**Process Water Treatment**

**Food & Beverage | Reference: Soft Drinks Production, UAE**

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**Client**

The customer is franchisee and distributor of a major international soft drinks brand in the United Arab Emirates (UAE). The company has been at the forefront of the UAE refreshments industry for over 50 years continually expanding through major investment in the latest bottling technology complemented by the highest levels of quality management.

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**Assignment**

Counteracting and reducing the effects of water scarcity in the UAE the main goal is minimizing city water use by maximizing water reuse and recycling. The different water streams with high organics, high total dissolved solids, oil and grease (truck wash) required a complex treatment process consisting of a process and bottled water unit, backwash water recovery unit and a waste water treatment unit. The treated wastewater will be used for irrigation, truck washing, general housing and as feed for utility water production.

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**Solution**

Veolia’s process design for **process and bottled water treatment** supports the client’s sustainability target by meeting their international system design requirements. By applying the **BERKEFELD PurBev®** hygienic design standard for beverage water treatment, optimum product quality and safety will be achieved by minimizing microbiological risks. The product water quality complies with the stringent limits for irrigation in the UAE:

- TDS$_{\text{max}}$ <1000mg/l
- COD <100mg/l

Installation of the process water treatment plant will be finished by autumn 2015. Depending on the operational demands optional extensions to the process water treatment plant will be considered.

In a second step the **waste water treatment plant** will be gradually developed according to the contamination load of the production plant.

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### Process Description

<table>
<thead>
<tr>
<th>Treatment Process</th>
<th>Main Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removal of dissolved solids</td>
<td>BERKEFELD PurBev® Ultrafiltration</td>
</tr>
<tr>
<td>Improvement of taste and odour</td>
<td>BERKEFELD PurBev® Activated Carbon Filter</td>
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<tr>
<td>Removal of oxidation agents</td>
<td></td>
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<tr>
<td>Disinfection by UV radiation</td>
<td>UV</td>
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<tr>
<td>Reduction of NDMA &amp; micro load</td>
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<tr>
<td>Disinfection</td>
<td>Dosing Station Ca(ClO)₂</td>
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<tr>
<td>Desalination</td>
<td>BERKEFELD PurBev® Reverse Osmosis</td>
</tr>
</tbody>
</table>

### Capacity

- Raw Water Intake Process Water = 162 m³/h
- Raw Water Intake Utility Water max. = 85 m³/h
- Process Water Production (Permeate) = 120 m³/h
- Product Water – peak flow = 180 m³/h