

# **The Cooperative Threat Reduction Assistance to Ukraine**

## **Cooperative Threat Reduction Program, Department of Defense January 16, 1997**

Through the Cooperative Threat Reduction (CTR) Program, eight implementing agreements and one memorandum of understanding have been signed between the United States and Ukraine. Notifications to Congress total \$395.3 million; to date \$320.2 million has been obligated. The following provides a summary of the CTR projects being implemented in Ukraine.

### **Strategic Nuclear Arms Elimination (SNAE)**

An "Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning the Provision of Material, Services and Related Training to Ukraine in Connection with the Elimination of Strategic Nuclear Arms" was signed 5 December 1993. Amendments I and 2 to Annex C thereto were signed 18 December 1993. Other Amendments to the Agreement were signed on 21 March 1994, 1 April 1995, 27 June 1995, and 4 June 1996 bringing the total currently budgeted to \$244.7 million. The SNAE assistance included grants that were critical to the preparation and transport of all nuclear weapons from Ukraine to Russia. Ukraine announced its nuclear free status on 4 June 1996.

Initially, U.S. assistance was limited to providing equipment. As the program and the U.S.-Ukraine relationship matured, assistance was organized into integrated support in focused project areas: SS-19 weapons system elimination, SS-19 missile neutralization and dismantlement, SS-19 housing, SS-24 ICBM disposition, SS-24 silo launcher elimination, and rocket fuel storage facility.

CTR assistance is aiding in the disposition of 11,700 MT of propellant, which consists of oxidizer and fuel from 130 liquid-fueled SS-19 ICBMs that were deployed in Ukraine. CTR funds were used to build a rocket fuel storage facility to ensure SS-19 defueling could continue on schedule. Phase IV of this project, to improve power and lighting for security and refurbish the water and gas distribution systems at the facility to meet Ukrainian safety requirements, was completed in December 1996. An additional task to provide emergency electrical power generation capabilities is scheduled to be completed in the Spring of 1997. A U.S. integrating contractor, Bechtel National Inc., is overseeing the elimination of 130 SS-19 ICBM silos, 13 launch control silos, and 2 training silos, as well as integrating all other projects in Ukraine related to SS-19 weapons system elimination. CTR also provided assistance for the completion, demonstration, and operation of an SS-19 ICBM Neutralization and Dismantlement Facility (NDF), designed to eliminate the 130 SS-19 ICBMs that were deployed in Ukraine. All the government furnished equipment (GFE) for this effort is under contract and is being shipped to the dismantlement locations as it becomes available. As of the end of December 1996, 98 percent of the equipment (by the number of contracts) had been delivered. The U.S. is also providing Ukraine with initial training related to the operation of the equipment provided and three years of maintenance assistance through Hughes Technical Services Corporation.

Integral to the dismantlement effort, the U.S. agreed to assist Ukraine in fulfilling its responsibilities to provide housing for demobilized Strategic Rocket Forces (SR-F) offi-

cers. This is a critical element of the overall weapon systems dismantlement activities. Each deactivated regiment generates an unfulfilled requirement for 140 new housing units. To date the U.S. has provided 456 housing units with another 410 under construction.

In addition to the projects discussed above, the U.S. is providing funds directly to Ukraine to complete sensitive dismantlement tasks, including defueling and preliminary purging of SS-19 missiles. Other projects include: repairing and refurbishing the equipment needed to remove missile complexes from combat duty, transportation and storage of equipment and scrap salvaged from the sites, and purchase and delivery of additional chemical and petroleum consumables.

The Ukrainian government has not made a decision concerning the disposition of SS-24 ICBMS. DoD awarded four six-months studies on 22 September 1995, at a total cost of about \$4.2 million, to examine SS-24 elimination technologies. All four reports have been received and reviewed. Office of the Secretary of Defense/Policy and Office of the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological (NCB) Defense Programs are continuing to work with Ukraine on a decision regarding disposition of the SS-24s, and are pursuing the provision of temporary storage to allow removal from silos, which could then be dismantled.

