this cooperation. In Ukraine, despite generous U.S. commitments to pay for the removal of HEU fuel, replace the fuel with low enriched uranium fuel, and pay for the construction of a neutron source facility in Kharkiv, some in Ukraine's leadership have allowed tortuous bureaucratic processes to delay implementation, including a last-minute failure of the Ukrainian delegation to sign the final bilateral HEU agreement in Vilnius with the U.S. Secretary of State in July 2011. With respect to Moldova, delays within the U.S. Department of Defense have inhibited instructions to the Nunn-Lugar Program and DTRA implementers to begin border security analysis.

Cooperation on non-proliferation should not constitute a substitute for high-level engagement in public institution-building and support for civil society, which remain acute challenges in many countries in Eurasia, particularly Russia and Ukraine.⁶ Still, non-proliferation cooperation that advances the security of both the

³In August 2010, sellers purporting to be in possession of highly-enriched uranium were also arrested by Moldovan law enforcement, but the resulting seizure turned out to be 7 kg of uranium-238 worth approximately \$11 million, which, though not fissile itself, can be used to create fissile plutonium and has other weapons applications.

⁴International Atomic Energy Agency, "Illicit Trafficking Database (ITDB) Fact Sheet." Some documents also cite 21 known cases of weapons grade plutonium or uranium trafficking. Former Soviet and Warsaw Pact nations have been the location of 10 of these unclassified HEU and plutonium seizures.

⁵Harvard University, Belfer Center for Science and International Affairs, & Institute for U.S. and Canadian Studies "The U.S.-Russia Joint Threat Assessment on Nuclear Terrorism," May 2011.

⁶See, e.g., Freedom House, "Sounding the Alarm: Protecting Democracy in Ukraine," April 2011.

United States and our partners and allies continues to create important stability in our bilateral and regional relationships, particularly in nations of the former Soviet Union where significant quantities of WMD materials exist near porous borders.

This report assesses current non-proliferation cooperation in the northern Black Sea region and recommends avenues for enhancing these partnerships.

BACKGROUND

UKRAINE

In light of its 2,800 mile border, including a vast Black Sea coastline, Ukraine faces significant border security challenges. These challenges are exacerbated by its lengthy border with Russia, which dedicates few resources to controlling this border.⁷ Much of Ukraine's border with Russia and Belarus has also not yet been demarcated. Ukraine's border concerns are further complicated on its western edge, where Moldova's breakaway region of Transnistria provides weak border controls and limited law enforcement, allowing for increased ease of trade in illicit materials. In 2010, Ukrainian border security officials reported a 10 percent increase in interdictions of illicit drugs, radioactive materials, and weapons compared to 2009 levels.

The United States has dedicated significant resources to non-proliferation and border security priorities in Ukraine since its independence. In 1992, the Nunn-Lugar Cooperative Threat Reduction Program began work to dismantle Ukraine's entire nuclear weapons arsenal, allowing it to enter the Nuclear Non-Proliferation Treaty as a non-nuclear weapon state. Subsequently, Nunn-Lugar has established deep relationships with many Ukrainian ministries in the areas of biothreat reduction, strategic delivery system disassembly, border security, and others.

One continuous threat of WMD material diversion has been stocks of HEU still held at many military and civilian sites in the former Soviet Union. In Ukraine, the U.S. Department of Energy has been implementing a preliminary agreement to pay for the removal of all Ukrainian stocks of HEU and replace the fuel with low enriched uranium. Ukraine has begun removal of HEU stocks from the Kyiv Institute for Nuclear Research, the Sevastopol National University for Nuclear Energy and Industry, and the Kharkiv Institute of Physics and Technologies. Separately, the United States has committed \$20 million for the construction of a neutron source facility near Kharkiv, Ukraine to be completed in 2014, which has medical, scientific research, and energy applications. A memorandum of understanding on the project was scheduled for signature in Vilnius in July 2011 between the U.S. Secretary of State and her Ukrainian counterpart. According to officials familiar with the situation, the Ukrainian Foreign Minister was unable to sign the MOU because its language did not reflect a previous decision of the National Security and Defense Council (NSDC), which called for the removal of the HEU upon the completion of the neutron source facility in 2014. However, the original agreement called for

⁷Some Russian officials still insist that Ukraine remains merely a frontier of greater Russia.

final HEU removal in time for the spring 2012 Seoul Nuclear Security Summit, and the Government of Ukraine is seeking to modify the previous NSDC decision, as well as a U.S. guarantee that the neutron source facility will subsequently be completed.

