

Electronic monitoring and data collection

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We require some dischargers to electronically monitor their trade waste discharge on a continuous basis, as a condition in their individual trade waste discharge permits. This generally applies in situations where there is significant risk to our sewer network, treatment processes or treatment end-product quality that requires mitigation by constantly monitoring parameters of concern and responding accordingly. We also use the collected data to assess ongoing compliance with discharge conditions. Typical parameters are:

- Flow rate and volume
- pH
- Conductivity
- Temperature
- Turbidity
- Hydrogen Sulphide (H₂S)
- Chemical Oxygen Demand (COD)
- Hydrocarbons

Below are details of the expectations for on-site electronic monitoring and data collection systems.

General aspects

- The discharger and our Trade Waste team agree to a rapid response contingency plan for equipment failure (including spares inventory on site).
- Probes are located in areas representative of trade waste discharge to sewer. Probes should not be located in pump chambers or areas with stagnant flow due to potential homogeneity problems, sample degradation and fouling issues.
- Probes are not to be installed within a minimum length each side of the effluent flow meter of five times the diameter of the pipe to prevent flow disturbance.
- Probe/meter types are suitable for the specific wastewater type and site conditions.
- We do not recommend multi-parameter probes, as probe failure could result in all parameters being lost or not monitored. Combination probes incorporating a temperature sensor and one other parameter are acceptable.
- Monitoring stations are located in trade waste drains, not in sewer points that also contain domestic sewage, unless approved by the Trade Waste team.
- All monitoring, data collection and alarms need to represent dynamic flow and not zero flow conditions.
- Cleaning /calibration occur at the equipment manufacturer's suggested minimum frequency, unless otherwise specified within individual trade waste discharge permits.

Data collection frequency

The maximum sampling interval for collecting individual raw (spot) data values is **two minutes**.

Communication/accessibility

We may specify one of the following two monitoring options in individual trade waste discharge authorisations.

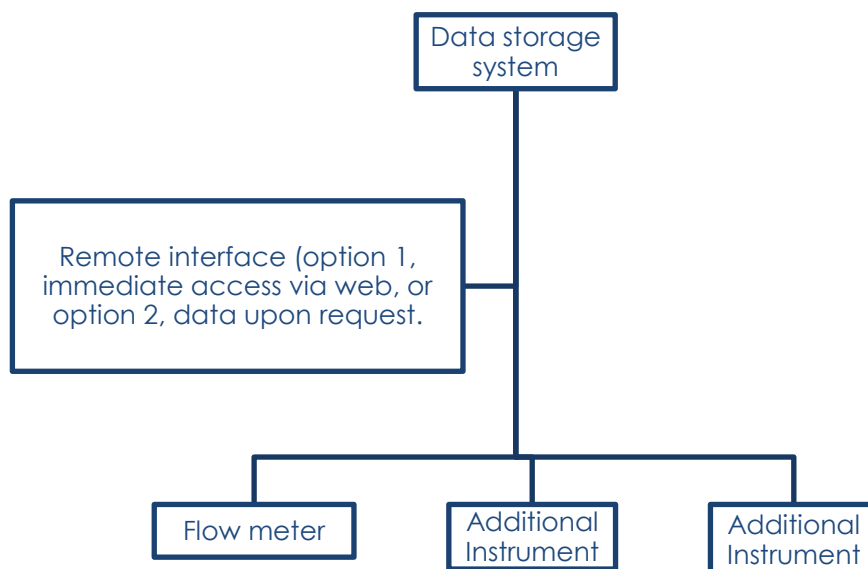
Option 1: Data is accessible by us at all times with automatic alarm capability

- A minimum of 24 hours graphical and raw 'real-time' data.
- Able to graphically display up to three months of historical data for selected date range of interest.
- Able to export historical raw data for the previous 24 hour period in a generic format, without the need for proprietary software (e.g. CSV file).
- Historical data must be stored either online or by other means for a period of up to two years, and is made available without delay upon request. These data transactions may occur routinely or ad hoc for compliance/incident investigations. Email transactions may occur for file sizes up to 5MB. Alternatively a Trade Waste Officer may obtain data during a site audit with a USB mass storage device.
- Able to automatically send alarms if pre-set alarm points are exceeded (see alarms section below for details).

Option 2: Data is accessible by us at all times, with no automatic alarm capability

- As for Option 1, but the ability to send off-site alarms is not needed.

Typical example



Alarms

On-site alarms – all electronic monitoring equipment

We will specify alarm set points in individual trade waste authorisations. Audible and/or visual indicators are required for all of these systems, to effectively alert site personnel, so they can respond accordingly. Examples are flashing lights, bells, or alarm messages to the control room via the site's industrial control system.

Off-site alarms – Option 1 equipment only

- Option 1 equipment must also automatically notify (via SMS) the 24 hour Trade Waste on-call number **0439 888 164** when an alarm set point has been exceeded. For this purpose, **ten minutes of averaged data is used** (i.e. using a raw event filter consisting of a minimum of five individual raw data points). The SMS must clearly state the trade waste authorisation holder, discharge location (if multiple locations within a site) and the parameter outside of alarm set points. For example:
[Discharger's company name] final discharge point pH < 6.
- The alarm is only sent once and should remain active or on hold until manually reset.
- Alarms are not activated if there is no flow of trade waste to sewer.
- It is advisable to configure additional SMS alarms to be sent to appropriate site personnel only, at set points somewhat inside those we specify. This enables fixing problems before they trigger an automated alarm to the Trade Waste on-call number.

If you are unsure whether your preferred electronic monitoring system meets our minimum requirements, please contact our Trade Waste team or your Trade Waste Officer. We may approve systems that vary slightly from those requirements listed above, providing they meet the critical performance aspects.

Responses to alarms

The discharger

On-site personnel should take appropriate action in accordance with the previously established Contingency Plan. The [Risk Management Information Guideline](#) has information on contingency plans.

SA Water

Upon receiving an alarm, a Trade Waste Officer will assess the available information and immediately contact the company's contact person. An immediate site visit may be necessary. We may recover the cost of sample analysis or damage caused to our infrastructure arising from an unacceptable discharge incident.