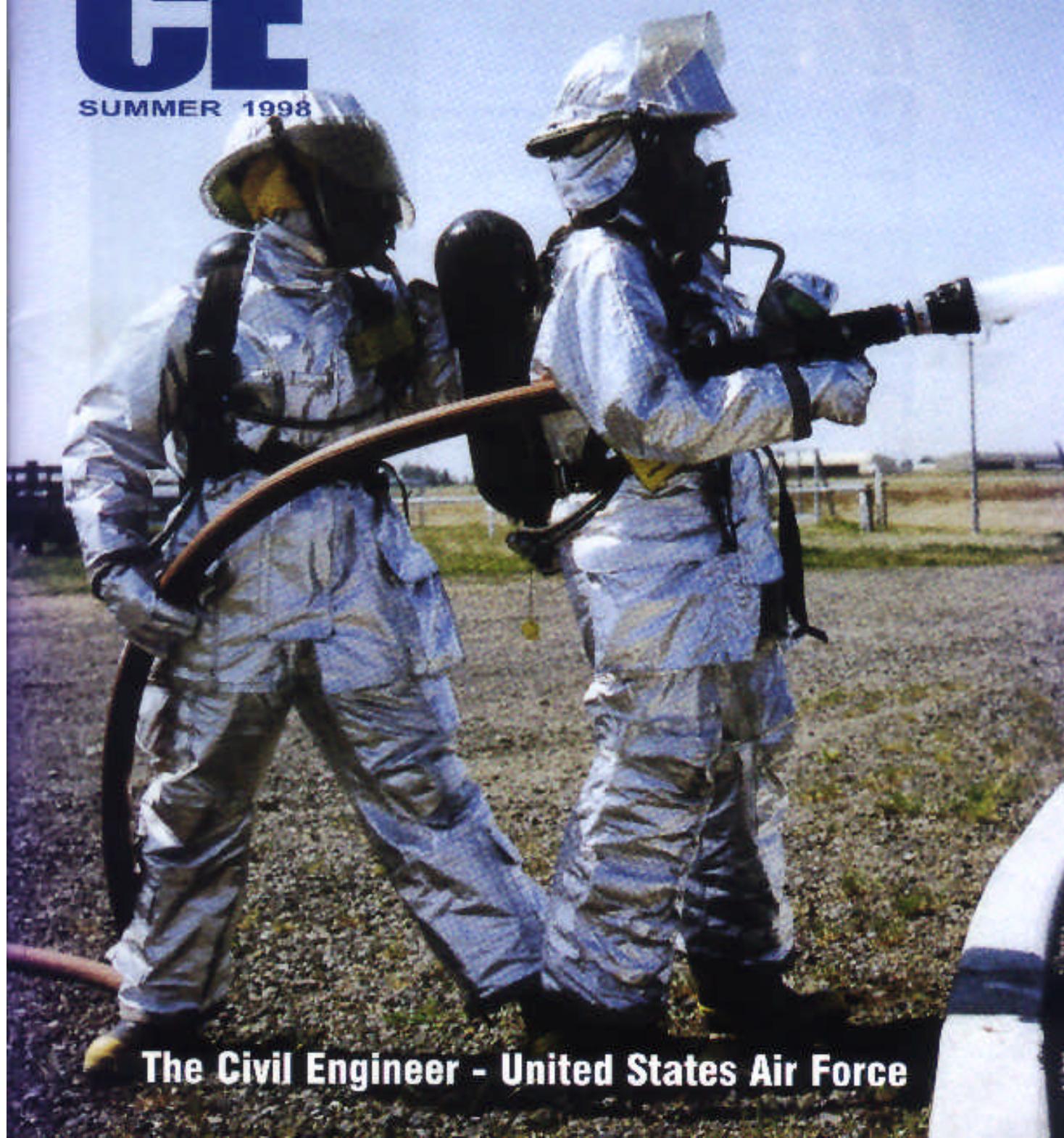


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# International Partners in Environmental Security



Photo by 30th Space Wing Communicators Squadron

Inside the Titan II launch facility. The large silver cylinder is an actual Titan launch vehicle at Vandenberg AFB, Ca. The visitors toured the inside of Space Launch Complex 4 where they learned about the basic differences between US and Russian rocket propellant.

by Maj. John Cawthorne  
Pentagon, Washington DC

The world's political structure is in the midst of dramatic change. The former Union of Soviet Socialist Republics is now the Commonwealth of Independent States plus several independent nations and a few small republics. Many nations have reassessed national priorities for their militaries and now require their defense establishments to meet national environmental standards — an area where many militaries were previously exempt. These political changes profoundly affect how U.S. military forces will function in terms of maintaining the peace, as well as how

Air Force civil engineers support the Department of Defense in environmental security.

The Air Force Civil Engineer, Maj. Gen. Eugene A. Lupia, plays an important role in the development and execution of three international environmental cooperation efforts: the U.S.-Russia Cooperation in Defense Environmental Protection Issues, the U.S.-Norway Cooperation on Environmental Protection in Defense Matters, and the U.S.-Italy Environmental Cooperation.

Environmental security initiatives in the international arena provide a positive method for cooperation among the Department of Defense and other nations' militaries by focusing on

information and technology exchange and joint technology research. These exchanges provide highly leveraged efforts to define the environmental dimensions of military operations and support the Secretary of Defense's Preventive Defense Strategy. This strategy supports positive engagement with former Warsaw Pact nations, and environmental cooperation is a premier way to achieve that goal. The Air Force Civil Engineer supports this important effort by engaging in cooperation with the Russian Federation Ministry of Defense on environmental issues.