### **Weapons of Mass Destruction Infrastructure Elimination (WMDIE)**

On 27 June 1995, an Implementing Agreement Between the Department of Defense of the United States of America and the Ministry of Defense of Ukraine Concerning Cooperation in the Elimination of Infrastructure for Weapons of Mass Destruction Through Provision to Ukraine of Material, Services, and Related Training was signed to provide \$10 million of assistance to Ukraine to facilitate elimination of infrastructure directly related to weapons of mass destruction. On 4 June 1996, the agreement was amended to add an additional \$13.4 million. In keeping with the requirements of the agreement, the Department of Defense (DoD) agreed to assist Ukraine in the neutralization and dismantlement of missile unified fill facilities (UFFS) located at ICBM bases near Pervomaysk and Khmelnytskyi and to decontaminate and deactivate the nuclear weapons storage areas/structures at Pervomaysk, Khmelnytskyi, Makariv, and Kirovohrad. The UFFS consist of buried and above ground piping, tanks, and equipment contaminated with toxic fuel and oxidizer that must be dismantled. There are also nuclear weapon storage bunkers, radiological disposal wells, and maintenance support buildings at these bases that must be decontaminated and demilitarized.

A technical team visited some of the above referenced facilities in June 1995 for site familiarization and to initiate development of the requirements. Another technical visit was made in October 1996 to meet with the Strategic Offensive Arms Implementation Center (SOATIC) to further develop and solidify the requirements for project execution. The transfer of the project to Defense Special Weapons Agency (DSWA) for management and execution is scheduled for the 2nd Quarter FY 1997. As structures and sites are emptied and access granted, the decontamination and deactivation efforts associated with the WMDIE project involving the bases at Pervomaysk, Khmelnytskyi, Makariv, and Kirovohrad can begin. The transfer of all nuclear weapons from Ukraine to Russia was completed in June 1996.

## **Export Control**

This \$13.26 million project assists in the building of export control institutions and infrastructure. Assistance in Export Control has two objectives. The first objective is to assist Ukraine in developing and implementing an export control system which conforms to the Common Standard Level of Effective Protection, the former COCOM standard. The second is to assist Ukraine in achieving adherence to the multilateral regimes, such as Missile Technology Control Regime, which control transfer of weapons of mass destruction, related technologies, and other sensitive goods and technologies,

Assistance is divided into four interrelated, mutually reinforcing areas with an emphasis on procurement of networked automation equipment for administration and enforcement. Policy consultations between high-level U.S. and Ukrainian officials help to develop and further the Ukrainian government's political will to engage in export controls and other nonproliferation initiatives. Technical interaction in seminars and conferences introduces Ukrainian officials directly involved in development and implementation to the international export control community. Training and technical assistance aids in developing and implementing a system based upon law, rather than decree, administered by well trained personnel. Equipment for networking the administration of export licenses and customs enforcement is provided to ensure that Ukraine has an effective and upgradeable tracking system

The Defense Special Weapons Agency (DSWA) has been designated to assist the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs for execution of duties under the Cooperative Threat Reduction (CTR) Program. The Department of State Office of Political-Military Affairs Export Controls, has been designated the policy lead in implementing export control assistance under CTR. The Department of Commerce, Bureau of Export Administration, assists in technical interaction and training efforts in establishing legislation, business outreach, and enforcement. The U.S. Customs Service, International Affairs Bureau, assists in enforcement and interdiction training and equipment assessments. The Department of Energy, Nuclear Proliferation Division, assists in training on nuclear materials detection, nonproliferation, and control lists. Equipment procurements are made by the selection of private business and through the General Services Administration.

Remaining procurements are well under way. First delivery, copying machines, arrived in Ukraine in June 1995. Contracts have been awarded for the Customs laboratory equipment and licensing and enforcement automation local-area-network procurements. The Customs lab equipment was delivered in October 1995. The local area network for the Expert and Technical Committee and the automation and enforcement equipment for the Customs Committee were delivered in April 1996. Contract award for the two x-ray vans occurred in September 1995. Vans were delivered in July 1996.

An interagency technical working group met in Kiev in October 1995 to discuss how the additional \$6 million will be applied to this program. As a result of this meeting, procurements have been initiated for additional x-ray vans, baggage x-ray machines, and contraband detectors. Contract was award for the contraband detectors and baggage x-ray machines in July 1996. The contraband detectors and seven baggage x-ray machines were delivered in January 1997. Six more baggage x-ray machines will be delivered in February 1997. A contract has been awarded for the x-ray vans with expected delivery in August 1997. The Interagency working group is considering a proposal to use DSWA money for the automation of Ukrainian border posts, linking 125 posts with the Customs Data Center in Kiev

A Ukrainian delegation traveled to Washington, D.C. in February 1996 to further discuss the finalization of the project plan and the disposition of the remaining \$6 million plus-up. Agreement in principle was reached on a series of technical exchanges to occur throughout 1996.

