

Whitehillocks WTW Loss of power and chemical dosing 24th -25th March 2024

Event No. 14366

Event Category: Significant

Late on 24th March, Scottish Water's ICC called out an "RTU to PLC communications failed" alarm for Whitehillocks WTW to the standby operator who attended site at 01:00 on 25th March. The operator discovered the standby generator running, but only on minimal power, with no chemical dosing taking place but water still passing through the works. They switched the generator to manual operation to restore power to the plant, and proceeded to restart/reset equipment throughout the plant, monitor performance and take bench tests

Chemical dosing was lost for a total of 1.5 hours, and although all stages of treatment were affected, they returned to normal levels relatively quickly, with coagulation, clarification, filtration and disinfection kept under control. Disinfection failed during the power outage, and water was undisinfectated for the duration of the power outage, but the effects were mitigated by operator intervention and chlorine residuals were back at normal levels within 30 minutes.

The exception to this was the lime dosing for pH correction, which remained elevated above the PCV for 14 hours, with one final water sample breaching the PCV (pH 10.0).

Scottish Water's event review concluded that the root cause of the loss of power and chemical dosing was the standby generator failing to respond appropriately to the site's power failure. I note that Scottish Water have committed to actions to investigate this failing to prevent its recurrence.

As a result of the generator failure, the pH failure was caused by lime slurry settling out in the lime batching tanks during the power outage, which then sent a slug of concentrated lime into the treatment stream from the secondary pH dosing point when dosing was resumed.

The event has been categorised as significant. Scottish Water has identified seven actions which DWQR accepts are appropriate and will monitor to ensure they are completed prior to signing off the incident. DWQR made one additional recommendation.