In June 1995, Secretary of Defense William Perry signed a Memorandum of Agreement (MOA) initiating environmental cooperation between the United States and Russia. The purpose of the MOA for U.S. Department of Defense-Russia Ministry of Defense Cooperation in Environmental Protection Issues is six-fold: (1) to exchange information on organization of environmental protection activities, (2) education and technology exchange for protecting the environment, (3) waste disposal, (4) environmental aspects of weapons destruction and disposal, (5) cleanup of former military sites, and (6) management of natural and cultural resources. These broad areas have been refined to the current specific efforts: environmental education pertinent to military applications to both countries, environmental solutions for missile and rocket launches and finally, to foster civilian/military cooperation in the management of nature preserves.

In January 1998, Maj. Gen. Lupia

led a delegation that met in Moscow with Lt. Gen. Sergei Grigorov, Chief of Ecological Safety, Russian Federation Ministry of Defense (RF MoD), to discuss environmental topics of mutual interest.

"Environmental security creates the conditions that support the peace, making war less likely and deterrence unnecessary. The meeting was very fruitful; all U.S. meeting objectives were met," said Lupia.

The results of the meeting will shape international relations. One outcome of the meeting was the decision to host 12-15 Russian senior military officers at the Air Force Academy, assisted by the Air Force Institute of Technology, for training in September 1998. The training sessions will include representatives from all services. Subsequent training will be agreed upon later.

In addition, the U.S. DoD and the RF MoD agreed to co-host a joint international armed forces environmental conference in Moscow in the summer of 1999. The conference is expected to attract 1,500 environmental representatives of government and industry from around the world. The RF MoD is specifically interested in the conference highlighting new technology that supports environmental cleanup and may generate business opportunities. To facilitate the planning, the U.S. presented the Russians with an action plan frequently used in the U.S. entitled, "How to Host an Environmental Conference." Subsequently in March 1998, a team led by Vicki Preacher of the Air Force Center for Environmental Excellence, Brooks AFB, Texas, visited counterparts in the RF MoD and started conference planning actions.

In March 1998, Vandenberg and Los Angeles Air Force Bases, Calif., hosted a five-member team of visiting Russian MoD environmental experts for bilateral environmental information exchange on space-related issues.

While at Vandenberg, the Russian delegates toured the Atlas and Titan

space launch complex, the base centralized accumulation point, the hazardous materials pharmacy, and the industrial waste water treatment plant. These tours were preceded by briefings from local experts covering the important environmental responsibilities pertaining to their part of the launch mission.

The delegates were then escorted through the actual complexes and given hands-on demonstrations of the safety precautions and procedures followed to ensure the environment and human health is protected.

"This [meeting] provides an excellent opportunity for good exchange. They are receptive to our programs and we learn from them as well," said Maj. Robin Williams, maintenance supervisor of the 2nd Space Launch Squadron, Vandenberg AFB, Calif. Williams assisted with the Russian visit to Vandenberg.

The main avenue by which the U.S. delegation learned from the Russians was a list of tough questions not previously considered by U.S. environmental managers. Some questions addressed concerned public verification of the environmental impacts disclosed in National Environmental Policy Act documents and how the first stage of a rocket's flight, the booster, is managed with respect to environment and safety.

In the U.S., the booster first stage of a rocket falls into the ocean. Preliminary estimates indicate these are not likely to impact the marine environment. However, in Russia, where there are no coastal launch facilities, the booster first stage of rockets is a serious problem since they fall to the tundra. There is the possibility of pollution of large territories by the components of the missile propellants and metal fragments.

The information exchange between the two parties enables an ecological study of rocket-related on-base daily activities such as pollution reduction and remediation at Vandenberg and Plesetsk Missile Base, Russian Federation.

Answering these questions helps the U.S. members continually improve procedures and processes in the environmental arena. It helps them look at routine processes from an outsider's perspective, draw comparisons and learn.

According to the Russians, the U.S. hydrazine transfer areas and procedures are similar to theirs, yet the U.S. sites are much cleaner. Another environmental practice followed in the U.S. but not in Russia is the hazardous materials pharmacy (HAZMART). The idea of HAZMART fascinated the foreign dignitaries due to its control features and the potential reduction in hazardous material usage.

At Los Angeles AFB, Calif., the Russian delegation was given a mission briefing that delineated the role played by the Space and Missile Systems Center in the acquisition of space systems from that played by AF Space Command in day-to-day operation of space systems. There were many briefings, laboratory tours relating to global environmental impacts from space-related activities, and a demonstration of the High Resolution Ozone Imager, an instrument that measures ozone concentration in the stratosphere.

The Russian delegation head, Col. Alexander Bahl, vice commander of Plesetsk Rocket Base, remarked to an interpreter that this was the best visit on both a personal and professional level. The U.S. Air Force team shared the sentiment and now looks forward to reviewing the way Russians handle their systems later this summer when a team of U.S. environmental experts will visit the Moscow Ecological Center and Plesetsk Missile Base.

*John Edwards, chief, Environmental Management for the Space and Missile Systems Center (SMC), Los Angeles AFB, Calif., and Thomas Hanly, environmental engineer for Environmental Management at SMC contributed to this report.*