

# CASE STUDY



|                 |  |
|-----------------|--|
| <b>PROJECT</b>  | <b>PRIMARY TREATMENT PLANT UPGRADE FOR TIMBER MILL</b> |
| <b>PRODUCT</b>  | Salsnes Fine Screen Filter                             |
| <b>INDUSTRY</b> | Infrastructure   |
| <b>LOCATION</b> | Bunbury, Western Australia                             |

## BACKGROUND

A large timber process and export facility based in Bunbury Western Australia approached MAK Water to review the operations of the company's Waste Water Treatment Plant. MAK Water's aim was to review the waste water treatment system and propose a long term solution that would improve water quality and reduce ongoing operation costs.

It quickly became apparent that the lack of a pre-treatment process was allowing a high level of solids into the primary treatment process. This added unnecessary solids loading on the treatment plant, thus affecting both water quality and operational time spent optimizing the plants processes.

## SOLUTION

MAK Water has built a number of waste water plants and understands the importance of selecting the right pre-treatment solution for the application. Based on our years of experience in the waste water industry we recommended the Salsnes Fine Screen Filter and carried out bench tests to confirm this would reduce the solids loading on the current treatment process, this was proposed in conjunction with upgrading the plants current flocculation system.

## SALSNES SCREEN

- The system has two primary processes firstly removal of TSS and secondly sludge dewatering.
- With the use of a rotating mesh filter, fibres particles are captured on the filter belt while allowing clean water to pass through. The pores size of the filter mesh is interchangeable to optimise TSS removal.
- All solids captured by the filter belt are then removed using an air knife into the sludge conveyer where the solids are compressed into a cake like product for easy disposal.

## FLOCCULATION UPGRADE

- After performing multiple jar tests using a range of coagulants and polymers MAK Water was able to optimise the flocculation process to improve the clarifier's performance which is installed prior to the Salsnes Fine Screen Filter
- In order to increase chemical contact time during the flocculation process, the addition of a flocculation dosing and mixing skid added to the process.

## RESULTS AND BENEFITS

- **Plant Reliability:** The high quality designed equipment, allows minimal maintenance saving both time and money.
- **Reduction in solids loading:** Reducing chemical consumption and dramatically improving water quality.
- **Solids disposal:** The dewater process of a Salsnes fine Screen Filter produces a cake like product reducing the volume of solids waste.



MAK Water provided all site installation works



Salsnes Screen installed to reduce solids loading