washington river protection solutions

NEWS Release

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Washington River Protection Solutions wins national safety award

RICHLAND, Wash. – Washington River Protection Solutions (WRPS) received the 2017 Campbell Innovation Challenge award Tuesday for developing a physiological monitoring program that has eliminated heat stress cases the past two years at the Hanford tank farms.

WRPS, an AECOM-led company, is the Tank Operations Contractor for the U.S. Department of Energy's Office of River Protection at the Hanford Site in southeastern Washington state. The company is responsible for managing 56 million gallons of highly radioactive and chemical waste stored in 177 underground tanks.

The Innovation Challenge, which is awarded by the Campbell Institute at the National Safety Council, recognizes organizations for their achievement in the planning or implementation of an innovative program addressing critical environmental, health and safety topics in a way that demonstrates creative thinking, strategic implementation and significant impact.

"WRPS and AECOM are honored to be recognized by Campbell Institute," said Mark Lindholm, WRPS president and project manager. "This award demonstrates not only the creativity and forward thinking of our employees, but also their steadfast commitment to protecting their co-workers, the public and the environment."

Hanford is located in a hot desert environment. Many workers wear extensive personal protective equipment that often includes multiple layers of impermeable clothing tape-sealed to two pairs of gloves, booties, hoods and necessary respiratory protection. While this equipment protects the worker from chemical and radiological hazards, it creates other physical threats, including the increased potential of heat stress.

Physiological monitoring is a basic way to measure the level of an individual's heat strain in response to heat-stress conditions. The new physiological program involves monitoring employees' heart rates using a novel chest-mounted heart rate monitor that allows for remote, real-time assessment of heat strain and core body temperature using a tympanic membrane thermometer for periodic assessment of heat strain.

In the past, WRPS and other Hanford contractors conducted assessments for heat stress using Wet Bulb Globe Temperature measurement and relied on self-reporting of symptoms. When workers had symptoms, they exited the work location, removed multiple layers of PPE and had their heart pulse rate measured.

"The innovative program removes employees from harmful heat-related tasks before they develop heat stress symptoms," Lindholm said.

WRPS performed physiological monitoring on a limited basis in 2014, then conducted full campaigns in 2015 – which was one of the hottest summers ever on the Hanford Site with 28 days at or over 100 degrees – and again in 2016. In 2,290 sessions conducted in 2015 and 2,510 sessions in 2016, there were no heat stress-related disorders. The campaigns ran from May through September.

The project team that developed and implemented the innovation consisted of WRPS management, field work supervisors and industrial hygiene personnel. The team conducted significant testing of the heart pulse rate monitor and remote monitoring system. Ongoing, comprehensive campaigns educated and involved employees to develop associated protocols and procedures.

“The development and implementation of the program was realized because of employee engagement, teamwork and a strong commitment to safety,” Lindholm said. “Congratulations to the team for making the tank farms a safer place to work.”

Washington River Protection Solutions
External Affairs
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