

CASE STUDY

PROJECT DAF AUDIT FOR FOOD & BEVERAGE SITE

PRODUCT DAF Audit Report

INDUSTRY Food and Beverage

LOCATION Erskine Park, New South Wales



BACKGROUND

A F&B client operates a 40 m³/h co-current Dissolved Air Flotation (DAF) system to meet Sydney Water discharge standards.

MAK Water was engaged to perform a two-day on-site audit to assess asset condition, verify chemical dosing practice, identify failure risks, and recommend actions to restore full operational reliability and reduce operating costs.

SOLUTION

MAK Water delivered a structured DAF audit and prioritised action plan covering:

- Full asset condition assessment across pumps, valves, saturator, scraper assembly, chain and sprockets, pipework, tanks, instrumentation, and electrical systems with condition and criticality scoring
- Chemical optimisation based on jar testing and field data to align polymer and coagulant dosing with actual process needs
- Targeted mechanical interventions including monthly inspection and cleaning of the critical recycle pump service/rebuild recommendations
- Instrumentation program to clean, calibrate or replace turbidity and pH probes and to inspect/replace pressure gauges
- Strategic recommendation to evaluate a sludge dewatering solution to reduce long term disposal costs.



RESULTS AND BENEFITS

- **Chemical cost reduction** — stepwise polymer and coagulant dose reductions expected to deliver savings of around \$300,000 per year; polymer usage could fall by up to ~80% toward target dosing.
- **Improved process control** — calibrated turbidity and pH probes prevent overdosing and stabilise effluent quality.
- **Reduced downtime risk** — monthly inspection and spares plus servicing of worn pumps reduce the chance of a flotation failure
- **Lower sludge volumes** — optimised chemical dosing reduces sludge generation; dewatering would further cut disposal costs.

