NPL Site Narrative for Chanute Air Force Base

CHANUTE AIR FORCE BASE
Rantoul, Illinois

Chanute Air Force Base (AFB) is located in the north-central portion of Champaign County in east-central Illinois. The main base covers 2,125 acres in the Village of Rantoul. A small stream, Salt Fork Creek, flows along the southern perimeter and directly through the southeastern corner of the base. The southeastern corner of the base is known as Operable Unit (OU) 2, which is the location of past waste disposal activities. The primary sources of hazardous substances within OU-2 include Landfills 1, 2, 3, and 4; Fire Training Areas (FTA) 1 and 2; and Buildings 916, 922, 927, 932, 975, and 995, which contained either oil-water separators, underground storage tanks (USTs), sludge pits, or a combination of those items. The primary mission of the base was to provide military and technical training for Air Force personnel and civilian employees and for other Department of Defense personnel. The training activities focused on operation and maintenance of military aircraft and ground support equipment.

Chanute AFB was constructed in 1917 and initially served as a pilot training facility and a storage depot for aircraft engines and paint. The base served as a training school for all Air Corps mechanics from 1922 to 1938. During World War II, technical training operations focused on aircraft maintenance and metal processing. Military flight operations were terminated at Chanute AFB in 1971, and base closure began in 1990 in response to an order issued by the Secretary of Defense. All military operations at the base ceased in September 1993, and portions of the base became available for commercial and other uses. The Air Force Base Conversion Agency (AFBCA) currently oversees the base closure.

A Phase I investigation of the base completed in 1983 identified six sources of hazardous substances: Landfills 1, 2, 3, and 4; FTA-1; and FTA-2. Stage I of a Phase II investigation completed in 1986 identified another source: a sludge disposal pit in Building 932. In 1987, remedial investigation (RI) activities were initiated to confirm source contamination and to characterize the geologic and hydrogeologic features at Chanute AFB. The Illinois Environmental Protection Agency (IEPA), U.S. Environmental Protection Agency (U.S. EPA), and AFBCA rejected the draft RI report in 1991. Another RI was submitted in 1993, but it was rejected in 1996 by IEPA, U.S. EPA, and AFBCA because of problems with its geologic and hydrogeologic interpretations and with the quality of the analytical data. In response to these deficiencies, AFBCA directed the Air Force Center for Environmental Excellence to conduct an RI and feasibility study for the locations of waste activities in OU-2 along with Salt Fork Creek and Heritage Lake. A third RI was initiated in 1998 and is ongoing. RI activities successfully completed to date include excavation of test pits in the four landfills, removal of abandoned USTs, and excavation of portions of the contaminated soil in the areas of Building 932 and FTA-2.

Migration of contamination from the sources in OU-2 into Salt Fork Creek is the primary concern. Although each of these sources potentially contaminates the creek via runoff and drainage ditches, the migration of contamination from Landfills 1 and 2 is the most critical threat for four reasons: (1) Salt Fork Creek runs directly between the two landfills, (2) the ground water table (Wisconsin till) in some areas of the landfills is as shallow as 1 foot below ground surface, (3) ground water in the Wisconsin till flows into Salt Fork Creek, and (4) leachate has been observed seeping from the banks of Salt Fork Creek near Landfills 1 and 2.

Sample analytical results also indicate migration of hazardous substances from Landfills 1 and 2 into Salt Fork Creek. IEPA collected sediment samples along Salt Fork Creek and analyzed the samples for semivolatile organic compounds (SVOC) and metals. A sediment sample collected directly downstream of Landfills 1 and 2 contained bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), and lead concentrations at elevated levels. During excavation of test pits in Landfills 1 and 2, volatile organic compounds, SVOCs, dioxins and furans, pesticides and polychlorinated biphenyls, and metals were detected in the soil and/or ground water/leachate in Landfills 1 and 2. Only PAHs and lead were detected in sediment samples of Salt Fork Creek at elevated levels and in the soil and ground water/leachate samples in Landfills 1 and 2. A sediment sample collected by IEPA directly upstream of OU-2 did not contain lead at elevated levels or PAHs; therefore, Landfills 1 and 2 are considered to be sources of PAH and lead contamination in Salt Fork Creek.

Contamination of Salt Fork Creek is of primary concern because fishing activities have been documented in the creek between Landfills 1 and 2. In addition, wetlands are present along approximately 1 mile of Salt Fork Creek; these wetlands lie within 15 miles of Landfills 1 and 2.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.