

effluent reuse program conserves potable water and saves US\$73,000

challenge

This plastics plant in The Netherlands needed to reduce its consumption of expensive and scarce WRK (potable) water. The WRK water was used at the rate of 5,283 gallons (20 m³) per hour for the aerated water supply to the dissolved air flotation (DAF) unit that removed solids from the plant's waste stream. There also were problems with dewatering the DAF float in the filter press. In addition, the company wanted to improve its environmental impact by reducing the total solids content of the effluent discharged from the plant.

solution

The company and SUEZ formed a project team to analyze operating conditions in the plant. They

determined that by removing more solids from the effluent with a new chemical treatment program, the effluent could be used to replace the WRK water as the aerated water supply for the DAF unit. The DAF aeration process was also improved.

results

Reusing the effluent as aerated water saved 47,550,967 gallons (180,000 m³) per year of valuable WRK water while reducing the discharge of effluent by the same amount. Wastewater solids were reduced by 20%. The changes in the waste treatment process also improved the dewatering of the DAF float, reducing sludge disposal costs. Net annual savings from these improvements totaled US\$73,000.

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