

Section 8 Small Package Plant Management

Package Treatment Plants refer to smaller wastewater treatment plants that are pre-manufactured and subsequently delivered to a site. These plants are sized correctly at the time of installation but the quality of their effluent decreases over time as the premises increases its discharge levels. Due to the high capital cost of these plants, it can be uneconomical to replace them within a certain time-frame, requiring the addition of bacteria, nutrients and settlement aids to produce an effluent within discharge consent conditions.

Coagulation is usually required in such a circumstance. The minute contaminants that remain in the effluent all exert a negative electric charge. These particles repel each other and prevent settlement. By the addition of a coagulant containing strong positive charges, the particles draw closer together and settle out. The result is a significant reduction in suspended solids, Biochemical Oxygen Demand and phosphorous. All these contaminants are subsequently removed from the system as excess sludge.

Another common cause of plant malfunction is their lack of a “turn-up” and “turn-down” function. Many premises such as nursing homes, holiday parks, public houses and hotels experience fluctuating customer numbers. Products can be introduced to artificially feed a plant in slack times and bacteria can be added to accelerate biological breakdown at peak periods.

As a requirement of each discharge licence, sampling and reporting is required every three months and analysis must be sent to the relevant local authority. This service can be provided as a fixed price annual contract along with required products and inspections.