

Second Line of Defense Program

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Abstract

Since the collapse of the Soviet Union, the prospect of nuclear materials entering the world market has become an ever-increasing threat. The Second Line of Defense (SLD) program was developed by the U.S. Department of Energy's (DOE) Nuclear Transfer and Supplier Policy Division (NN-43) to assist the Russian Federation State Customs Committee (RFSCC) in strengthening its capability to prevent illicit trafficking of nuclear materials across Russia's borders. The SLD program is a natural complement to the Material Protection Control and Accounting (MPC&A) program, which represents a first line of defense against the theft and diversion of nuclear materials. The SLD program is the first U.S.-Russian cooperative program to combat the illicit trafficking of nuclear and nuclear-related materials to would-be proliferators across Russia's borders.

Background

The need for the SLD program arose from concerns regarding controls over nuclear and nuclear-related materials in Russia. With the weakening of centrally maintained and relatively reliable controls over sources of nuclear and nuclear related materials, Russia and other former republics of the Soviet Union inherited the task of preventing illicit trafficking that could contribute to nuclear proliferation or nuclear terrorism. While Russia inherited a stronger institutional and technical basis for such controls than did others in the former Soviet Union (FSU), the challenge in Russia is particularly acute because of the great number of nuclear material storage facilities, the enormous quantities of materials and technologies available, the multitude of nuclear-related producers and exporters, and the vastness of Russia's borders.

Threat

The end of the Cold War has seen significant changes in the nature of international threats. Information and technology for nuclear proliferation and terrorism are more readily available. When combined with potentially increased availability of special nuclear materials, the threat of nuclear proliferation and terrorism by rogue states and sub-national elements has never been more viable. Russia has more than 20,000 kilometers of land-border contiguous to fourteen countries and more than 600 customs sites. Addressing the threat posed by nuclear smuggling in Russia is not only urgent, but also an expensive problem requiring cooperative U.S.-Russian attention.

Response

President Clinton has identified nuclear smuggling as a high-priority threat to U.S. national security. The G-8 Forum has affirmed the seriousness of this threat and has called for increased international cooperation. The chairman of the Russian Federation State Customs Committee has publicly recognized the challenge with which Russia is confronted and has requested U.S. assistance in confronting that challenge. In response, the U.S. Government (USG) has established a number of programs in Russia to address the nuclear smuggling issue. DOE's Second Line of Defense Program will enhance the impact of ongoing USG programs that help to prevent material theft. The SLD program will help establish a strong foundation for export licensing while addressing the new and increased challenges of Russian border security. Specifically, this program will seek to utilize DOE's unique nuclear and technical expertise to enhance protection at Russian customs and border sites by providing nuclear detection equipment and training for Russian Customs officers.

Goals and Strategies

The threat posed by the illicit trafficking of nuclear and nuclear related materials and technologies must be addressed immediately by rapid upgrades of RF SCC's detection capabilities. However, it is also necessary to lay the groundwork for long term viability of border enhancements through development and implementation of required technical curricula for the RF SCC's training programs. Therefore, near and long-term goals and corresponding strategies have been developed.

SLD's near-term goal is to detect and deter the illicit trafficking of nuclear materials and technologies by enhancing Russia's border detection capabilities. The near-term strategy is to identify smuggling pathways, then provide U.S. technical and financial assistance for equipping vulnerable Russian border and customs sites along these pathways with nuclear detection equipment.

SLD's long-term goal is to assure the sustainability and indigenous support of these equipment deployments. This is being accomplished by using Russian manufactured nuclear detection equipment for all upgrades and by developing and implementing corresponding technical training courses and materials. Since the inception of the SLD program, DOE and its national laboratories have worked with private Russian firms to build and test the nuclear detection equipment. This is helping to cultivate and improve the Russian's ability to manufacture the necessary equipment. The program is also seeking to improve current Russian equipment and is assisting in the installation of this equipment at designated sites.

