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ENVIRONMENTAL CONDITIONS AT KARSHI-KHANABAD AIR BASE, UZBEKISTAN
INFORMATION FOR SERVICEMEMBERS AND VETERANS
UPDATE: JULY 2020

Background

American Service members serving during Operation Enduring Freedom worked at an air base in southeastern Uzbekistan known as Karshi-Khanabad (K-2) and Camp Stronghold Freedom from October 2001 through November 2005. K-2 was developed from a section of an old Soviet-era air base. Thousands of Service members (including Army, Air Force, and Marines) from various Guard, Reserve, and Active Duty units were stationed at K-2. In July 2020, the House Oversight and Reform Committee (HORC), National Security Subcommittee released eight declassified K-2 reports including environmental and health risk assessments. The reports documented evidence of the presence of sub-surface volatile organic compounds (VOCs), airborne particulate matter, and depleted Uranium fragments that were present at K-2 before US operations began. Additionally, initial reports of chemical warfare agents in Hardened Aircraft Shelters (HAS) and other buildings were later determined to be falsely positive after definitive analysis by the Technical Escort Unit. The Center for Health Promotion and Preventive Medicine-Europe (CHPPM-E) re-assessed the HASs and determined they contained fuel-related hydrocarbons. This updated information paper provides background information and answers to some questions regarding environmental exposures determined at K-2, and provides corresponding assessments of the risk for potential long-term adverse health effects. The declassified K-2 reports are available at the HORC website: https://oversight.house.gov/news/press-releases/national-security-subcommittee-releases-newly-declassified-documents-revealing.

What were conditions like at K-2?

K-2 was a deployment site located in the Qashqadaryo Province in southeastern Uzbekistan near the border with Tajikistan. Frequently reported exposures at K-2 were heat, noise, and poor air quality (usually elevated levels of particulate matter). The most frequent complaint by Service members assigned there in 2001 was in regard to a bad smell coming from a trench near the original tent city.

What kind of assessments were done at K-2?

In accordance with Department of Defense deployment health policy, an Environmental Site Characterization and an Operational Health Risk Assessment were completed in November 2001; follow-up Deployment Occupational and Environmental Health Site Assessments were completed in 2002 and 2004. These assessments are included in the reports declassified in July 2020.

Notable findings included:

- **Jet fuel.** Widespread jet fuel plumes were found, usually 1-3 meters underground, most likely from a leaking Soviet-era underground fuel distribution system. These were the cause of the odor and noted pooling of "black goo" that was observed while digging.

- **Asbestos and Depleted Uranium.** Localized areas of surface dirt contaminated with asbestos and low-level radioactive DU were also found; both were likely waste from the destruction of Soviet missiles several years before U.S. Forces occupied K-2. The 2004 Final Deployment Occupational and Environmental Health Site Assessment stated that previous operational health risk assessments identified several structures (i.e., 416th AEG Vehicle maintenance Facility, Counterintelligence/ Force Protection/Judge Advocate General [CI/FP/JAG] Building and its gazebo, and Military Police Headquarters Building) with friable asbestos containing material (ACM) tiled roofs. However, the 2004 site assessment identified only one structure with ACM tiled roofs—the CI/FP/JAG Building's gazebo. The site assessment concluded airborne friable asbestos did not pose a health threat because the friable asbestos was in an area of the building walled off from Service members.

- **Particulate matter (PM).** K-2 often had high levels of dust and other PM present in the ambient air. Levels of dust and PM in the air varied depending on the season and weather conditions.

- **Noise.** An operational noise evaluation indicated combined sources, which generated noise levels equivalent to a large city or industrial facility. Major noise sources were the prime power generation station, subsistence/storage refrigeration trailer area, the refrigeration trailers located next to the base camp's dining facility, and flight operations.

Could these exposures adversely affect my health?

- **Jet fuel vapor**. Although the odor was unpleasant, air samples revealed that VOCs in the jet fuel vapor did not exceed Military Exposure Guidelines or other health exposure criteria. Adverse long-term health effects are not expected from exposure to the fuel vapors.

- **Asbestos.** Although asbestos was present in the roof tiles of buildings used by United States and coalition forces and in localized areas of surface dirt, long-term adverse health effects would not be expected as air samples did not detect the presence of any airborne asbestos fibers. Based on the sampling conducted, personnel were not exposed to inhalable asbestos fibers. Additional protective measures are mentioned below.

- **Depleted Uranium.** DU was present in localized areas, but long-term adverse health effects would not be expected from DU contamination based on site assessments and the proper use of protective measures by personnel to prevent DU exposure.

- **Particulate matter.** The evidence to date is inconclusive regarding increased risk of chronic respiratory conditions associated with military deployment to the U.S. Central Command area of responsibility, which includes K-2. Some previously deployed personnel may, however, experience persistent respiratory symptoms or develop chronic respiratory conditions which may be due to their combined deployment exposures, unique experiences, and/or individual susceptibilities. The Department of Defense acknowledges the concern regarding potential respiratory health effects associated with deployment and is collaborating with the Veterans Affairs (VA) and independent researchers to further evaluate and quantify potential long-term health risks related to deployment exposures.

