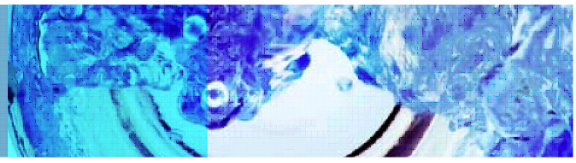

INDUSTRIAL WASTE MONITORING POINTS – IWPUB 11

What is a Monitoring Point?

For industrial waste purposes a monitoring point is defined as the location within the site of a particular industry that contains all the facilities and equipment necessary for the Water Corporation and the industry to adequately monitor the industrial waste being discharged to the sewer.

Essential features of a monitoring point

The specific features of a monitoring point will vary depending on the industry, but a monitoring point will always include a sample point, as follows:

- New installations. A sample point with a minimum diameter of 100 mm and a water seal of 300 mm to provide access to the waste stream for sampling using an automatic sampler. Refer to the typical drawing Industrial Waste Monitoring Point (HX33 20-00).
- Existing installations. These will be assessed on a case-by-case basis. Existing disconnector gullies (DGs) may be accepted.

Additional features which may be required

Depending on the situation, one or more of the following items may be required:

- Power Outlet. A 240V AC power outlet (Rowco RC310[1] or similar), adjacent to and within two (2) metres of the industrial waste sample point, and located above ground, at a maximum height of 1500 mm, to provide power for the sampling machine.
- Flow Metering Device. One or more approved flow metering devices, with no bypasses. Depending on the application, one of the following options may be used:
  a) Use of main and/or sub water meters. The number of meters is to be minimised, preferably to one meter. The industrial waste volume will be taken as 100% of the metered volume. In addition, with this option the customer must be prepared to take hourly meter readings when the Corporation is performing composite sampling to determine effluent quality.
  b) Use of an effluent flow meter. Details on the requirements for effluent flow meters are specified in a separate information brochure, “Industrial Waste Flow Metering” (iwpub09).
- pH Sensor. A pH sensor with a 4 - 20 mA output for connection to a data logger with a minimum range of 1-14. The pH sensor is to be separate from any monitor/controller used with dosing to adjust pH. The calibration of the pH sensor is to checked and adjusted as required at a suitable frequency to ensure that the pH reading is always accurate to within 0.3 pH units.
- pH Visual Display. A visual display for a pH sensor with a minimum range of 1 to 14.
- Temperature Sensor. A temperature sensor with a minimum range of 0 - 80°C.
- Temperature Visual Display. A visual display for a temperature sensor to read in degrees Celsius with a minimum range of 0 - 80°C.
- Data Logger. See Data Loggers (page 2) for general installation requirements.
- Other. Monitoring devices with visual displays as specified by the Corporation.

[1] The Nilsen Rowco series of industrial plug, sockets and combinations is produced by Nilsen Elecrical Industries Pty Ltd. The RC310 is a combination 3 pin socket of 10 Amp current rating.

General Requirements

Irrespective of the particular facilities required by the Corporation, all monitoring points must comply with the following:

- Location. Discharges from all process areas and/or treatment facilities are to be directed through a single monitoring point located within the property boundary.
- Connection. The connection from the industrial waste stream may only connect to the property sewer conveying domestic wastewater downstream of the monitoring point.
- Security. All facilities and instrumentation, both permanent and temporary, are to be secure against accidental or deliberate damage.
- Accessibility. The monitoring point and all its components are to be unobstructed and readily accessible at all times. Monitoring points are not to be located in driveways or parking areas, however it should be possible to drive a vehicle to the area immediately adjacent to the monitoring point for servicing, inspection and sampling purposes.
- Water Corporation Access. Access by Corporation staff is to be maintained at all times.

Additional Requirements

The following items, applicable with relevant instrumentation, may also be required:

- Visual Displays. The visual displays, 240V AC power outlet, and flow meter pulse output plug are all to be within (2) two metres of the sampling point and above ground. Access to these fixtures must be unobstructed.
- Labels. A permanent label is to be fixed on the front of the display or inside the cabinet indicating:
  c) the units of the totaliser output are in whole kilolitres;
  d) the instantaneous discharge rate is displayed in litres per second; and
  e) the pulse output rate is one (1) pulse per 100 litres.
- Enclosure. If located externally, all visual displays and the chart recorder are to be enclosed in a waterproof outdoor cabinet to Australian Standard AS 19392[2], Table III-3 and Table II-6 or equivalent standard, with a transparent window to allow viewing of displays. The cabinet is to be protected from direct sunlight in areas of high temperature. The top of the cabinet is not to exceed 1500 mm above ground level and the bottom of the cabinet is not to be less than 600 mm above ground level.
- Enclosure Lock. If the location of the cabinet is not secure from interference or damage, then a secure lock is to be provided and (2) two keys to the cabinet supplied to the Water Corporation. In this situation the 240V AC power outlet and the flow meter pulse output should also be made secure against interference or damage.
- Power Supply. The power supply to any monitoring instrument must have its own circuit separate from all other powered facilities on the site, and be direct wired through an on/off switch to the equipment. The on/off switch is to be lockable to guard against the equipment being inadvertently switched off. The keys are to be held by an appropriate responsible person.
- Calibration. Prior to discharge of any industrial waste, an Industrial Waste Monitoring System Commissioning Report (F 1-8-2) is to be submitted to the Commercial & Industrial Services section of the Water Corporation.

Data Loggers

Data loggers are to comply with the following requirements:

- Connection. Directly connected to the measuring instrument.
- Labels. The scale for each parameter being recorded is to be clearly displayed on the front of the logger.
- Displays. Capable of displaying the instantaneous reading for whatever parameter is being monitored. Where the data logger has a totaliser built in, the recorder display is to show the total and instantaneous flow rates thereby avoiding duplication of displays when linked to a flow meter.

[2] "Degrees of protection provided by enclosures for electrical equipment (IP Code)" Australian Standard AS 1939-1990. An enclosure meeting the specification of Table 11-6 is dust-tight, and one meeting Table 111-3 is secure against spraying water.

- Display Format. All built-in displays are to be in digital format with a minimum of six (6) digits. The displays are to have battery backup and password protection. Where displays are showing flow, the display is to be in whole kilolitres (one digit is to represent 1 kilolitre). The totaliser is to be clearly marked as displaying in kilolitres. Instantaneous flow rates are to be displayed in litres per second, with a minimum indication of one (1) decimal point, (0.1 litres per second). The indication is to be clearly marked.
- Logger Span. The span must be set so that peaks and troughs in the record are shown within the calibrated range.
- Annotation. The data logger shall be regularly annotated for date, time and channel inputs.
- Historic Data. Data loggers are required to have enough internal memory to store data for up to 6 months, or other period as directed and available for inspection by Water Corporation officers.

Although only one variable may be logged when the data logger is initially installed, future logging requirements are to be anticipated. Consequently a data logger capable of logging up to three variables simultaneously should be considered.

Other requirements for data loggers include event logging and alarm generation, however the need will depend on the waste being monitored, and will be determined by the Corporation.

Associated Industrial Waste Publications

The following documents referred to in the text can be found on the Water Corporation website http://www.watercorporation.com.au/P/publications_industrial_waste_information.cfm :

- Industrial Waste Monitoring System Commissioning Report (F 1-8-2)
- Typical Drawing for an Industrial Waste Monitoring Point (HX33-20-00)
- Industrial Waste Flow Metering (iwpub09)

More Information

Further information on the issue detailed on this sheet can be obtained by phoning 13 13 95, or visit your nearest Water Corporation office.