Today, several U.S. border security and WMD material interdiction programs are active in Ukraine. The Export Control and Related Border Security (EXBS) program has an approximately \$1 million budget for Ukraine that focuses on building human capital through training and imparting best practices expertise to the Ukrainian border security and customs services, as well as modest equipment procurements such as x-ray scanners, spectrometers, and dosimeters. EXBS has also assisted Ukrainian agencies to investigate and prosecute trade in illegal WMD-related and dual-use items. The Department of Energy's Second Line of Defense program has provided portal monitors at key points of entry to detect radioactive material (including items contaminated by the Chernobyl nuclear disaster), one ton of which was interdicted in 2010.

With by far the largest budget for border security, the Nunn-Lugar WMD Proliferation Prevention Program (WMD-PPP) provides equipment for the Ukrainian border service, focusing on four geographical zones: the Chernobyl Exclusion Zone (CEZ), major ports on the Black Sea coast, the Russian Federation border, and the vulnerable border with Moldova.

Staff visited the CEZ boundary area, which forms an approximately 14 mile ring around the stricken reactor at Pripyat and abuts the Ukrainian-Belarusian border. In light of the heavily restricted access to the CEZ itself, the Ukrainian border guard service patrols the boundary as if it were an international boundary and must contend with elevated radiation levels. With U.S. assistance, the Ukrainian border guard service interdicts smugglers of radioactive material, such as scrap metal, and serves as a line of defense against illicit trafficking of other toxic elements. In particular, the Nunn-Lugar WMD-PPP program has provided personal radiation detection equipment, all-terrain vehicles, shelters, patrol boats, and mobile infrared cameras to build night and all-season patrol capability.

At the major maritime ports of Odessa and at the Kerch Strait where the Sea of Azov and the Black Sea adjoin, the WMD-PPP program has provided training and equipment to customs units, as well as maritime radars and ship refurbishment to assist with detection and vessel boarding.

In light of the recent seizures of uranium in Moldova, the Ukrainian-Moldovan border has been identified as an acute proliferation challenge, particularly in the border regions controlled by de facto separatist authorities in Moldova's region of Transnistria, who heavily profit from illicit trade and kickbacks.⁸ Nunn-Lugar efforts have augmented the Ukrainian border service capacity in command and control, communications and surveillance at the most heavily trafficked point of entry as a test bed that can be expanded to other border areas. Assistance has included radars,

⁸Notably, the son of Transnistria's "president" Igor Smirnov heads the enclave's customs service.

ground sensors, and an infrared camera package to cover the “green” border between official points of entry, as well as Department of Energy portal radioactivity detectors. Since 2005, 10 interdictions of radioactive material have occurred and 587 illicit weapons shipments have been interrupted at the Ukrainian-Moldovan border. Although several border disputes between Moldova and Ukraine have hampered cooperation for a number of years, the most serious dispute over the Palanca border crossing was recently solved; two additional disputes will require diplomatic attention to enhance future Moldovan-Ukrainian cooperation.

MOLDOVA

The U.S.-Moldovan non-proliferation relationship dates back to the mid-1990s, when Nunn-Lugar Cooperative Threat Reduction funds were used to purchase 21 Moldovan MiG fighter jets, 14 of which were nuclear capable MiG-29Cs, reportedly in order to preempt a sale of the jets to Iran,⁹ which was seeking an air-based WMD delivery system. The agreement also led to the purchase of 500 air-to-air missiles.

For much of the past decade, U.S. cooperation on border security with Moldova has been limited due to its relatively small size and competing budget priorities. The U.S. EXBS program had no budget for Moldova in 2008 and 2009 but reengaged in 2010 to focus on export control and investigation training. In fact, three Moldovan law enforcement officials who participated in the June 2011 HEU interdiction received U.S. counter-proliferation training in the United States in April 2011.

In light of the recent HEU seizure, as well as other WMD material seizures over the past decade having transited Moldova, this limited U.S. assistance does not appear to have matched the threat. The chief vulnerability remains the breakaway enclave of Transnistria, which is renowned as an organizing base for smuggling illicit materials, including the June 2011 HEU sale that included several residents of the enclave. International assistance to Moldovan authorities has been centered on the European Union Border Assistance Mission (EUBAM), which provides EU best practices training and limited equipment to Ukrainian border officials to control goods exiting and entering Transnistria. Nonetheless, as explained further below, this assistance package inevitably leaves major border control gaps given that flights into Transnistria cannot be monitored (one theory behind the June 2011 HEU interdiction is that it arrived in Transnistria by air) and that Moldovan authorities, for conflict resolution purposes, are constrained in controlling for persons and goods entering Moldova proper from the breakaway region.

However, the United States is poised to increase non-proliferation assistance to Moldova following the July 2011 signature of the Nuclear Smuggling Outreach Initiative (NSOI), which serves as the umbrella agreement for enhanced non-proliferation cooperation and will result in a full assessment of Moldovan border security and

⁹Arms Control Today, “U.S. Buys Moldovan Aircraft to Prevent Acquisition by Iran,” October 1997.

customs needs.¹⁰ The Department of Energy has also signed a Second Line of Defense agreement, which may lead to radioactivity-related equipment and training.

