

WWTP Monclova, Mexico

A Case Study

Case Study: Municipal WWTP
Client: Monclova – Mexico
Start Up: 2005
Capacity: 58,300 m³/d



Overview

The municipal WWTP at Monclova, Mexico had to increase its capacity by a factor of 1.5 and improve nitrification capacity, for 100% reuse by industry.

Requirements

The city of Monclova operates a modern wastewater treatment plant which receives urban and industrial wastewater. A retrofit for an increase of 50% in capacity was required, as well as improvement in effluent ammonia. The treated wastewater is used by the local industry and has to comply with its requirements.

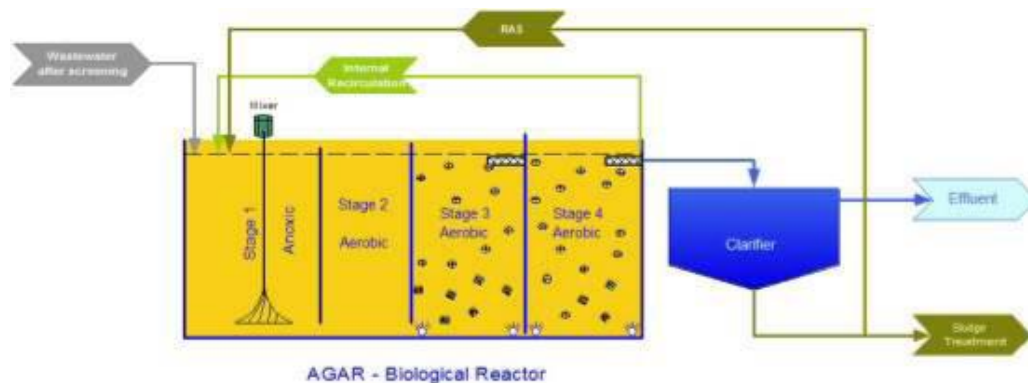
Solution

Application of the AGAR[®] technology in an IFAS configuration was installed in order to insure sufficient nitrification. This allowed sufficient volume to accommodate the corresponding denitrification capacity. Biomass carriers were installed in the aerobic 50% of the tanks volume, and additional equipment to enable the suitable operating parameters was installed.

Challenge

The plant was not nitrifying even at high MLSS. In addition, denitrification capacity was BOD limited.

Design



The AGAR® technology was installed as a four stage IFAS (Integrated Fixed Film Activated Sludge) process, which combines attached growth of biomass on the carriers with activated sludge returned from the clarifiers. This configuration was chosen in order to perform simultaneous BOD removal and nitrification in the aerobic part of the tank. Corresponding pre-denitrification is accomplished by controlled internal recirculation of mixed liquor.

Results

	BOD ₅	TSS	NH ₄ -N
Influent	300	200	30
Required Performance	10	10	5
Actual Performance	5	5	2