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## TOP BEVERAGE MANUFACTURER SOLVES WATER TREATMENT ISSUES

### *Challenge*

A multinational beverage manufacturer approached Envirogen for an assessment of their current treated water system operation at one of their packaging facilities. In addition to evaluating their system, Envirogen staff reviewed treatment performance data and provided recommendations for addressing biofilm growth where present. The customer desired to understand what specifically was causing biofilm growth so as to minimize it and ultimately comply with their stringent internal water quality standards.

### *Solution*

The first step was a visit to the plant site to provide a thorough evaluation of the current system design, maintenance, calibration and operational procedures. After a complete walk-through and process evaluation, Envirogen explained the factors/root causes that affect biofilm growth, including organics availability (assimilable organic carbon [AOC] level), nutrient availability, temperature, disinfectant residual levels, infrastructure design, and materials of construction.

Next, Envirogen analyzed over 3 years of water quality data to pinpoint specific areas within the system that were contributing to excessive microbiological counts.

### *Results*

Despite current best efforts by plant operators, microbial levels that exceeded internal standards persisted in certain areas of the plant. Specific contributing factors that were identified, requiring corrective action, included:

- Nutrients and AOC in the feed water moving through the treatment process provide microbes with a food source
- The granular activated carbon (GAC) and polishing units are contributing organics to the system due to multiple years of operation
- Clean-in-Place (CIP) procedures in the distribution lines are limited and enhancements warranted

Recommended modifications to the treated water plant to minimize the biofilm regrowth potential included:

- Replacement of the carbon media in the GAC tanks
- Addition of a UV system downstream from the GAC tanks and polishing filters

- Enhanced CIP procedures for the distribution system
- Incorporate additional ongoing testing for AOC, total suspended solids, and some specific nutrients to provide a leading indicator of a potential future biofilm growth
- Further assessment of the chlorination feed system design to minimize fluctuations in the free residual chlorine levels in the feed water tank

Food & Beverage customers rely on Envirogen's depth of experience  
to solve their water treatment challenges.

Let us help solve yours.

Call us today!