

Remote Monitoring prevents plant shutdown

Food & Beverage | Reference: Soft Drink Plant, North Africa

Client

The client is one of the leading multinational beverage corporations and works according to top levels of quality management and implements high standards for hygienic design. At its North African bottling site for refreshments, the company operates a complete two train treatment plant for beverage product water, that consists of all relevant process steps such as reverse osmosis, activated carbon and ultrafiltration. Veolia had implemented a **Remote Monitoring System** for this plant.

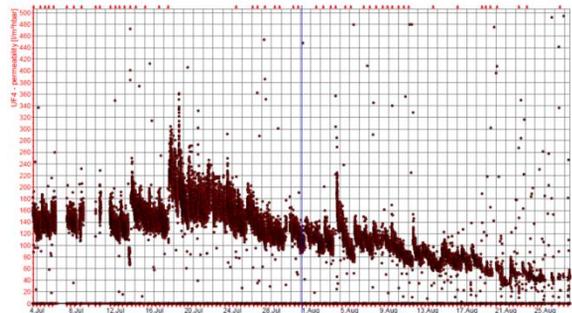


Benefits

- The reasons for deterioration of the ultrafiltration performance have been detected at a very early stage
- Counter measures were taken in time and were effective
- Costs due to damages and shut down of the plant were prevented
- Competence of operators and the technical team could be improved

Assignment

During operation, the performance of both ultrafiltration units abruptly severely declined. The Remote Monitoring System identified a decreasing ultrafiltration permeability and thereby the risk of a possible shut down of both trains.



Discussions, analysis and various counter measures, such as CIP procedures, were carried out on site without solving the problem. Since a further degradation of the ultrafiltration performance could have led to a 10 day plant shutdown, causing considerable damage and lost revenue, an action plan was agreed upon. The main objectives:

- Reduction of the ultrafiltration systems' differential pressure by performing a modified CIP procedure
- Inspection of the dosing equipment and dosing rates
- Check of all chemical quality and concentrations
- Determination of root causes of rapid differential pressure increase

Solution

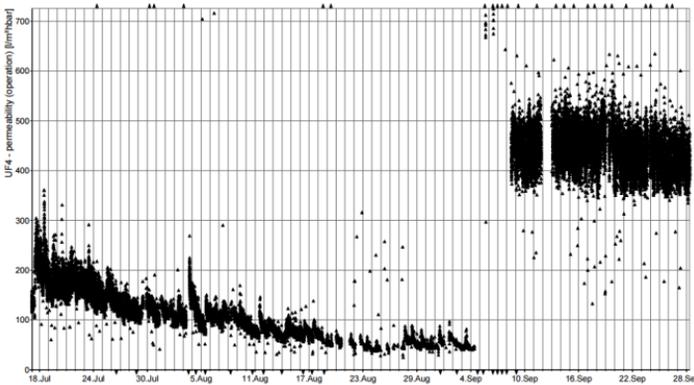
After careful analysis of the **Remote Performance Monitoring PLUS** data and confirming at site, Veolia identified poor quality chemicals (e.g. flocculants) and incorrectly adjusted dosing rates as the root causes of the rapid plant efficiency loss. Suggested suitable counter measures were:

1. Site visit and confirmation of diagnosis by visual membrane inspection
2. Modification of cleaning procedures
3. Review and modification of dosing chemicals

Water Treatment 4.0: Remote Monitoring

Summary

Due to Veolia's intervention, based on remote monitoring data, a shutdown of the plant was prevented. Without the counter measures, the plant would have been shut down for approximately 10 days due to high transmembrane pressure and low permeability of the ultrafiltration systems. After implementation of the suggested recommendations, permeability and transmembrane pressure were back to normal as the graph below clearly depicts. Therefore, the counter measures were effective.



Visual check of membrane surface confirmed the improvement

Customer Site



Veolia Experts

Remote Performance Monitoring PLUS

- Support for detection of performance deterioration
- Trouble shooting
- Regular data transmission to Veolia process engineering team
- Continuous control of relevant performance indicators during operation
- Comprehensive data evaluation and regular discussion with customer
- Proposal of recommended counter measures
- If required, planning and execution of adequate measures on site

Please contact us
and we will recommend the most
suitable remote monitoring scheme
for your water treatment plant!