

DP-SK-017 Sampling Frequencies

As per the Environment Agency guidance: 'H1 Annex D2, Assessment of the sanitary and other pollutants within Surface Water Discharges', the reported and target standards were identified for Skellingthorpe Main Drain which is the receiving surface water for the discharge of treated abattoir effluent. This data was requested from the Environment Agency. According to this guidance a discharge is usually acceptable if:

1. it does not cause deterioration in quality of the water body receiving the discharge, and
2. the receiving water body meets its target quality standards.

According to the EA guidance the parameters of concern are Ammoniacal Nitrogen, Phosphorus and Biochemical Oxygen Demand (BOD) and are the required target standards to test against to determine the allowable discharge limit. The treated effluent quality data (Document Ref: DP-SK-013) shows the absence of Ammoniacal Nitrogen or Phosphorus but does show the presence of BOD. Therefore, BOD has been tested to determine the impact on Skellingthorpe Main Drain. According to the EA guidance, the EA will consider deterioration of up to 10% in the current water quality if this deterioration does not, on an individual element by element basis, cause a deterioration beyond the class boundary for each one considered. A breakdown of these calculations is shown in Document Reference: DK-SK-010.

The EA guidance 'Surface water pollution risk assessment for your environmental permit' is not applicable for this discharge as the treated effluent does not contain hazardous chemicals and elements as listed within the guidance and consists of organic material only (Document Ref: DP-SK-013).

As per the BAT 'Common waste water and waste gas treatment/management systems in the chemical sector for monitoring emissions, these will be carried out in accordance with EN standards with the monitoring of influent and effluent waste water helping to maintain the proper operation of the Effluent Treatment Plant and to prevent any possible adverse environmental effects upon discharge of waste waters.

The Treatment Plant has a final effluent sampling and measurement chamber and is continuously monitored before entering surface water. It has been designed to ensure BOD concentration in the effluent is treated to an acceptable level and does not cause more than 10% deterioration in the river quality. A flow recorder and logger will be installed to ensure the daily flows are not exceeded and provide a record for EA inspection.

For monitoring BOD, it is recommended at least 12 samples are taken in the first year of sampling as per The Environment Agency Guidance 'Waste water treatment works: treatment monitoring and compliance limits.' Composite samples will be analysed for BOD on a monthly basis.

As an environmental permit holder, the Monitoring Certification Scheme (MCERTS) will be used to meet the Environment Agency's quality requirements for emission monitoring. A detailed sampling methodology will be inserted into the Management System. The sampling

equipment will be tested and certified to the MCERTS performance standard, with temperature control. Radomised samples will be taken monthly and analysed for all final effluent parameters at the following sample locations:

- The effluent sample point at grid reference: SK9404572765. To avoid contamination sampling the sample will avoid the cover, chamber walls and bottom of the chamber in the treatment plant.
- The inlet sampling point at the Skellingthorpe Main Drain at grid reference: SK9374272602. Sample will be taken at an outfall from regions of high turbulence and good mixing, usually at the centre of the discharge. Solid materials will have little chance to settle out here.