A principal challenge will be developing controls for Moldova's internal boundary line with Transnistria. Moldova is unlikely to be granted an EU visa-free regime without such controls over the flow of goods and persons from the Transnistrian enclave. On the other hand, establishment of more permanent controls for persons and goods creates greater political separation between Transnistria and Moldova proper, advancing the separatists' aims and hindering reintegration. In light of the recent HEU seizure, creative solutions may have to be explored.

The separatist issue has also complicated Moldova's control over much of its easternmost international border with Ukraine, which coincides with the Transnistrian-controlled boundary. Early last decade, a joint Ukrainian-Moldovan border post arrangement was devised on the Ukrainian side of the border so that Moldovan border guards and customs could control goods and persons entering and exiting sovereign Moldovan territory without being present on Transnistrian-administered territory. However, this arrangement faltered reportedly due to Ukrainian sovereignty concerns and, instead, EUBAM was initiated to ensure an international, as opposed to Moldovan, presence co-located with Ukrainian border guards (even though EUBAM plays an advisory role and does not participate in any monitoring itself). In light of the recent Ukrainian-Moldovan agreement over the most tense border dispute at Palanca, a co-located Moldovan presence with Ukrainian border and customs officials could be revisited.

In expanding U.S. non-proliferation assistance with Moldova, many lessons can be learned from similar programs that have been underway in Ukraine for several years. First, initial assistance should be focused on assessing human capital in the customs and border security services to ensure that local officials have the absorptive capacity to operate and sustain higher technology assistance. Second, once baseline training and absorptive capacity is determined, modest technological solutions, including mobile surveillance assets at test bed locations, could be pursued at high vulnerability areas. Third, training capacity built by EXBS and Nunn-Lugar programs in Ukraine at Cherkasy, Khmelnytsky, and Kharkiv could become regional centers used to train Moldovan officials and avoid duplicating assistance.

¹⁰The United States has NSOI agreements with 30 countries worldwide based on nuclear smuggling threat assessments established through interagency processes.

RECOMMENDATIONS

The United States should:

- Work with the Russian Federation in apprehending those persons reportedly involved in the recent HEU sale in Moldova who are suspected of having fled to Russia; and to redouble efforts in identifying security shortfalls at Russian nuclear facilities.
- Immediately provide tasking to the Defense Threat Reduction Agency to utilize the Nunn-Lugar WMD Proliferation Prevention Program to conduct a border walk in Moldova to identify customs and border security needs and vulnerabilities while the Office of the Secretary of Defense simultaneously pursues the necessary assistance agreements.
- Apply lessons learned from non-proliferation cooperation in Ukraine over the past years to Moldova, including focus on test bed projects and provision of technology only to the extent that it can be absorbed and maintained by local officials.
- Ensure sufficient funding for the U.S. International Counterproliferation Program (ICP) and EXBS training programs, the latter of which several Moldovan officials involved in the June 2011 HEU interdiction attended in April 2011.

Ukraine should:

- Arrange for the memorandum of understanding on HEU removal to be promptly signed with the United States on the margins of the United Nations General Assembly meeting in September 2011 so that removal of the HEU can promptly occur.
- Continue to dedicate resources towards sustainment and maintenance of the technology provided through Nunn-Lugar WMD-PPP border security programs.
- Revisit the arrangement attempted a decade ago to allow Moldovan customs and border officials to co-locate with Ukrainian officials at Ukrainian border posts near Transnistrian-administered territory to foster Moldovan sovereignty over its international borders.
- Reject an agreement sought by de facto Transnistrian officials that would allow rail traffic to enter Ukraine without being checked by Moldovan customs officials, as currently required.
- Offer to Moldova the possibility of turning Ukrainian border security training centers at Cherkasy, Khmelnytsky, and Kharkiv into regional training centers, where Moldovan officials can receive training.
- Dedicate attention to solving the two outstanding border disputes with Moldova to ensure that border security cooperation is not hampered.

Moldova should:

- Prioritize the creation of a counter-smuggling team with international assistance, similar to those created in other nations such as Georgia.
- Consider creative solutions for the Ministry of Internal Affairs to patrol high vulnerability zones, such as use of mobile surveillance assets and checkpoints. This system can be augmented with all terrain vehicles, watercraft, and night vision.
- Dedicate attention to solving the two outstanding border disputes with Ukraine to ensure that border security cooperation is not hampered.
- Pursue high-level criminal cases against corruption given that not a single corruption prosecution has recently taken place in Moldova.

