

Water Treat Project Process Description

Sour water with average PH 1.5 – 3 is coming to the Feed tank SW-TK-001. Level Transmitter SW-LT-001 is controlling level in the tank (SW-LT-001 – Level control, LIC, operating Valve SW-HS-009).

Pumps SW-PU-001...004 transfer sour water to reactors. Flowmeters SW-FT-001...SW-FT-004 are used for flow control when operator set a setpoint in HMI and then PID regulator operates pumps SW-PU-001...004 in order to keep the flow in each line (There should be counters for each flowmeter in HMI). Afterwards sour water goes to the Thickeners SW-TH-001/SW-TH-002. Overflow from thickeners is transferred by pumps SW-PU-005/SW-PU006 to reactor WT3-RT-001 where sour water is neutralized to PH7. SW-FT-006 is a flowmeter which indicates sour water flow to reactor WT3-RT-001 (There should be counter for the flowmeter in HMI)

WT3-FIT-005 is a flowmeter which indicates sour water flow coming from another supply point (should have counter in HMI).

Lime milk tank WT-TK-002 is keeping lime milk for PH neutralization. WT3-LIT-002 is used for level Indication. Pumps WT3-PU007/WT3-PU008 are dosing lime milk to a reactor tank WT3-RT-001 depend on PH setpoint made by operator. WT3-PH-001 is used for PH indication and control. WT3-FIT-001/WT3-FIT002 are flowmeters with indication and should have counters in HMI.

Neutralized water from WT3-RT-001 goes to the thickeners WT3-TH-003...TH-006 (depend on which is in operation). Overflow from thickeners transfers by gravity to a tank WT3-TK003. Level transmitter WT3-LT-001 is used for indication and level control when operator set a setpoint in HMI and then PID regulator operates pumps WT3-PU005.1/PU006.1 in order to keep the level in the tank. WT3-FIT-008/WT3-FIT009 are flowmeters with indication and should have counters in HMI.

Underflow from thickeners WT3-TH-003...TH-006 is pumping out by pumps. Flowmeters WT3-FIT-007.3...FIT-007.6 are used for flow control when operator set a setpoint in HMI and then PID regulator operates pumps SW-PU-001...004 in order to keep the flow in each line (There should be counters for each flowmeter in HMI).

Flocculant line is used to add special flocculant to neutralized water when it is being transferred to thickeners. Flocculant is dosing by pump WT3-PU-002/PU-002.1. Each line has it's own set of automatic devices: Flowmeter (WT3-FIT-003.3...FIT-003.6, Pressure transmitter (WT3-PT-001.3....PT001.6) and a regulating valve (WT3-BV-007.3...BV-007.6). Flowmeters WT3-FIT-003.3...FIT-003.6 are used for flow control when operator set a setpoint in HMI and then PID regulators operate regulating valves WT3-BV-007.3...BV-007.6 in order to keep the flow in each line (There should be counters for each flowmeter in HMI). Pressure transmitters (WT3-PT-001.3....PT001.6) are used for pressure indication.