A U.S. interagency technical team traveled to Kiev in May 1996 to discuss equipment requirements and perform a site assessment at the Expert and Technical Committee's new office facilities. During the May visit, the U.S. and ETC agreed on the following: the financial status of the CTR Program and the Ukrainian Automated System of Export Control (ASEC); the office automation equipment and operating software were found to be properly stored and secured; the existing ETC building is entirely unsuitable for the installation of \$2.0 million of automation equipment, and as a result the U.S. will fund a 150 square meter addition to the ETC building and perform repairs to the existing ETC building (roof, waterproofing, electrical wiring, communications cabling, and other minor improvements); the Departments of Commerce and Energy technical exchange schedule was updated; and, the scope of the U.S. support through December 1997 was defined.

The following remains to be done: deliver remaining equipment for the Ukraine Customs Committee by the end of FY 1996; monitor renovation and addition to ETC building, install and provide support for all equipment provided under this assistance project; at the end of FY 1997, order spare parts and additional equipment with remaining funding; and turn project completely over to the Department of State.

Software development of the Automated System of Export Control of Ukraine-technical specifications developed by Ukrainian sub-contractor to Hughes is being reviewed by Department of Commerce automation and licensing expert.

### **Government-to-Government Communications Link (GGCL) (7072)**

This \$1.0 million project will provide Ukraine with the capability to fulfill its reporting requirements under the INF and START Treaties. The implementing agreement was signed in December 1993, with requirements defined in August 1994. Implementation of a GGCL capability is accomplished in a manner consistent with Defense Information Systems Agency's modernization of the Direct Communications Link (DCL) between the United States and Russia. This is modified as appropriate to meet the unique requirements of individual new independent states such as Ukraine.

After a delay due to the rejection of numerous U.S. offers to meet to identify requirements, the U.S. and Ukrainian technical experts have maintained an aggressive implementation schedule. Interim equipment was installed and operational in November 1994, providing an initial capability to send and receive messages. A delegation from Kiev visited the U.S. in March 1995 for a demonstration of the new equipment (both hardware and software). The U.S. planned to provide, in accordance with the December 1993 Agreement, a single channel satellite communication earth station to Ukraine. However, during the March 1995 meeting, the Ukrainian government indicated that the earth station would not be required. Although, Ukraine is responsible for establishing a second circuit, it has not stated when it will provide this circuit. In August 1995, the U.S. delivered and installed the modernized communication equipment and an uninterruptible power supply. Independent testing was completed in September 1995. Joint U.S.-Ukraine testing was completed on 7 November 1995. Final operational cut-over to the new equipment occurred with the exchange of confirmation messages on 8 November 1995. Terminal technical assistance, preventive maintenance, installation of new

terminal software, and new software training occurred in March 1996. Recent minor equipment failures were repaired and replaced during this trip. A release containing software enhancements was also delivered in March 1996.

Pursuant to the agreement, actions are being taken to provide an additional ground station to be used as a second, or back-up system. Earlier constraints caused Ukraine to decline this capability and lead to the reduction of the agreement's original \$2.4 million funding to \$1.0 million. Recent policy decisions reopened the possibility of providing a single-channel satellite ground station and allowing the Republic of Ukraine to modify the station to multi-channel use. An estimated \$0.6 million is required prior to initiating any procurement actions. An initial planning meeting was conducted in February 1997. Actual procurement of the satellite ground station cannot occur until acceptance of conditions placed on use of revenues generated from a multi-channel earth station and extension of the agreement. Projected delivery, installation, alignment, training, and turn-over completion is I st Quarter FY 1998. All actions are currently in process, pending formal response to cables being sent to the three (Kazakstan, Ukraine, and Belarus) countries, offering this option and requesting their acceptance in writing of the stated conditions. Procurement actions for support to Ukraine are on hold pending receipt of additional funding.

### **Industrial Partnerships**

On 21 March 1994, the United States and Ukraine signed an agreement for up to \$40 million in Defense Conversion programs. An additional \$15 million was added by subsequent amendments to the agreement, and \$5 million was suballocated from other Ukraine projects, bringing the total amount to \$55 million. Current status is as follows:

- a) An award of \$5 million was made in May 1994 to Westinghouse Corporation for their participation in a joint venture. The WESTRON joint venture (JV) will develop nuclear power plant instrumentation and control systems. The Westinghouse contribution is \$16 million, for a total of \$21 million in the project. Training equipment was delivered in March 1995 and Westinghouse is currently transferring testing hardware and software. Privatization has occurred. Projected completion date is March 1997.
- b) An award of \$10 million was made in June 1994 to Bill Harbert International Construction (BHIC) to form a joint venture for producing prefabricated houses for demobilized Strategic Rocket Forces (SRF) officers. The project converted a factory which formerly produced shipboard equipment and will jointly produce 261 houses. An additional renotification for \$5M in Cooperative Threat Reduction (CTR) funds was provided to complete this project. Harbert started the foundations for the houses in February 1995 and the first houses were assembled on site in April 1995. The initial 125 completed houses were transferred to Ukraine Ministry of Defense (MODU) on 5 January 1996. The 261 st house was transferred on 13 August 1996.
- c) Up to \$20 million has been allocated for converting a Ukrainian weapons of mass destruction (WMD) enterprise into a housing construction firm. The U.S. joint venture (JV) partners are ABB SUSA, Inc. and American International Services Inc., and the Ukrainian partners are the Central Design Institute in MOD and Montazhnik K. In September 1994, a \$16.1 million contract was awarded to this enterprise to construct a total of 135 apartments units, with associated infrastructure, in five multi-story buildings for demobilized SRF officers in Khmelnytskyi. Option 1, awarded on 13 June 1995, is designed to construct another 32 apartments for a total of 167 units. Option 2 provided SNAE funds

for an additional 28 units. The basic contract was completed on 19 December 1995 when the Ukrainians took possession of the initial 135 apartments. The final 60 apartments were completed in May 1996.

d) The list of 33 Ukrainian weapons of mass destruction enterprise candidates was finalized in July 1994. The implementing agreement, signed on 21 March 1994, provides \$15 million to assist in the conversion and privatization of excess military/industrial capacity through financial assistance for partnerships. The \$10 million funding for the FY 1995 portion of the remaining awards was provided in April 1995. Following a General Accounting Office (GAO) review in October 1995, three additional awards were approved.

1) The first contract was awarded on 30 January 1995 to Federal Systems Group, Inc. for \$3.2 million to form a joint venture with the Ukrainian Kommunar Production Association. The joint venture to manufacture cellular telephones at the Kommunar facility in Kharkiv began 18 September 1995, with an assembly operation and will culminate in a complete manufacturing capability. RTX manufacturing licenses and technology were transferred to the JV, and financing for the initial inventory was secured. Contract close-out by DSWA is pending.

2) American Industrial Development Corporation (AID) was awarded a contract for \$2.7 million on 27 October 1995. AID will contribute \$470,000 of its own funds in forming a joint venture with Orizon to first assemble, then manufacture windows for sale in the Commonwealth of Independent States (CIS). In the assembly phase the joint venture will import materials from the U.S. until local suppliers of glass and frame materials are identified. The plant will be operational in February 1997.

3) ABB Combustion Engineering (CE), Incorporated was awarded a contract for \$4.8 million on 27 October 1995. CE has formed a joint venture with Monolit which will manufacture instrumentation and control devices for both nuclear and conventional commercial power stations in the CIS. All equipment has been purchased and delivered or is currently en-route to Kharkiv. Marketing for the Khmelnytsky nuclear power plant upgrade and promotion of ABB Monolit to other ABB companies is underway.

4) Die Casters International, Incorporated was awarded a contract for \$3 million on 30 October 1995 to form a joint venture with Meridian (formerly Korolev) of Kiev. The joint venture will ship upgrade units for die casting machines from the U.S. which will be fitted to existing die casting machines in Ukraine. The manufactured products will be marketed mostly in Western Europe. The joint venture will also manufacture die cast products. Engineering study of plant has been completed, allowing renovation and equipment installation to proceed. Production is expected to begin at the end of 2nd Quarter CY 97.

### **Civilian Cooperative Reactor Safety Upgrade**

This \$1.1 million initiative is to provide a computer based nuclear power plant training reactor simulator. The simulator is the VVER - I 000 reactor which will be installed at the Khmelnytsky Training Center for the Khmelnytsky Nuclear Power Plant. DOE awarded the contract in November 1994 to S3 Technology of Columbia, Maryland. The scope of the contract includes the design and engineering of the simulator hardware and software; construction and testing of the simulator; shipping, installation and check-out in Ukraine; spare parts and other logistics support; and training in the U.S. and Ukraine

for reactor operators, engineers, inspectors and other plant regulator personnel. The simulator is expected to be delivered in August 1997.

There are currently 14 Ukrainian personnel in the U.S. for one year of training in the safe operation of nuclear reactors. The contract is on schedule and within budget.

