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Focus on Central Asia

Most Americans would not know the countries that comprise the region called Central Asia, because most of us were taught world geography when these countries were subdivisions of the Soviet Union. In 1991, when the Soviet Union crumbled, the five republics that comprise Central Asia were born from areas that had not been independent since the middle of the nineteenth century.

Each of the new countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan took its name from the ethnic tribe that dominates its land. The word *stan* means place of. So, for example, Turkmenistan is the place of the Turkmen. These five distinct cultural groups all speak different languages. Four of the languages are closely related to Turkish, but Tajik is a Persian dialect.



Central Asia is not insignificant in terms of land area. Kazakhstan alone is the size of Western Europe. The region is encompassed by Russia, China, Afghanistan, Iran, and the Caspian Sea. Because of this position, Central Asia is a major geopolitical region, bordered by nuclear weapons states, threshold nuclear weapon states, and states supporting terrorism. A major US strategic concern in the Caspian Sea region is the significant reserves of oil and gas and the pipelines leading to the west.

Source: Dave Barber 05324, MS 1371, 845-3487, fax 284-5055, dsbarbe@sandia.gov

Why Do We Care about Central Asia?

The Former Soviet Union used the Central Asia region significantly for development of its nuclear and biological weapons. Mines produced raw uranium, reactors used weapons-grade uranium and plutonium, and regional scientists helped design weapons. Extensive aboveground and underground nuclear tests were conducted at the Semipalatinsk Test Site in Kazakhstan. SS-18 Missiles with a range of 11,000 km, each containing 10 nuclear warheads, were also stationed in Kazakhstan.

Research and development on biological weapons was conducted at several sites. A production facility in Stepnogorsk, Kazakhstan, was capable of mass production of agents for biological weapons. In the Aral Sea, Vozrozhdeniya Island, which is rapidly becoming a peninsula, was the site for extensive biological weapons tests and a dumping ground for tons of anthrax by the Soviets.

Through the Cooperative Threat Reduction program of the US Department of Defense, many proliferation threats have been eliminated. Kazakhstan voluntarily gave up its nuclear weapons soon after becoming independent, one of only three countries to do so. Missiles and tunnels for underground tests were destroyed. Biological weapons sites were dismantled and protected, and institutes turned to peaceful research on infectious diseases.

This is not to say that all the proliferation threats have been eliminated. The expertise and sensitive facilities and materials remain. Former biological and nuclear weapons scientists are paid very low salaries, and risk of their working for other groups or countries remains high. Long and ill-defined borders through mountainous terrain and stretches of steppe and desert are difficult to monitor. Illicit trafficking of nuclear materials is following the extensive drug trafficking routes to Iran, Pakistan, Afghanistan, and Turkey. Additionally, a major terrorist group, Islamic Movement Uzbekistan (IMU), believed to be associated with Afghanistan's Taliban, is operating near the highly populated and industrialized Ferghana Valley, which is shared by three countries.

Unfortunately, the republics are not cooperating in understanding or resolving these or other regional problems. In fact, terrorist attacks, border disputes, and water shortages threaten to trigger armed conflict among these republics. Already, Uzbekistan has tried to seal sections of borders with Kyrgyzstan and Tajikistan using antipersonnel mines. Without cooperation among these republics, problems such as illicit trafficking of nuclear materials, protection of sensitive facilities, and brain drain remain serious problems.

Sources: Sonia Ben Ouagrham, Monterey Institute of International Studies; Dave Barber 05324, MS 1371, 845-3487, fax 284-5055, dsbarbe@sandia.gov

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Transboundary River Monitoring Experiment in Central Asia

Sustainable freshwater resources in Central Asia are vital for supporting the social and economic development of the Central Asian countries: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, which were established when the USSR dissolved in 1991. Freshwater shortages have already led to disastrous economic, social, public health, and political effects in the Aral Sea region and have led to political conflict among countries that share the two major rivers, the Amu Dar'ya and Syr Dar'ya, in the Aral Sea Basin. Concern over water quality, including concentrations of radionuclides and metals, is mounting as well.

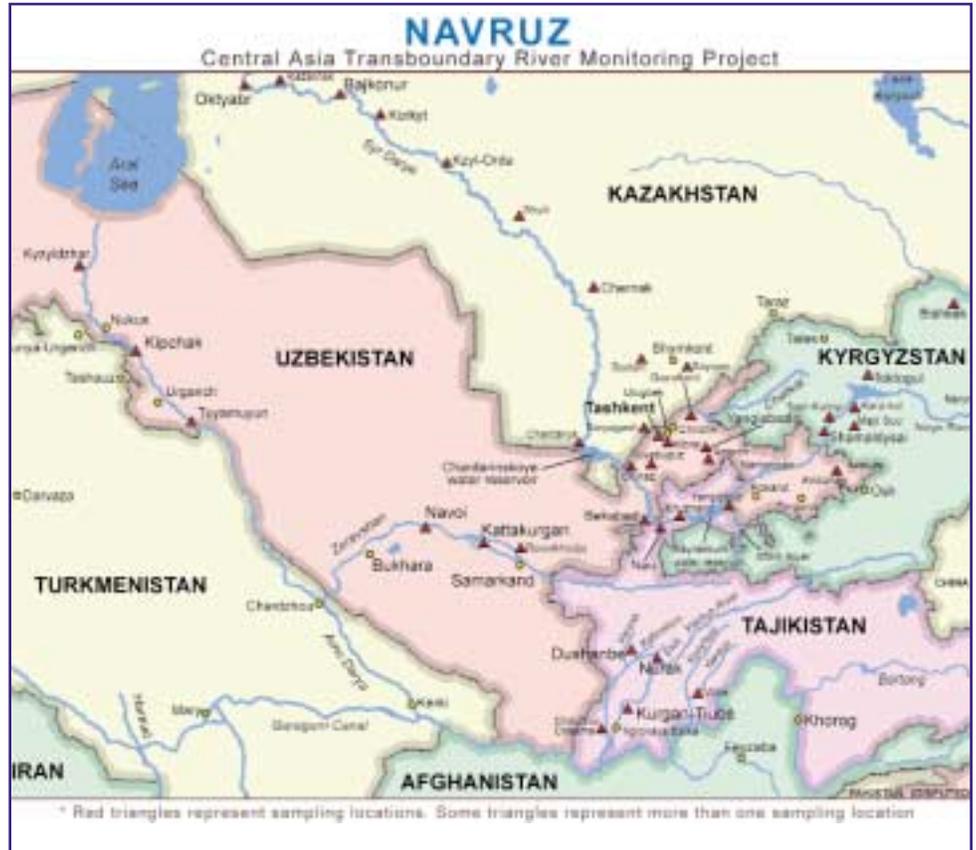
Freshwater is one of the most crucial and essential resources for man and nature and is of particular importance in arid regions of the world, where all aspects of life depend on it. Seven nations share the waters of the Amu Dar'ya and Syr Dar'ya. Owing to intensive development of irrigation during Soviet times, the waters of these rivers are almost completely consumed to grow crops, particularly cotton and rice. This has led to the steady desiccation of the Aral Sea, the large lake into which these rivers flow, creating a variety of serious environmental and human problems. Uranium mining, refining, and possibly other related activities have also created radioactive material contamination. Currently no agreement exists among the Central Asia republics concerning water quantity or quality for these rivers.

