Monitoring Vibration

A study has been conducted on our Dŵr Cymru Welsh Water contract to capture robust data to support vibration risk assessments.

Dŵr Cymru Welsh Water

Ten jetting operators took part in the study which covered the use of various plant including:

- **Van packs (high pressure jetting machines)**
- **City Flex (for jetting and suction tasks in densely populated areas)**
- **Combination unit tanker (specialising in removing silt, liquid waste and debris)**

MUS SHEQ Advisor **Ben Bamber** explains: "Determining vibration levels during high pressure water jetting activities is a priority. Various factors can affect vibration from jetting equipment including the use of the jetting nozzle, the pressure the machine is operating at, and the equipment for the work being undertaken. In addition, we know that large variances in work operation, tool condition and operator proficiency are likely to exist and should therefore be included in a thorough risk assessment.

"To gather exposure level data, REACTEC HAVwear devices were worn on the operators' wrists. In addition to tool vibration monitoring and recording, the monitors also gathered data of the actual exposure the user was subjected to. The HAVwear informs the user of their exposure by calculating and displaying real-time exposure points.

"Sound and vibration alerts inform the user if their personalised exposure thresholds, which can be set for individual user requirements, have been reached. A Bluetooth feature on the device also allows supervisors to view exposure risk levels at any time via a smartphone app."

Data from the wrist units was transmitted to an online analytics platform and reports can be viewed online or via automated email. Alerts can also be sent to inform managers of threshold breaches.

Ben adds: "The HAVwear device allows us to gauge vibration levels and ensure awareness of potential risks which we can proactively address by rotating tools or adjusting performance.

"Going forward, jetting activities will be sampled periodically to monitor vibration magnitudes throughout the life of the jetting unit, ensuring risk assessments are based on valid data.

"We plan to expand the use of monitors over the contract. Civil and reinstatement teams will be monitored and data gathered to ensure our vibration risk assessments remain robust and vibration exposure is as low as is practicable."