### **Science and Technology Center-Ukraine (STCU)**

The multilateral agreement establishing the Science and Technology Center in Ukraine was signed in October 1993 by the U.S., Sweden, and Canada. This multinational project includes \$15 million funding from the U.S., \$2 million from Canada; and, \$1.5 million from Sweden to serve as a clearinghouse for projects to engage former weapons scientists and engineers in peaceful civilian work. The Center plays a facilitating role by developing, evaluating, and funding project proposals. The Board of Governors, which includes representatives of the participating governments, determines the overall policy of the Center and approves projects for funding.

Diplomatic notes were exchanged in June 1994 which paved the way for entry into force on 16 July 1994. This exchange of notes was followed in the same month by a meeting of the funding partners. The first "call-for-proposals" went out on 12 May 1995. The first Governing Board meeting was held 15 December 1995, with over \$1 million obligated by the U.S. for nine projects. To date over 30 projects have been funded for more than \$3.8 million.

### **Material Control & Accountability and Physical Protection (MC&A and PP)**

This up to \$22.5 million project assists in establishing a national MC&A system and upgrading physical protection of nuclear material at four sites in Ukraine. Technical exchanges took place in April and June 1994, and the first site visits to identify specific hardware requirements took place in August 1994. Site visits to the Kharkiv Institute of Physics and Technology and the South Ukraine Nuclear Plant occurred during the period April - June 1995. The U.S. presented a tutorial during these visits on the elements of an effective Tamper Indicating Devices Program and a demonstration on the use of various types of seals as tamper indicating devices. A local-area-network was installed in the Ukrainian State Committee for Nuclear and Radiation Safety facility in March 1995. The delivery of adhesive, pressure sensitive ball, and large cup seals to the South Ukraine Nuclear Power Plant and to the Kiev Institute for Nuclear Radiation occurred in June 1995; and an entry control system was delivered to the Nuclear Research Institute of Ukraine in August 1995. A program review meeting was held at Argonne National Laboratory-East on 22 - 23 February 1996. DOE sent a representative to Ukraine to review PP design issues and contracts from 28 February - 3 March 1996. A program review was held in Kiev in April-May, 1996. DOE performed an initial site survey at the Servastopol Naval Institute and conducted a training course on the fundamentals of physical protection in Kiev in May 1996. The design review at the South Ukraine Nuclear Power Plant was also conducted in May 1996. PP fundamentals training was provided in Kiev in June 1996.

DSWA completed transfer of FY 1994 funding to DOE and the Nuclear Regulatory Commission (NRC) in February 1995. FY 1995 funding, in the amount of \$ 1 0 million, was transferred to DOE in August 1995.

## **Defense and Military Contacts**

This \$8.0 million project will promote better understanding and cooperation between the military establishments of both nations. To date, 102 scheduled events have been funded at a cost of over \$3.0 million. Examples of events supported and scheduled include:

- Ukraine MOD Intelligence Delegation visit to U.S.
- Ukrainian Navy ship visit to Norfolk
- Joint Staff talks in Ukraine
- Ukraine visit to National Training Center
- U.S. Air Force Air Mobility Command visit to Ukraine

## **Emergency Response Equipment and Training (7073)**

Through this \$3.4 million project, the U.S. provided Ukraine equipment and training to respond to an accident or incident involving nuclear weapons systems during activities related to dismantlement.

The U.S. has provided approximately \$2.0 million of equipment, training, and services to the Ukrainian MOD. Equipment provided includes: 310 anti-contamination suits; 24 fire retarding suits; IO high and IO low volume air samplers; five sets of HOTSPOT software and hardware; 20 Radiological Assistance Program (RAP) kits; 20 Violinist III detectors; one alpha spectrometer; and, 300 personnel dosimeters. A site survey was conducted during December 1995 to determine installations requirements for the emergency response computer network and to inform the Ukrainians of the type and quantity of radio equipment. During the December site survey, Ukrainian officials requested that the radios be configured for VHF bands, as well as for Saber III radios in place of the originally contracted Saber I radios.

Delivery of the communications suite and computer network was scheduled for April 1996; however, delivery was postponed to July due to changes to the original contract based upon requirements identified during the December 1995 site survey, as well as the follow-on Ukrainian request to change frequencies. In addition to changes to MOD requirements, the Motorola build-to-ship time for some components of the Saber III communications system was as long as 60 days. Delivery of the radios was completed in July 1996. Installation of the computer system was scheduled for October 1996. However, because of recent MOD personnel changes, MOD has not identified the site for which the computer network is to be installed. Subsequent discussions have resulted in MOD declining any further assistance for installation of the LAN.