Since the Amu Dar'ya and Syr Dar'ya are transboundary rivers - that is, they cross political boundaries - the monitoring and eventual management

of these rivers must also be of a transboundary nature. To address these issues, the Cooperative Monitoring Center (CMC) at Sandia National Laboratories is currently working with four of the five countries named above in a transboundary river monitoring project. The project, named NAVRUZ, meaning new beginning, monitors basic water quality parameters, radionuclides, and metals in the Syr Dar'ya and Amu Dar'ya rivers and their major tributaries. Turkmenistan has chosen not to participate at this time.

Transboundary monitoring and management of international river basins requires a high degree of international cooperation and collaboration. This cooperation and collaboration increases contact and dialogue between scientists and policy makers of all the countries involved, it provides an environment of cooperation, and it provides important confidence-building and trust-building measures.

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As a result, international transboundary river monitoring and management projects serve the dual purpose of helping guarantee a sustainable freshwater resource throughout the basin and of helping develop regional political stability and peace while developing a methodology for future regional cooperation.

The NAVRUZ river monitoring project began in the spring of 2000 with a meeting among the principal investigators from each of the countries involved and their assistants. At this meeting, which took place in Tashkent, Uzbekistan, the principal investigators established the basic characteristics of the project. A second meeting in Tashkent during the fall of 2000 helped establish standardized sample-collection, analysis, and data reporting methods among all the participating institutions. Descriptions of these meetings, photos, and more information about the project can be found at the project's Web site <<http://www.cmc.sandia.gov/Central/centralasia.html>>.

Sampling and data collection began in the fall of 2000 at 15 locations within each of the four countries, a total of 60 locations across the basin. Sample collection will continue twice each year for two years. Data are collected at each location using state-of-the-art instruments and data loggers manufactured by Hydrolab, Inc., and provided by the CMC. Basic water quality parameters are measured: temperature, pH, specific conductivity,

total dissolved solids, salinity, dissolved oxygen, and redox potential.

Samples are collected to represent the dissolved component in the water, the suspended component, the bottom sediment, vegetation, and nearby soil. The samples from all four countries are split, and splits are sent to the Uzbekistan Institute of Nuclear Physics and the Kazakhstan Institute of Nuclear Physics, where they are analyzed for metal and radionuclide concentrations. A third split from select sample locations is sent for analysis to Sandia National Laboratories. Sandia analyzes those select samples for radionuclides and metals, and the data are stored in a database on a server at SNL that is freely accessible to all partners and worldwide. The specific radionuclides selected for detection and measurement could indicate uranium mining, legacy radioactive contamination, or a nuclear reactor operation. SNL's sample analysis is described in greater detail on page 5, and the data sharing system is described in greater detail on page 6.

Data from the fall sampling season are currently arriving at SNL and being integrated into the database. The spring sampling session is beginning. A grant proposal to the International Science and Technology Center (ISTC) in Moscow is aimed at expanding the project to include more sampling dates and more sampling parameters, such as major ions and nutrients, and to include staff exchange programs between the countries, and more.

Source: Howard Passell 05324, MS 1371, 284-6469, hdpass@sandia.gov



NAVRUZ Project Analysis Procedures

The Radiation Protection and Laboratory Services Department 07132 of Sandia National Laboratories employs the latest techniques to provide high quality measurements on the environmental samples produced by the NAVRUZ project.



Samples that require gamma spectroscopy analysis are analyzed using a high purity germanium (HPGe) system, which is effective for screening a sample's concentration of various gamma-emitting radionuclides. The HPGe method has been chosen to minimize the potential for contamination of personnel, the laboratory, and the equipment. The aim of gamma spectroscopy is to identify and quantify isotopes that emit gamma or X-radiation. This nondestructive assay (NDA) technique can be used to characterize gamma-emitting isotopes in a wide variety of samples: the shielding and detectors are configured to accommodate a wide range of objects from air filters and small jars to people and 55-gallon drums.

Samples that require gross alpha, gross beta, and/or tritium or other low-energy beta particle analysis

are analyzed using a liquid scintillation counter (LSC). This process is a method for screening the amount of radioactive material contained in a sample. While the LSC method is only a screening technique, the benefits are that it requires essentially no radiochemistry be performed on the sample and the efficiency of such a counter is virtually 100%.

