

Case Study

Diageo pH correction & effluent treatment



Client:
Diageo

Location:
Belfast,
Northern Ireland

Project:
pH, Correction System

In order for Diageo to gain their discharge licence, updated by Northern Ireland Water the effluent limits needed to be monitored and controlled.

Throughout studies it was apparent that each parameter was within its limit. The pH limit, however, was fluctuating in and out of its limit.

Therefore, Colloide were contracted to provide Diageo with a pH control system to regulate the pH of the effluent leaving the plant, ensuring that it was kept within the license limits of 5 –10.

Throughout our initial testing we found the pH levels were crossing both the upper and lower limits, therefore it was necessary to be able to adjust the pH value both ways, Colloide proposed a solution which included an acid and sodium hydroxide dosing system to allow control of the pH in both directions

Project Deliverables

The main components of the system

- A new pumping station that would pump the effluent to an above ground contact tank where the chemicals are mixed into the effluent.
- The current flow direction is altered through the valve chamber allowing the flow to pass into the new pumping station.
- A contact tank mounted at ground level. The acid and sodium hydroxide are dosed at the inlet end of this tank.
- A pH measurement system, made up of three separate PH probes operating within triple validation mode, mounted on the outlet of the contact tank.
- Acid storage and dosing system including 1000L tank and bund, duty/standby dosing pumps, pipework, etc.
- Sodium hydroxide storage and dosing system including 1000L tank and bund, duty/standby dosing pumps, pipework, etc.
- Antifoam dosing system.
- Main control system to monitor and control all of the plant from main process pumps to dosing systems.

Following completion, equipment training and the handover consultation Diageo have without fail reached their desired limits which align with the limitations set by Northern Ireland Water standards. Diageo are now competent that if any issues are to arise their newly installed validation system will keep them on track to increases or decreases of their pH values.

