

refinery replaces iron sulfate to reduce sludge and saves US\$250,000

challenge

This German refinery's use of iron sulfate to help separate oil and solids in its dissolved air flotation (DAF) unit was resulting in an excessive generation of sludge from its wastewater treatment facility. This sludge was difficult to dewater and required supplemental fuel for incineration.

solution

The refinery and SUEZ worked together to design a more effective treatment program, in which the iron sulfate and another flocculating agent being used in the DAF were both replaced by a Novus* cationic emulsion polymer.

results

The new approach reduced sludge generation in the DAF by 37%. This eliminated 300 tons (272 metric tons) of sludge per year that would have to be dewatered and incinerated, saving the refinery approximately US\$250,000 annually. In addition, the Novus polymer also conditioned the sludge that was produced, making it easier to process. The environmental benefits achieved included lower energy costs for centrifuge dewatering, a higher energy content sludge requiring less supplemental fuel for incineration, and a reduction in the amount of incinerator ash to be landfilled.

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