The metals analysis is performed by utilizing an inductively coupled plasma mass spectrometer (ICP-MS). The samples are digested by adding small amounts of acid and processing under high temperature and pressure generated in a microwave oven. This new technique significantly reduces the use of acids, eliminates emissions, and shortens the sample preparation time from days to hours. The digested samples are introduced to the ICP-MS unit via a nebulizer that sprays a fine mist. The mist is heated to a very high temperature to create a plasma. Ionized atoms are then extracted from the plasma, shaped into a beam, and transmitted to a mass spectrometer, which separates ions of different masses. The resulting mass spectrum is used to identify and quantify the metals of interest.



Source: Amir Mohagheghi 07132, MS 0305, 844-6910, fax 844-5977, ahmohag@sandia.gov

Web Site Provides Communications for NAVRUZ

The great challenges faced in managing transboundary freshwater resources are created not only by the barrier of political boundaries that divide an international watershed but also by the scientific, technological, and communications barriers that exist. An effective transboundary program can address the scientific barrier by creating standardized sampling and analytical methods to be used by all countries involved. And such a program can address technological barriers by providing standardized equipment. But the centerpiece of the system must be the tool that allows for transboundary communication.

Communication in the Central Asia Transboundary River Monitoring project, the NAVRUZ experiment, is improved by the Internet.

One of the most important capabilities of the Internet is its ability to provide real-time or near-real-time sharing of data among international scientific partners. In the NAVRUZ experiment, this sharing is facilitated through a Web site located on a server at the Cooperative Monitoring Center (CMC) at Sandia National Laboratories.

The Central Asia site <<http://www.cmc.sandia.gov/Central/centralasia.html>> is automated so that data sent from participating countries by file transfer protocol (FTP) are automatically integrated into a password-protected provisional database. Principal investigators in each country have the opportunity to review these data in the provisional database, and upon their approval via the Web site, the data are automatically routed into a public database. This shared database on transboundary water quality and quantity is one of very few in existence on a global scale. Sandia has provided the development and maintenance of the software for this database.

Another of the most important capabilities of the Web site is to provide a repository for project

documents. For instance, in the Central Asia project, sampling and analytical methods were agreed upon and then stored on the Web site for easy reference by all members of the project. Maps of sampling locations are stored there, providing quick and easy reference. Further, the Web site stores and displays some E-mail correspondence between partners, so that these messages and the information in them can be reviewed later. This can be important in developing countries, where E-mail communications sometimes fail and E-mail messages sometimes do not arrive.



The Central Asia Web site stores photographs of the rivers and sampling locations, offering invaluable information to the viewer about the characteristics of the river. In addition, the Web site holds pictures of project partners participating in various meetings and performing their sampling work.

As the Central Asia project matures, the Web site will also be used to store the results of data analysis and to allow partners access to different drafts of scientific papers. Finally, the Web site can be a venue for sharing geographic information systems (GIS) files and dynamic system simulation models, all of which can contribute to resource management.

As difficult as the development of a project like this is, even the difficulty has a virtue. All the systems described above require constant troubleshooting and debugging, which requires constant communication and cooperation among the participants. Developing the project builds international relationships, which foster regional stability and peace.

Source: Howard Passell 05324, MS 1371, 284-6469, hdpass@sandia.gov

Guest Editorial

Kazakhstan on Global Disarmament: Experience and Prospects

Vladimir Shkolnik
Deputy Prime Minister of the Republic of Kazakhstan

One of the most significant factors of current events is the increased level of interdependency of all states and nations. At the same time, the war industry in combination with high technologies has reached abilities, shocking to the human imagination, to kill, cripple, or destroy everything alive within a distance of thousands of kilometers. Prevention of the proliferation of weapons of mass destruction, especially nuclear weapons, has become a crucial priority.

Understanding of these factors lay in the foundation of Kazakhstan's policy after achieving independence, to first of all determine its status and positions regarding various issues of disarmament. It is also necessary to remember that all these important problems in the field of international security and nuclear nonproliferation were on the agenda during a time of political and economic instability in the countries formed in place of the USSR (Union of Soviet Socialist Republics). And we had to solve them immediately.

The collapse of the USSR resulted in the crash of its centralized systems of control over the export of nuclear materials and technologies. Various functioning enterprises concerned with the production of nuclear and missile weapons remained within the territories of the new independent countries - practically the whole nuclear infrastructure of the USSR was broken into pieces. After the collapse, a rich legacy of the former military industry of the USSR fell into Kazakhstan's hands, in the form of sites for testing different types of weapons, scientific and technological facilities for weapon development, and also the infrastructure for delivering nuclear weapons and strategic armaments.

After analysis of domestic and geostrategic factors, the government of the Republic of Kazakhstan has

made a decision to get rid of nuclear weapons as soon as possible, based on the necessity to ensure national and international security. After making such an important decision, Kazakhstan has strictly met the commitments it has undertaken.

An important result of Kazakhstan's nuclear policy is the fact that the Republic, having unambiguously determined its position on nonproliferation of nuclear weapons, has made a great, practical contribution to nuclear disarmament. The response of the world community confirms the appropriateness of Kazakhstan's chosen course. In particular, this is confirmed by the help offered by a number of countries, especially in the areas of liquidation of nuclear weapons infrastructure and nuclear nonproliferation.

International programs aimed toward assisting the CIS (Commonwealth of Independent States) countries in ensuring the safe liquidation of nuclear armaments and infrastructure and also in the protection of atomic facilities and the storage of nuclear materials were an essential element in ensuring the fulfillment of commitments by Kazakhstan. The largest program, both in the amount of financing and in the scope of joint activity, is the American Cooperative Threat Reduction program.