- **Noise.** Personnel could have been exposed to hazardous levels of noise that may lead to hearing loss. This risk is higher for individuals who worked near major noise sources without proper hearing protection.

What protective measures were taken?

The jet fuel-contaminated trench was filled with clean soil to create a cap to hold the vapors underground. Areas contaminated with DU and asbestos were covered with a thick layer of clean dirt to mitigate exposure. These areas off-limits to everyday activity with restricted access; both permission and protective equipment were required before digging could occur in the contaminated areas. Air monitoring and other follow-up sampling was conducted to ensure that conditions did not change and that these protective measures remained effective.

What about chemical warfare agents?

In June 2002, news media reported that trace amounts of nerve and blister agents were detected in hardened aircraft shelters of the K-2 complex. After extensive confirmatory testing of new samples using specialized testing equipment, there were negative results for chemical warfare agents (CWA). The initial field tests using less specific equipment gave false positive results most likely due to contaminants from recent painting and other refurbishing activities. Under these circumstances, it is not unusual to get false positive CWA test results from initial field testing. There was ongoing monitoring at K-2 to ensure Service members remained protected and to provide early detection and reporting if conditions changed.

Should those that were stationed at K-2 get a medical examination?

You do not need to get a medical examination or have additional medical screenings just because you were at K-2. If you have any concerns about your health, including medical conditions related to deployments, you should speak with your primary healthcare provider. If you are a Veteran and you believe your medical condition(s) was caused or aggravated by your military service, you can file a claim with the Department of Veterans Affairs. Additionally, you can contact your nearest VA Environmental Health Coordinator via the following Website to discuss any exposure related health concerns:
http://www.publichealth.va.gov/exposures/coordinators.asp.

What other Studies have been conducted?

An initial study to look at cancer outcomes among Service members deployed to K-2 and found a higher risk of malignant melanoma and neoplasms of the lymphatic and hematopoietic tissues (excluding Non-Hodgkin Lymphoma and Leukemia). These results, however, were based on only a few cases of each type of cancer and should not be viewed as definitive evidence of an association with service at K-2.

What Health Studies is VA conducting?

The Epidemiology Program in Post-Deployment Health Services has initiated two parallel studies assessing the health effects associated with deployment to K-2. The first study is a morbidity study that will assess if there is a higher rate of diseases in those deployed to K-2 versus similar Servicemembers/ Veterans with other deployments (Operation Enduring Freedom) or similar Servicemembers/ Veterans that did not have a combat deployment. Using healthcare data from the Military Health System and the Veteran Health Administration will allow assessment of acute health effects as well as more chronic and long-term health outcomes. The second study is a mortality study utilizing the Mortality Data Repository that provides cause and date of death on ALL Service members and Veterans from 1979 through FY19. Utilizing this data source, we will be able to compare rates for all-cause mortality as well as disease specific mortality (e.g., cancers, cardiovascular disease, etc.) been the K-2 cohort and the comparison groups as well as to rates in the general U.S. population.

The approach described here will provide a comprehensive assessment of the health effects of K-2 deployment and extend the findings from the preliminary study conducted by APHC. It should be noted that exposure data at the individual level is not available and thus, no conclusion can be reached regarding a specific exposure's (e.g., DU, jet fuel) effect on health.

Where can I get more information?

Evaluation of Postdeployment Cancers Among Active Duty Military Personnel.
https://www.cs.amedd.army.mil/FileDownloadpublic.aspx?docid=d3819446-4272-42bc-8e9d-61d7eca20d97#page=70

The Military Deployment Periodic Occupational and Environmental Monitoring Summary (POEMS): Karshi-Khanabad Airbase, Uzbekistan: 2001 to 2005, contains more detailed information about exposure data and health risks at K-2. This POEMS is available on the U.S. Army Public Health Center Website:
http://phc.amedd.army.mil/topics/envirohealth/hrasm/POEMS%20Documents/U_UZB_Karshi-Khanabad%20POEMS%202001-2005_Public%20Release%20Review.pdf.

Service members and Veterans can get more information at:
https://www.publichealth.va.gov/exposures/karshi-khanabad.asp
Servicemembers and Veterans whose only deployment was to K-2 are currently not eligible for the Airborne Hazards and Open Burn Pit Registry

(https://veteran.mobilehealth.va.gov/AHBurnPitRegistry); they should check with the VA) periodically for future eligibility.

The declassified reports are available at the HORC Website: https://oversight.house.gov/news/press-releases/national-security-subcommittee-releases-newly-declassified-documents-revealing. Direct hyperlinks for the reports are provided below:

- Preliminary Industrial Hazard Assessment, November 2001
- Preliminary Occupational and Environmental Health Surveillance Assessment, November 2001
- Environmental Site Characterization, November 2001 (Part 1; Part 2; Part 3)
- Environmental Site survey and Operational Health Risk Assessment, June 2002 (Part 1; Part 2)
- Environmental Assessment—Hardened Aircraft Shelters, July 2002
- Visual Site Inspection, 4 September 2004
- Updated Visual Site Inspection, 7 September 2004
- Deployment Occupational and Environmental Health Site Assessment, November 2004 (Part 1; Part 2)