



CLEANING UP CONTAMINATION AT UKRAINIAN MISSILE SITES

The Ukrainian Environmental Site Assessment And Remediation Project (EARP) evolved from a Canadian government technical mission to Ukraine in February 1994 to discuss and identify potential areas of Canadian assistance. In May 1994, as Phase 1 of this project, a Canadian project design mission visited Ukraine to discuss the proposed project with the Ministries of defence (MOD), Environmental Protection (MEP) and Foreign Affairs (MFA). The mission visited a decommissioned ICBM training site and conducted interviews with potential training candidates. A protocol was signed establishing the responsibilities and reporting relationships between Ukrainian and Canadian officials, and identifying specific activities that needed to be carried out in order to successfully implement the second phase of the Project.

The EARP is structured as a Canadian public and private joint project to be carried out by the Emergencies Engineering Division (EED) of Environment Canada and private sector partners Fenco MacLaren Inc. (FMI) and Gartner Lee International Inc. (GLII). It proposes to introduce Canadian techniques and equipment into Ukraine by training Ukrainian personnel in Canada and by assisting the Ukrainians to carry out a small environmental assessment and remediation demonstration project at one or two sites.

Following the collapse of the Soviet union, Ukraine was left with 176 nuclear-armed Inter-Continental Ballistic Missiles (ICBM) and 40 nuclear capable strategic bombers. Under the Tripartite Agreement and the START Agreement, Ukraine will return the nuclear warheads to Russia and remove and dismantle the missiles from their silos and render the silos inoperable.

Ukraine has sought financial assistance to generate public and parliamentary support for the nuclear dismantlement program. From an international security perspective, western governments, including Canada, have placed the highest priority on the denuclearization of Ukraine and Ukrainian accession to the nuclear Non-Proliferation Treaty (NPT).

Ukraine has not conducted any systematic environmental assessment of its ICBM sites and associated facilities. The contamination of soil and groundwater at former ICBM sites through spills and other exposure poses enormous health, safety and environmental

risks. The removal of the highly toxic and corrosive chemicals associated with nuclear missile fuels as well as the decontamination of the sites create further risks of this type unless undertaken by properly trained and equipped teams of experts. The Ukrainians have expressed a strong interest in Canadian cooperation and technical assistance and they have identified the remediation of former ICBM sites and associated facilities as a priority need.

EARP is the second and main phase of this program. Its objectives are:

- to provide to Ukraine, Canadian techniques and equipment for continuing environmental assessment and remediation by training and equipping a team of engineers, chemists and technical personnel; and
- to give Ukraine the capability to establish its own training programs in the future using

equipment applicable to site cleanup will be introduced into Ukraine for use in the environmental remediation of former ICBM sites and associated surrounding facilities. Canada will assist in the cleanup of the non-nuclear contamination which exists at these sites. The best and most cost-effective way for Canada to proceed is to train Ukrainians, in Canada, in site assessment and remediation of contaminated soil and groundwater, and then to undertake short demonstration projects at former ICBM sites with Canadian technical assistance and equipment procured in Canada. At the conclusion of the Project, Ukraine will have qualified personnel who will continue to cleanup contamination at former ICBM sites and associated facilities, and to train other Ukrainians in Canadian procedures and technology.

The project is funded primarily by Foreign Affairs and International Trade and some in-kind contributions by EED, FMI and GLII.

The project will be executed in three partially overlapping steps, spanning three years. The first step consists of training 18 to 24 Ukrainian engineers, chemists and technical personnel in Canada in two groups of 9 to 15 in Project years one and two, respectively. The second step entails carrying out a small assessment at 1 or 2 ICBM sites to function as demonstration projects in Project year three.

Training for Ukrainians started in June 1995 and is scheduled to end in 1998. The site assessment phase would begin in Project year two and the remediation phase in Project year three.

The trainees for this Project are primarily from the Ukrainian army since this is understood to be the group most closely associated with the actual remediation of the sites. It does however, include representatives from the MFA, MEP, and the Ukrainian Academy of Sciences.

The first group of 9 trainees arrived in Ottawa in early June, where they will reside for the next 11 months. For more information, please contact:

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Harry Whittaker, Emergencies Engineering Division Chief, Environment Canada visits abandoned ICBM silo site used for training in Ukraine.

the small cadre of Canadian-trained experts to introduce and train other Ukrainians in Canadian procedures and technology.

Under the EARP, Canadian techniques and