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Sect

B

Subject

waste water Engg

Assignment

Revised

Assignment #01 Revised.

The basic design parameter of waste water treatment plant system are we need some important parameter such as capital amount of BOD, COD, TSS, VSS, TKN, total phosphorus, and also an inflow to the facilities and the temperature and pH of wastewater to be treated.

① One parameter.

pH: Generally the waste water collect the monitored site is slightly alkaline the pH varies b/w 6.8 and 8.3 average value + 8.2 thus the pH values are within the accepted range for 6.5 and 9.0 for the waste water this parameter $[H^+]$ ion concentration.

② Hydraulic Retention Time.

(HRT) in waste water treatment plant is measure at an average length of time holding the

wast water in a tank. It also known as the hydraulic retention time.

③ Solid retention time:

(SRT) is a critical activities sludge design and operating parameter the traditional method for control 'SRT' is to manually adjust the sludge wasting rate base on the food-to micro-organisms (F/m) ratio or mixed liquor suspended solids (MLSS) concentration.

=> Method decoupling for HRT from SRT?

The hydraulic retention time SRT from HRT Reduces the capital expenditure and increase Biogas production and for CHP utilization.

The decoupling of SRT from HRT not only increased glucose at organic loading rate of 6.5-42.2g COD/L-d and ~~red~~ HRT 8-12 hr.

the SRT to 99.9% in the FB Ross.

From 0.55 - 1.8 in the CSTRs

To 2.4 - 9.6 $\frac{1}{L-d}$.

SRT from HRT to ensure sufficient reactor biomass.

Advantage of decoupling SRT from HRT:

- ① Good contact b/w biomass and substrate efficiency.
- (2) Required small area.
- (3) stable sludge
- (4) long service time
- (5) simple design
- (6) Relatively low cost.
- (7) low excess sludge production.

- (8) High biomass retention.
- (9) high organic loading.
- (10) larger granular sludge.
- (11) highly contact b/w sludge and wastewater.
- (12) Improve mixing. those advantage SRT from HRT.