The position of our country in the area of arms control is based on the necessity to continue liquidation of weapons of mass destruction and reduction of their delivery facilities; to prevent illegal turnover of dual-use materials; to reduce conventional types of arms and to prevent their destabilizing accumulation in various regions of the country; to increase transparency in the military field; and to build and strengthen confidence measures.

Vladimir Shkolnik presented his views on this topic as a speaker at the Eleventh Annual International Arms Control Conference held by Sandia National Laboratories in Albuquerque, New Mexico, on April 20-22, 2001.

Opinions expressed by the Guest Editor are not necessarily the opinions of Sandia National Laboratories.

News from a Central Asian Perspective

18 Jun 01 Almaty Khabar Television: Kazakh atomic industry set to expand 2001-2005. Kazatomprom will further improve technologies and quality of products, develop integration with Russian partners, and search for new clients in world markets.

18 Jun 01 Almaty Interfax-Kazakhstan: Kazakhstan may bury low-level foreign atomic waste. The ban on importing radioactive waste for burial would have to be lifted.

18 Jun 01 Astana: Kazakhstan threatened by serious radioactive contamination - 237m metric tons of radioactive waste with radioactivity totaling 15.5m curies.

09-18 Jun 01 Interfax Central Asia & Caucasus Business Report: Kazakhstan reconsiders Balkhash nuclear power plant project. A revised plan to develop nuclear energy in Kazakhstan includes construction of the Balkhash Nuclear Power Plant, which was turned down last fall as too costly. The 20- to 30-year plan also includes development of the laser industry and the uranium industry and burial of waste from military test sites.

06 June 01 Deutsche Presse-Agentur: Uzbekistan, US sign CTR agreement. FSU military, chemical, and biological weapons facilities in Uzbekistan will be closed down.

5 June 01 Wall Street Journal: US aid to move Russian Pu. The US and Kazakhstan are discussing how to move 3.3 tons of weapons-grade plutonium inland from a potentially vulnerable Caspian Sea port.

28 May 01 Moscow Interfax: Central Asia remains a leading uranium producing region. Extensive mining and processing infrastructure inherited from the USSR. Total output is second after Canada, with proven reserves and low mining costs. Kazakhstan and the US agreed to a 10-year, \$200 million supply deal for US nuclear power plants. Uzbekistan has enough to mine for a century. Kyrgyzstan deposits have been mined out or operations terminated, but uranium is recovered from ore mined in other republics for Russia's nuclear power plants. Tajikistan, short on money, has virtually discontinued mining in spite of reserves. China will invest in return for stock and guarantees that credits will be repaid. FENSA Group of America Inc. will finance a rare-earth metals plant with a 10- to 15-year, \$100 million loan.

29 May 01 Almaty: Kazakhstan to study underground waters for radionuclide pollution at Semipalatinsk nuclear test site. The extent of underground water pollution has not yet been researched. The US will promote and finance selected projects on monitoring underground waters for radionuclide pollution.

17 May 01 Almaty: Kazakhstan foresees global uranium shortage. Only a few companies in Canada, Australia, Kazakhstan, Uzbekistan, and Russia produce uranium at the current price of \$25-35 per kilogram. If the average annual consumption of uranium remains at the level of 60,000 metric tons until 2010, these producers will satisfy only 45 percent of demand. Kazakhstan may increase production from 1500-2000 metric tons per year to 2700 metric tons in 2010.

2 Nov 00 Bishkek: EU grants 0.5-million Euro to protect Kyrgyz nuclear dumps.

17 May 01 Moscow Interfax: Kazakhstan to use reactors from decommissioned Russian nuclear submarines. The reactors will ensure constant power supplies, as they have for cities in northern Russia for several years.

4 May 01 Dushanbe: IAEA experts visit northern Tajikistan. The radiation background in some northern areas exceeds the permitted level several dozen times, because radioactive uranium waste from Soviet times was not buried deep enough. A group of visiting IAEA experts presented modern equipment for detecting radioactive contamination to enhance protection of the affected ecological systems.

15 May 01 Moscow: Increased Russian coverage of Kazakh border succeeds. Russia has deployed 10 border guard detachments on the 7,500-km border with Kazakhstan. This first stage of coverage, setting up checkpoints and infrastructure installations with the help of local authorities, is to be completed by the end of 2001. In April Russian border guards prevented more than 100 attempts at illegal transborder shipment of cargo and goods worth more than 10-million Russian Rubles (\$344,200), twice as much as in March.

8 May 01 Almaty and 14 May 01 Astana: Kazakhstan decommissioning fast breeder reactor. Kazakhstan's BN-350 fast breeder reactor, the world's first fast reactor, began service in 1973. The first of its kind to be decommissioned, the BN-350 will receive \$85 million financial and technical assistance from the US. The National Nuclear Center is determining how the spent nuclear fuel will be transported, designing appropriate containers to ensure safety during transport and storage, and will build a special storage facility to house the spent fuel.

30 May 00 Interfax-Kazakhstan: Kazakhstan to start building thermonuclear reactor in 2001. Construction will begin in the National Nuclear Center, in the town of Kurchatov, East Kazakhstan Region, in 2001, and is to be completed by 2004.

May 01 Petropavlovsk: Radioactive shipment seized. Officials at the Russia-North Kazakhstan Region border seized two trucks loaded with 33 metric tons of radioactive niobium and tantalum concentrate worth over \$1.5 million. The shipment from Holland to the East Kazakhstan Region under a contract with the US was not accompanied by all the required documents nor transported in special containers by vehicles displaying the required signs.