Training is a critical component of sustainability and indigenous support. The SLD program is providing training equipment and is helping to enhance curricula at the Russian Customs training academies. Russian specialists will be trained to operate and maintain the equipment provided by the SLD program. Russian Customs and border officers will also be trained in ways to prevent nuclear smuggling and the Russian Customs information infrastructure will be enhanced.

Implementation

In June 1998, the RFSCC and DOE signed a protocol calling for cooperation to combat illicit trafficking of nuclear and nuclear-related materials. As part of the U.S.-Russia Presidential summit in September 1998, DOE Secretary Richardson and then RFSCC Chairman Valery Dragonov participated in a ribbon-cutting ceremony at Moscow's Sheremetyevo airport to inaugurate the use of radiation detection and monitoring equipment placed there.

In October 1998, the first phase of equipping the Sheremetyevo International airport complex with Russian-manufactured radiation detection was completed. The Sheremetyevo complex provides service to more than 100 countries including North Korea, Iran, India, Algeria, and Syria.

Also during October 1998, the first phase of equipping the Astrakahn Seaport with radiation detection equipment was completed. Astrakahn is the major Russian port on the Caspian Sea. It is the focal point for significant river traffic on the Volga River and shipment to and from other seaports on the Caspian Sea. The majority of the Caspian Sea trade is with Iran. During November 1998, the United States Customs Service (USCS) and DOE hosted 22 RFSCC and MINATOM officials at a USCS training course for first-level inspectors.

The SLD program is implementing its goals and program objectives within the context of U.S. Government non-proliferation policy. The SLD program is being closely coordinated through the multi-agency Export Control Interagency Working Group, that is responsible for coordinating U.S. export control policy. The SLD program is being integrated with nonproliferation programs underway through the Department of State (DOS), the USCS, the Department of Defense (DOD), and the Department of Commerce (DOC). For example, the SLD program is actively cooperating with enforcement experts from the USCS to collaboratively develop training courses with RFSCC personnel and is drawing on DOD experience and expertise in the "Southern Tier" of former Soviet Republics to ensure coordination and avoid unnecessary duplication of equipment deployment. Within DOE, the SLD program cooperates with the MPC&A program, the Export Control program, and the Nuclear Cities Initiative.

Future Activities

SLD will continue to enhance nuclear detection capabilities at Russian border and customs sites on pathways to known regions of concern (e.g., Afghanistan, India, Pakistan, Iran, Iraq and North Korea), at high volume border points with world-wide destinations, and at sites on identified smuggling pathways.

In addition to finishing the work at Sheremetyevo and Astrakahn, at least three Black Sea/Caspian Sea sites will be fitted with nuclear detection equipment. Other sites of concern include the border crossing with access to North Korea and the large container ports of Vladivostok, Vostochniy, and St. Petersburg. In future years, Russian regions will be assessed including the far northern ports with access to the Barents Sea, where known incidents involving nuclear submarine fuel have occurred, and airports near Russian nuclear sites that provide international access. Russian ports on the eastern Siberian borders with Mongolia and China will

be assessed, as will the western Russian road and rail pathways into Europe where nuclear smuggling incidents have been detected.

In FY00, the SLD program will provide training tools, such as classroom video and computer equipment and nuclear detection training equipment, for RFSCC training academies. Training modules will be developed. As the enhanced training curricula are implemented, the focus of the SLD program will shift to ensuring that as many Russian Customs personnel as possible are effectively trained. This will be a particular challenge because of the expanse of Russian borders and the remoteness of many customs sites. The SLD program will explore the cost-effective use of alternative training techniques such as televised training, computer-based training, and mobile training facilities. These efforts will begin on a pilot scale and then be expanded, as the training techniques prove effective.

Conclusion

Execution of the SLD program will significantly bolster US and Russian efforts to prevent illicit trafficking of nuclear and nuclear related materials across Russia's borders. Challenges specific to implementing this program in Russia have been identified and addressed, strategies have been devised and implemented and near-term successes have been realized. As an integral part of broader US and Russian nonproliferation efforts, the SLD program will continue to enhance the abilities of Russian customs officials in their struggle to prevent nuclear smuggling.