

GOOD PRACTICES AND TECHNOLOGIES

Reducing Footprint in Water

El Agua Nos Une – SuizAgua América Latina



Use of condensates from the evaporator (LSW) as makeup of the Tayco 1000 cooling tower.

SDG: 6.4 Water efficiency



Company / implementer

Ingredion Colombia S.A.S

Sector: ISIC 1052. Production of starches and starch-derived products.

Location:

Cali, Valle del Cauca, 3.462958, -76.499513

Update: 26 Jan. 2018



Results

- Reduction in water extraction and volume dumped by **46,932 m³-average/year**.



Other benefits

- Savings in raw water and effluent treatment: **USD 27,945.07/year**.



Supplier References

Supplier: Internal Development



Implementing Company

Company in charge of implementing the solution:

Ingredion Colombia S.A.S
Planta Cali, Valle del Cauca.

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Director of Environmental Management

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Description

The second condensates of the Debert Evaporator, which converts light process water for cooking corn with low solids in heavy water and to be added to the feed, is one of the by-products of the milling process, which enriches the feed as vegetable protein. These milling waters overflowed into the industrial wastewater system, increasing BOD, COD, total suspended solids and dissolved solids, temperature and pH of the water to be treated, generating an increase in the volume of chemical products required for treatment. In order to use this overflow, a previous treatment process with activated carbon was developed so that it could be used in the Tayco 1000 cooling tower as makeup water.



Investment and Operating Costs

Investment costs: USD 2,717.17/year.

Operating costs: The cost of replacing the activated carbon is estimated at **USD\$15,000** every five years.



Recommendations and Limitations

- It was necessary to implement additional process controls to ensure that the water in the tower is not contaminated.
- Solution tailored to the plant's operating conditions and needs.



References

TYCO 1000 Cooling Towers are water recirculation systems that lower the temperature of process water in order to generate negative pressure and cool processes in a closed circuit. These towers require new "make-up water" equivalent to 3% capacity on a permanent basis.