20 Apr 01 Bishkek: Russo-Kyrgyz-Kazakh agreements to help bolster regional security. Russia is supplying radar equipment to Kyrgyzstan to protect its borders. Kyrgyzstan's ore enrichment facilities are available to Russia for processing Kazakh uranium to supply Russian nuclear power plants. A Russian nuclear concern will honor its debt to Kazakhstan's Ust-Kamenogorsk plant by financing radar equipment for Kyrgyzstan, while Kazakh enterprises that have accumulated debts for Kyrgyz electricity will pay Ust-Kamenogorsk. Kyrgyzstan's revenues will make it possible to address security problems. Tajikistan may also join the collaboration at a future date.

19 Apr 01 Almaty: Kazatomprom announces increased production while Kazakhstan discusses privatization. Kazatomprom will increase uranium production by 33 per cent, beryllium production by 97 percent, and tantalum production by 149 percent in 2001. Taxes and other payments to the Kazakh budget by the company and its branches would grow by 21 percent to 2,450 million tenge this year. The overall investment in the capital fund will exceed 6.8 billion tenge. The exchange rate is about 146 tenge to the US dollar.

15 Jun 00 Baltimore Sun: Kazakhstan has no inventory of weapons. Kazakhstan, hit by an arms export scandal last year involving MIG-21 jet fighters sold to North Korea, said it does not know exactly what weapons it owns, adding to Western concerns that Kazakhstan's arms could end up in the hands of illegal traders.

Calendar



Visits and Workshops

June 22-30 Atlanta, GA: DOE and DOD laboratories host approximately 20 Russian visitors from among participants representing a dozen or more countries at the 12th Biennial International Conference of the American Physical Society (APS) Topical Group on Shock Compression of Condensed Matter. SNL hosts six Russians from VNIIEF (Sarov), the Russian Academy of Sciences (Moscow), Tomsk State University (Tomsk), and the Institute of Problems and Mechanics (St. Petersburg), who will all make presentations. (DP13) Lalit C. Chhabildas 01610, 844-4147

July 15-19 Indian Wells, California: SNL hosts Russian visitors for the 42nd Annual Meeting of the Institute of Nuclear Materials Management:

- VNIIA (Moscow) representatives hosted by Joe Saloio 05327, 845-3067 (NN42)
- VNIIA (Moscow) representatives hosted by Greg Mann 05327, 844-6795 (DP20; DTRA/TDC)
- VNIIEF (Sarov) representatives hosted by Tom Lockner 05327, 284-6625 (DP15)
- VNIITF (Snezhinsk), Mayak (Ozersk), SChE (Seversk), UEIP (Novouralsk), ECP (Krasnoyarsk), and MINATOM representatives hosted by Dennis Berry 06420, 844-0234 (NN30-HEU Program)

September 17-22 St. Petersburg, Russia: US DOE and DOD and RF MINATOM and MOD institutes participate in WSSX Workshop on Accident Response. (DP) Jim Arzigian 05327, 844-2747

Travel

June 1-15 Vladivostok, Vostochny, and Matvieskiy Khasan, Russia: RF Customs Committee facilities host SNL, LANL, DOE, and DOS to perform acceptance testing of vehicle, rail, and personnel portal monitoring equipment installed for the detection of nuclear materials. Site surveys will be performed for subsequent vulnerability assessments and to prioritize future work at the sites. (NN43; DOS/NADR) Michael R. Garcia 05913, 844-0381

June 2-13 Kiev and Dnipropetrovsk, Ukraine: STCU in Kiev hosts SNL, NAS, and DOS to evaluate projects and

decide on US funding. SNL visits former weapons institutes in Dnipropetrovsk to improve marketing of technology and transitions from missile production. (WFO/DOS) Jim Arzigian 05327, 844-2747

June 9-15 Geneva, Switzerland: At the request of the United Nations Institute for Disarmament Research (UNIDIR), SNL presents to the UN the concept of cooperative monitoring and introduces selected systems and technologies that can be applied to UN peace operations, border monitoring activities, and confidence building measures. (WFO/UN; NN42) David Barber 05324, 845-3487

June 9-16 Vienna, Austria: IAEA hosts SNL, NNSA, DOS, DOD, LANL, and PNNL for the Trilateral Subsidiary Arrangements Technical Meeting and the Trilateral Plenary Session. (NN44) Dennis Mangan 05320, 845-8710

June 14-23 Moscow, Russia: RIAR hosts US MPC&A team, including SNL, LANL, and BWXT Y-12, at TMC offices to review status of MPC&A upgrades, to review work in progress, and to develop new scopes of work. (NN50-MPC&A) Michael J. Benson 05832, 844-9773

June 15-23 Novosibirsk, Russia: NCCP hosts SNL, ORNL, and DOE for promotion of workshop upgrade strategy and contract negotiations. (NN50-MPC&A) Jose R. Rodriguez 05355, 844-4704

June 16-30 Kiev, Ukraine: The George Kuzmych Training Center hosts SNL to conduct physical protection systems training for Ukrainian MVD personnel. (NN44) Jim Blankenship 05845, 844-9649

June 22-29 Moscow and St. Petersburg, Russia: VNIIA and MOD host SNL to discuss TOBOS model test site requirements and visit the TOBOS model test site. (DP/DTRA) Greg Mann 05327, 844-6795

June 23-30 Sarov, Russia: VNIIEF hosts SNL, ORNL, LANL, and DOE for review of work using assurance procedures developed for MPC&A upgrades for Guarded Area No. 6. (NN50-MPC&A) Ken Ystesund 05352, 844-4388

June 23 - July 2 Moscow and St. Petersburg, Russia: NIKIMT hosts SNL to discuss D&D technologies for nuclear equipment. Ernst & Young hosts SNL for progress review of business plan for IPP projects. KRI hosts SNL for discussion of collaborations on creation of a technology demonstration center for storage of irradiated nuclear fuel at MCC/Zheleznogorsk. (NN40) Ralston Barnard, 06804, 284-4605

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International Programs Building Underway

The growth of Sandia National Laboratories' international programs over the last several years has created the need for a new building to house all these programs. This building must be located outside Kirtland Air Force Base, physically separate from Sandia's technical areas for hosting foreign nationals from sensitive countries but still near enough to maintain interaction with other Sandia centers.

