

Detecting a burst rising main on a UK wastewater network



6 hrs

From SAM4 alert to first site inspection and dye testing

20 hrs

From SAM4 alert to pumps stopped and main isolated

£200k+

Minimum in pollution fines avoided

The customer

A UK water company running one of the country's largest SAM4 deployments. It supported the development of SAM4's burst rising main detection, providing data of verified bursts recorded since 2024.

The situation

A two-pump sewage pumping station, monitored by SAM4 from the motor control cabinet, with no instrumentation on the rising main itself.

At 01:41 UTC on 9 June 2026, SAM4 raised a red burst rising main alert, based on a sustained, station-wide change in the pumps' electrical behaviour, with guidance to verify pipework integrity and look for signs of spillage.

Timeline

01:41

SAM4 raises a red burst rising main alert, ahead of any site indication.

AM

Same morning — first inspection; the main is walked and dye testing carried out.

PM

Same day — escalated to incident after further pressure drop-off.

20 hrs

Pumps stopped; rising main isolated, halting flow through the failure.

Day 2

Next morning — burst confirmed by dye testing; site kept isolated during the repair.

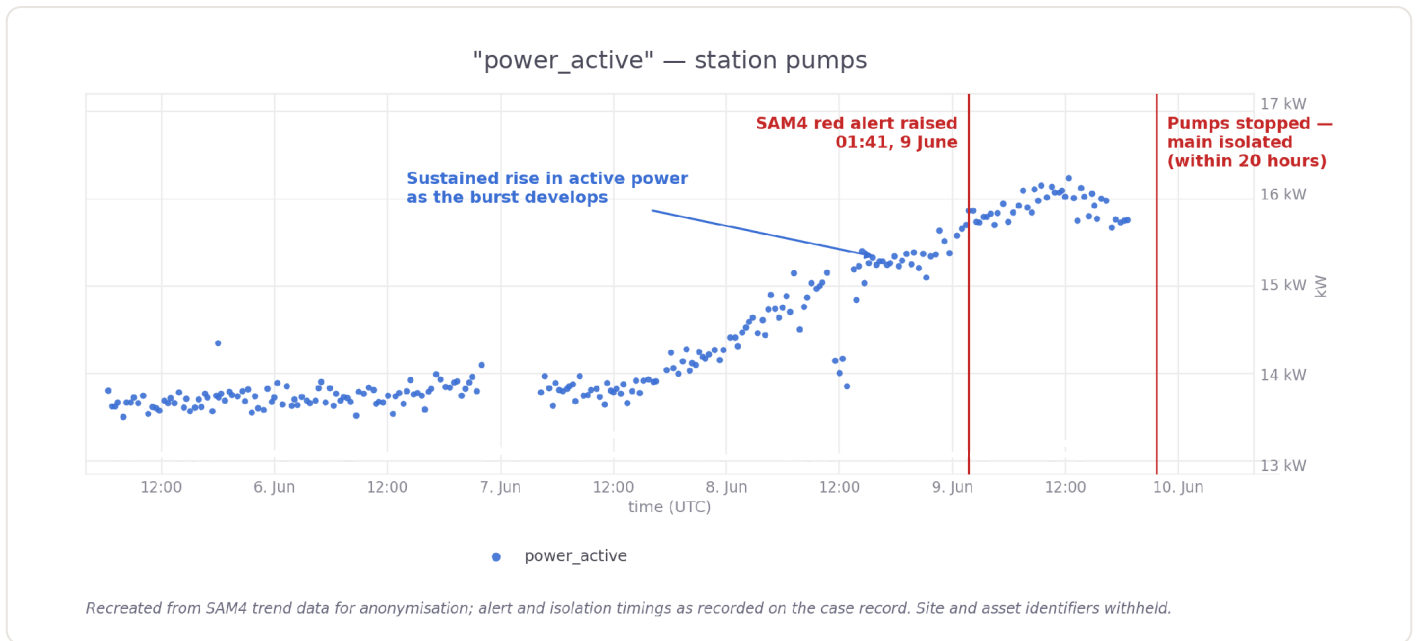


Figure 1. SAM4 electrical-signature trend. Active power across the station's pumps: a sustained rise as the burst develops, culminating in the red alert at 01:41 on 9 June; pumps stopped and main isolated within 20 hours.

Root cause

A loss of integrity on the rising main. The failure was not visible through conventional reporting routes, and there was no instrumentation on the main itself to flag it. SAM4 picked it up from the station's electrical data alone.

What happened

SAM4 detected the developing failure overnight and raised a red alert at 01:41 with clear first steps. The customer's team inspected the same morning, escalated as the evidence built, and stopped the pumps within 20 hours. Dye testing confirmed the burst, and the site was kept isolated during the repair.

The outcome

A live burst was inspected, verified and isolated within 20 hours of the alert, avoiding a minimum of £200,000 in pollution fines and significantly limiting the environmental impact, plus the considerable costs of containing a burst rising main to prevent spilling into the environment (estimate provided by the customer). The alert was raised overnight, from the pumps' electrical signature alone, with no instrumentation on the rising main itself.

Curious how SAM4 detected it? We'll walk you through the detection, and what it would look like on your network.

TALK TO THE TEAM

www.samotics.com

sales@samotics.com