Port Talbot Site Operating Procedure
PT-OP-004: Ferrous chloride Neutralisation & Processing

1.00 PURPOSE AND SCOPE

The purpose of the plant is to receive surplus Ferrous Chloride Solution (FCS) from the Acid Neutralisation plant, neutralise the FCS using lime solution and then de-water the sludge using the filter presses. This needs to be treated prior to discharge to the Basement Tank System.

2.00 DEFINITIONS

None

3.00 REFERENCES

Suez Environment Ondeo IS operating procedure for plant

3.01 Supporting Documents

Operating Procedure PT-OP006: Basement Tank System

Form 1069: Raw material log sheet
Form 1071: Volume of Ferrous Chloride removed from site to customers

4.00 PROCEDURE

4.01 Used Ferrous Chloride Solution is collected in one of three Ferrous Chloride Solution tanks, each with a capacity of 54,500 m^3.

4.02 By preference, the Ferrous Chloride Solution is exported by road tanker to industrial customers. These volumes are recorded on Form 1071: Volume of Ferrous Chloride removed from site to customers. Which has been translated on to an excel document which is emailed weekly to all necessary parties within Industrial Chemicals Ltd & TATA – Titled 'Copy of FCS Info – Robert Boydell'.

4.03 Surplus Ferrous Chloride Solution is exported to the Cold Mill Effluent Treatment Plant (CMEff) using Ferrous Chloride Solution Transfer Pumps 1 or 2. It is normal to transfer sufficient Ferrous Chloride Solution to ensure that there is approximately 10% left in the Acid Neutralisation Ferrous Chloride Solution tanks at the end of the day shift.

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4.04 Ferrous Chloride Solution is received at CMEff at the Ferrous Chloride Solution Neutralisation Tank. The Ferrous Chloride Solution Neutralisation Tank is a two stage tank and each stage is equipped with a mechanical stirrer, pH instrumentation and automatic lime dosing system. The volume of lime used is recorded on Form 1069: Raw material log sheet. Which has been translated on to an excel document which is emailed weekly to all necessary parties within Industrial Chemicals Ltd & TATA – Titled 'Copy of FCS Info – Robert Boydell'.

4.05 Ferrous Chloride Solution Neutralisation Pumps 1 & 2, transfer the neutralised Ferrous Chloride Solution to Sludge Holding Tanks 1 & 2. Mono Pumps P1, P2 and P3 then transfer sludge to the duty filter press where it is de-watered.

4.06 Liquid from the Filter Press is returned to the Basement Neutralisation Tank (Operating Procedure PT-OP006: Basement Tank System).