No existing buildings meet the space and location requirements for all the international programs, so Sandia utilized a unique approach: to contract with a private developer to construct a building to be leased by Sandia for a number of years. With Department of Energy (DOE) approval, a Request for Quotation was sent for bids and a developer was chosen. DOE then approved Sandia's International Programs Building within certain price guidelines.

The developer is a partnership formed by the Houston-based Amelang Partners Inc. Dekker/Perrich/Sabatini is the architecture and engineering firm, Jaynes Corporation is the builder, and Build New Mexico is the landowner. The building will be constructed on Research Road, east of the present Cooperative Monitoring Center (CMC), within the Sandia Science and Technology Park. This three-story, 65,000-square-foot building will accommodate the CMC, the Material Protection, Control, and Accounting (MPC&A) program, and other Sandia international programs.

The developer has agreed to complete this new building within a year. The architects are presently working with a Sandia team to incorporate tenant requirements into the building plan. Besides light laboratory, display, and office areas, the facility will provide a number of conference rooms for functions that require meetings outside the technical areas. The largest conference room will accommodate 150 people.

Source: Dave Barber 05324, MS 1371, 845-3487, fax 284-5055, dsbarbe@sandia.gov

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June 24-30 Sarov, Russia: VNIIEF hosts SNL to discuss contracts, IPP initiatives, and potential storage monitoring projects. (DP15) Tom Lockner 05327, 284-6625

July 3-7 Arkhangelsk, Russia: MINATOM hosts SNL for International Seminar on Ecological Problems in Nuclear Submarine Decommissioning at the International Center for Environmental Safety. (WFO: Storvik & Zvezdochka AS) Jose Saloio 05327, 845-3067

July 8-13 Aktau, Kazakhstan: Mangyshlak Atomic Energy complex hosts SNL, DOE, IAEA, and KAEC for completion ceremony for BN350 fuel packaging. (NN42) Roger Case 05352, 844-5139

July 11-20 Moscow, Russia: KBATO, ELERON, and MINATOM host SNL, ORNL, and PNNL to discuss the current status of deliverables for existing truck/rail contracts, sustainability, and alterations to 2001 project work plan. (NN50-MPC&A) Mark Bishop 05352, 844-4450

July 14-21 Tashkent, Uzbekistan: Uzbekistan Institute of Nuclear Physics hosts SNL for project meetings on US-sponsored upgrades. (NN44) Roger Case 05352, 844-5139

August 3-15 Moscow, Russia: VNIIA hosts SNL, VNIIEF, and VNIITF to continue discussions on joint VNIIA/SNL safety studies and other WSSX-related projects. (DP10) Richard Smith 05328, 844-4476

August 11-18 Kiev, Ukraine: George Kuzmycz Training Center hosts SNL to conduct MVC II course, "Introduction to Response Force Operations." (NN44) Jim Blankenship 05845, 844-9649

September 8-18 Vienna, Austria: SNL, LANL, PNL, DOE, IAEA, and MINATOM participate in subsidiary arrangements meeting, Trilateral Plenary meeting, IAEA General Conference, and Trilateral meeting of the principals. (NN44) Dennis Mangan 05320, 845-8710

September 25-29 Ispra, Italy: SNL, LANL, LLNL, NNSA/NN-44, NNSA/NN-61, IAEA, and MINATOM participate in a Trilateral Workshop. (NN-44) Dennis Mangan 05320, 845-8710

September 25 - October 7 Brno, Czech Republic: SNL presents a Regional Training Course on Physical Protection of Nuclear Material and Facilities at the CEZ Training Center. (DP10; IAEA) Jim Blankenship 05845, 844-9649

Eleventh Annual International Arms Control Conference



Over 300 national security and foreign affairs experts, representing the North Atlantic Treaty Organization (NATO), the United Nations, and more

than 35 countries, gathered for the Eleventh Annual International Arms Control Conference in Albuquerque. Participants, including ambassadors, generals, commanders, directors, and senior analysts, met in the Sheraton Uptown Hotel on April 20 through 22 to discuss cutting-edge issues confronting the arms control and nonproliferation community. According to conference chair James Brown 05325, "The conference brings together highly informed participants, most of whom are not in the data gathering mode but rather prefer exchanging views on strategic considerations pertaining to arms control and nonproliferation."

The focus of the Eleventh Annual International Arms Control Conference was *Looking Ahead: New Horizons and Challenges in Arms Control*. Paul Robinson, President of Sandia National Laboratories, welcomed the distinguished guests to the three-day event.

Keynote speakers addressed issues of global concern. Dr. Vladimir Shkolnik, Deputy Prime Minister of Kazakhstan, discussed Kazakhstan's experiences and prospects in global disarmament. Ambassador Abdallah Baali, Permanent Representative of Algeria to the UN, described the successes accomplished at the Nonproliferation Treaty Review Conference, which occurred in spite of the many complexities involved. Ambassador Wolfgang Hoffmann, Executive Secretary of the Comprehensive Test Ban Treaty (CTBT) Organization, discussed ongoing

measures to support the treaty and described an international monitoring system capable of detecting clandestine nuclear tests that should be operational by 2005. General Charles Boyd (Ret.), Executive Director of the US Commission on National Security for the 21st Century, amplified on how and why the commission was created and some of its findings.

