Easy Influent Monitoring & Phosphorus Dosing Control

Measuring COD, PO4, NH4, COD filtered & TSS

Victorian WWTP trial - Mixed domestic and industrial use catchment



Introduction to UV/Vis From Absorbance to the Parameter



Chemometric Modelling



COD= 5.05+388.44* Absorbance (282nm) -6123.48* Absorbance (436nm) +5564.12* Absorbance (448nm)

*Further parameters on request

STEP 1: First, we set up the sensor using a simple handrail bracket and outdoor enclosure.



STEP 2: Then we added an Air Compressor and an Autosampler to automatically clean the sensor and retrieve samples.



STEP 3: Lab reference tests were undertaken.

STEP 4: Site specific chemometric models (calibrations) were then created.



EVALUATION: Initial results were good with high SQI confidence (low values) but PO4 controlled dosing for feed forward phosphorus control was an important project driver.



Separate calibrations for PO4 were setup for evaluation.







A Victoria wide lockdown suddenly occurred which demonstrated an increase in incoming Ammonia as more people stay home.

Summary

Work required by site to set up: **Maintenance requirements: Phosphorus dosing control evaluation:** Influent monitoring evaluation:

Parameters measured with a single sensor: COD, COD-filtered, PO4, NH4, TSS (NO3 available) Electrical wiring, 25-35 grab samples, lab testing Sensor requires manual clean once per week **Suitable Suitable**

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