Upgrading loganholme wastewater treatment plant

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Abstrak

Municipal and Industrial wastewater mostly comes within high concentration of Phosporous containing compounds. Phosporous comes mainly from human excreta and from synthetic detergents and it is also the primary nutrient responsible of algal bloom. If these wastewater are not treated to removes phosphorous and/or nutrient enrichment in both groundwater and surface waters then it may leading to detrimental effects on water quality and eutrophication of surface water.

Even though some methods such as reverse osmosis and electrodialysis have been suggested to remove phosphorous compounds, such methods are proven to be very costly. Therefore some countries are still looking for various methods which will be more effective as well as inexpensive. One of the method which in recent times is the use of coagulants such as calcium, aluminum, or iron salts into the Wastewater Treatment Plant. The use of Ferric Chloride is an example of widely used coagulant; however it creates systematic side effects to the treatment plant. Nevertheless, it is believed that this method is more effective removing Phosphorous in wastewater.

Loganholme Wastewater Treatment Plant is the biggest wastewater treatment plant in Queensland regions which start using this method in order to removes Phosphorous as well as aligning their system with the new statement from Environmental Protection Agency (EPA) in terms of their discharge effluent into The Logan river. An approval from Queensland Government is needed to run the new system, therefore some laboratory test has to be conduct in order to make sure that this new system is safe to run without too much disturbing the Logan river ecosystem.

Based on the laboratory results, it can be seen that this method are effective in removing Phosphorous and also meets with the new regulation from EPA.

However, one thing that should be pointing out is the dose of this coagulant should be used in appropriate way in order to prevent another effects that might me occur in the appearance of this new method.;