Five discussion topics were addressed in detail by panels of distinguished international government officials:

- New Paradigms in Arms Control: Offense versus Defense
- US-Russia Cooperative Efforts in Threat Reduction: Lessons Learned and Future Concerns
- The Century of Biology: Implications for Global Security and Arms Control
- Getting the Democratic People's Republic of Korea out of the Proliferation Game
- Homeland Defense: Is It Real?



Before speaking on Saturday night, April 21, General Charles Boyd (ret.) (center), Executive Director of the US Commission on National Security for the 21st Century, pauses for a photograph with C. Paul Robinson (right), President of Sandia Labs, and conference chair James Brown (left). (Photo by Bill Doty 12630)

The US proposal to develop a national missile defense system promulgated a number of arguments for and against the proposal. Other fervent discussions centered around proposed US cutbacks in Cooperative Threat Reduction (CTR) funding, North Korea's lack of compliance with the Nonproliferation Treaty, and homeland defense.

This very successful two-day event allowed for the creative exchange of ideas and resulted in opportunities to establish and enhance valuable relationships among members of the global arms control and nonproliferation community. Proceedings of the conference, which will include papers delivered by each of the panel presenters, will be published in early fall, according to conference chair James Brown.

Source: James Brown 05325, MS 1203, 284-5107, fax 284-3790, jambrow@sandia.gov

France Allows Handcarry of Laptops

Sandia National Laboratories' Export/Import Control Office 10001-3 reports that France has changed its laws with respect to handcarried laptop computers. Sandia's Legal Department 11000 has advised that employees can enter and leave France with laptops using 128-bit encryption software as a result of the legal changes. However, under French law a traveler must declare to French customs, at least verbally, upon entering the country that the computer contains 128-bit encryption software. If the laptop has not been declared, French customs could refuse to allow its export. Restrictions on handcarrying laptops to Russia, Kazakhstan, and Egypt remain in effect.



In today's global market, with the rate of technology development at an all time high, the export and import laws that govern technology can be expected to continue to be under a watchful eye for ensuring that laws of today meld with the developments of today in order to guarantee high security. Such is the case with the French encryption laws.

Sandia travelers please note that handcarries to foreign countries must still go through Export/Import Control. For more information, call Tammy Sanchez at 845-3474 or visit the Export/Import Control Office Web site:

<http://www-irn.sandia.gov/organization/div10000/dpt10001/homepage/export/main.html>

Source: Tammy Sanchez 10001-3, MS 1120, 845-3474, fax 284-4927, trsanch@sandia.gov

Shippers Replaced by Easier-to-Use Handcarry Forms

Sandia's Export/Import Control Office has replaced the *Shipper* method for handcarries with a new form, effective immediately. After August 1, only the *International Handcarry Form and Certificate of Registration for Personal Effects Taken Abroad* (SF 6951-IHF), affectionately known as the *International Handcarry Form (IHF)*, will be accepted. The *IHF* makes it easier to handcarry items while travelling internationally. Search the corporate forms Web site to download a copy of the form in Word 97 or PDF format.

<http://www-irn.sandia.gov/corpdata/corpforms/formhp.html>

Instructions at the top of the form suggest clicking F1 for help on any block. (Just a hint: The first block, labeled *From*, is not for your name.) For full instructions and additional information call Steve Sultemeier at 844-7112 or visit the Export/Import Control Office Web site:

<http://www-irn.sandia.gov/organization/div10000/dpt10001/homepage/export/main.html>

Source: Steve Sultemeier, 10001-3, MS 1120, 844-7112, fax 284-4927, gssulte@sandia.gov

GAO Audit Shows Security of Russia's Nuclear Material Improving



In February 2001, the General Accounting Office (GAO) released its second report on the progress of the Material Protection, Control, and Accounting (MPC&A) program toward effectively reducing the risk of nuclear material theft in Russia. The audit report, *Nuclear*

Nonproliferation Security of Russia's Nuclear Material Improving; Further Enhancements Needed (Audit # GAO-01-312), can be downloaded from the Internet. (Go to <http://www.GAO.gov/>, click on GAO Reports, click on *listed by title* under *Recent Reports and Testimony*, and scroll down through the alphabetical listing to the report.)

At the request of Senators John Warner and Pat Roberts, the GAO conducted audits to address three general areas of concern:

1. Are the nuclear security systems reducing the threat of theft?
2. What is DOE doing to ensure the long-term sustainability of the improved security systems?
3. What is DOE's plan for completing the program?

The GAO auditors determined that the answer to the first question is, "yes, the security systems installed by DOE generally are reducing the risk of theft of nuclear material in Russia." Cited in the text were three specific sites where significant improvements have been demonstrated: the Mayak Production Association, the Navy Fuel Storage Sites in Murmansk and Vladivostok, and the Institute of Physics and Power Engineering. Staff from Sandia National Laboratories led the work accomplished at all these sites. However, the report further states that hundreds of metric tons of nuclear material still lack improved security systems and that DOE has no mechanism in place to monitor the effectiveness of the systems once they are installed.

To address the question of long-term sustainability, the auditors recommended that DOE develop a system in cooperation with the Russian government to monitor the security systems installed at the Russian sites. The auditors also recommended that DOE include in its strategic plan an estimate of how much sustainability assistance is required. The estimate would be based

on an analysis of the costs to operate and maintain the systems and the sites' ability to cover these costs. The auditors reported that DOE projections estimate that some level of assistance will be required for three years or longer at each Russian installation. The timeline for completing the entire program, including the sustainability efforts, ends in 2020 at a total cost of \$2.2 billion.

Finally the auditors recommended that the DOE strategic plan also include options for completing the program on the basis of the progress made in gaining access to sensitive sites and on the closure of buildings and sites.

