

DIVE COMPANY EXPERIENCES NORTHWEST DIVING

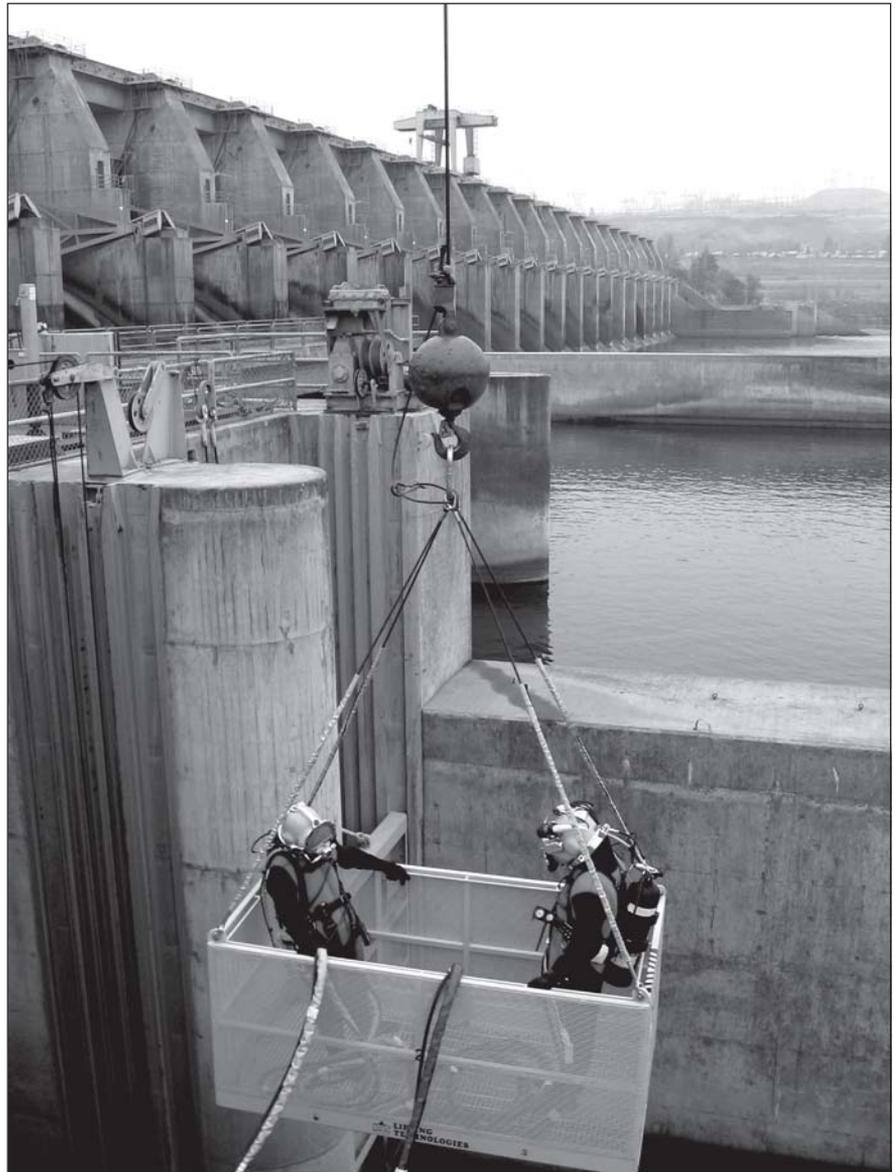
By First Lieutenant Brett D. Evans

The northwest is known for inclement weather; it's not usually a question of *if* it will rain, but rather *when*. Divers from the 511th Engineer Light Diving Team worked for 2 weeks in temperatures ranging from the low 20s to high 30s while conducting dive operations in support of the United States Army Corps of Engineers® (USACE) Portland District. After 7 consecutive days of rain, everyone could feel the cold, especially those tending divers 60 feet below.

USACE tasked the 511th to conduct a variety of repairs, improvements, and inspections on the John Day, The Dalles, and the Bonneville Dams. All three dams are located on the Columbia River Basin east of Portland, Oregon. This is the most hydroelectrically developed river system in the world and includes more than 400 dams of all types. The three dams alone are capable of producing 5.3 million kilowatts of power at peak production.¹ That's enough to meet the electrical needs of four cities the size of Seattle, Washington, or 2,300,000 homes.²

The diving conditions on the Columbia River are also different than one might expect. Depths can exceed 150 feet in many parts of the river, and water temperatures in the winter usually average 42 degrees Fahrenheit. The 511th used hot water suits to combat the effects of hypothermia while diving. An insulated pipe in the umbilical line links the diver to surface support and carries the hot water down to the suit.

The dive team began the operation at the John Day Dam on 4 December 2006. The team conducted inspections on the dam's north-side spillway and installed a cover plate over a discharge pipe. USACE engineers needed the 511th to determine if backwash and debris were



Two engineer divers enter the water at The Dalles Dam to conduct inspections and maintenance.

eroding the spillway apron on the down-river side of the John Day Dam, so they spent 2 days recording footage and taking measurements to provide USACE personnel the information needed for future improvements.

At The Dalles Dam, divers were tasked with two jobs. The first task was to install dogging devices, which hold headgates to the upriver side of the dam. Headgates are massive structures designed to hold back water at a pressure of 14,000 pounds



A stand-by diver sits on a bench, prepared to react in the event of an emergency.

per square inch. The second task was to inspect the north-side fish ladder gate seals. Fish ladders are a system of concrete steps that allow fish to swim upriver to spawn.

Final operations were conducted at the Bonneville Dam from 11–15 December 2006. At this site, the 511th cleaned gate seals, installed water-level gauges for the fish ladders, and removed debris from the upriver trash racks (a cagelike attachment that collects large debris). The accumulated debris found on the trash racks can consist of many things—from logs to dead animals. On this mission, the 511th manually removed small logs, which in some cases required the use of a crowbar and some ingenuity.

The mission was a success. Despite the rain and cold, the dive team completed 17 dive evolutions in 9 days, for a total of more than 41 hours of bottom time—the time from when the diver leaves the surface in descent until he begins ascent. It was estimated that USACE saved \$66,000 by requesting assistance from the 511th to conduct these tasks. Not only was this mission a unique diving opportunity for the 511th, but it also allowed the unit to foster cooperation with the USACE Portland District.

First Lieutenant Evans is the platoon leader for the 511th Engineer Light Diving Team with the U.S. Army Dive Company (Provisional) at Fort Eustis,

Virginia. He is a graduate of the Engineer Officer Basic Course, the Marine and Engineer Dive Officer (MEDO) Course at the Naval Diving and Salvage Training Center, and the Sapper Leader Course. He holds a bachelor's in liberal studies from the University of Montana, Missoula, Montana.

Endnotes

¹United States Army Corps of Engineers Portland District, <<http://www.nwp.usace.army.mil/op>>, accessed on 8 February 2007.

²Ibid.