A letter with DOE comments is included as an appendix to the report. DOE/NNSA management concurred with all the recommendations.

Sandians may address any questions concerning this report to Holly Dockery, Manager of MPC&A Programs Department 05350 (284-3913, haddocke@sandia.gov).

Source: *Nuclear Nonproliferation Security of Russia's Nuclear Material Improving; Further Enhancements Needed* (Audit # GAO-01-312), February 2001, <http://www.gao.gov/new.items/newtitle.htm>

Foreign Traveler Assistance Cards

Wallet-sized plastic cards with in-country emergency contact numbers for Russia are now available to Sandia travelers. Cards for other countries are available upon request. The durable cards are prepared with badge stock. Contact Jon Schuster, Center 05300 Export Control and Laboratory MPC&A Export Manager (LMEM), for your card.

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jschust@sandia.gov

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- SNPO Eleron - RF
- Second Line of Defense - RF
- Commercial contracting in Latin America
- Foreign university orders

Center for National Security and Arms Control



The International Procurement Team pauses for a photo in Building 810: (left to right) Alfred Romo, Beverly Polyard, Patty Jojola, Todd Dunivan, Linda Bonnefoy-Lev, and Roy Fitzgerald. (Photo by Randy Shibata)

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customer and the customer's needs. By using collocation as a form of strategic partnering with customers and stakeholders, IPT members have strengthened their value-added contribution as professional business consultants.

In October 2000, the IPT became the first team within Sandia's Business Management Center and Chief Financial Office to be awarded a Gold Sandia President's Quality Award. The award, established by Sandia in 1992, utilizes Malcolm Baldrige Award criteria to assist groups and teams in their quest for continuous quality improvement.



Although faced with significant increases in contracting activity, compliance, and oversight, the IPT continues to make every effort to improve customer satisfaction and relationships. At the same time the IPT continues to fulfill its fiduciary duties to the nation and the American taxpayer.

The IPT welcomes your comments and candid feedback. Suggestions for improvement can be sent anonymously through Barbara Dry 5302 (844-9860, badry@sandia.gov) to Roy L. Fitzgerald 10251.

Source: Roy L. Fitzgerald 10251, MS 0786, 844-8934, fax 844-5771, rfitzg@sandia.gov

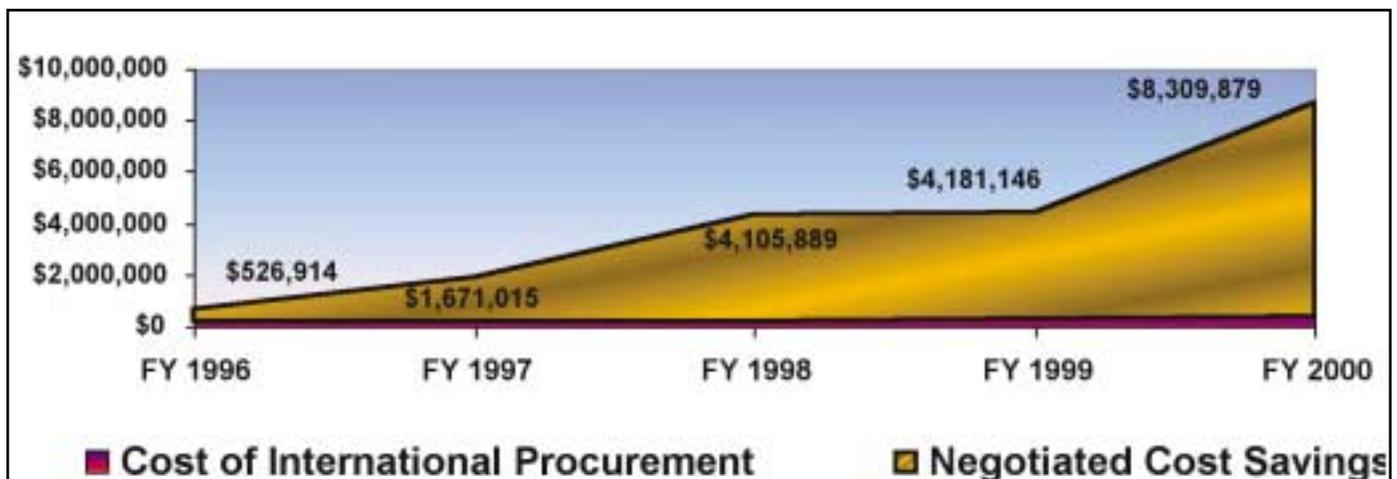
International Procurement Team Uses Quality Principles and Collocation to Better Serve Customers

Sandia National Laboratories has developed an infrastructure to enable the successful execution of international programs. This infrastructure includes elements such as an International Procurement Team, import/export control expertise, foreign interactions support to facilitate both foreign travel and hosting foreign visitors, international law, translation and interpretation services, in-country support for Russia and some other countries, and medical services through the International Travel Clinic. The following article highlights the services provided by the International Procurement Team.

The International Procurement Team (IPT) has developed a strategy to enable cost-effective international procurement while satisfying the demanding and various needs of Sandia's international programs. The strategy calls for the IPT to offer international business consulting services, including the creation of solutions for interna-

tional business transaction issues. Collocation with its primary customer is an element of the IPT strategy that enables the team's success. Collocation promotes communication and thus enhances the buyer's understanding of the

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Negotiated cost savings accruing to Sandia represent the difference between the amount proposed by suppliers and the amount negotiated by the IPT for the work to be performed.

Submitting Items to International Security News

Calendar entries, articles, and photographs are welcome! For articles, please prepare up to one whole page of text typed in Word for Windows without special formatting. Submit electronically to the *International Security News* editor. Choose color photographs that were taken close enough to the subjects to make them recognizable when the pictures are reproduced for the newsletter.

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