Question 65: What are the advantages and issues with different desalter wash water sources in a refinery? What issues do you experience by combining wash water from multiple sources?

Chris Claesen (NALCO Champion)

The advantage is a reduction of freshwater use and sometimes a reduction in the load of contaminants(phenols) to the WTP. We have developed desalter washwater specs to prevent negative effects on desalter performance, fouling and corrosion. Oxygen, Ammonia, Hardness, TDS and Filterable are solids, the most obvious ones.

Phil Thornthwaite (NALCO Champion) The quality of desalter wash water can have a big impact not only on desalting but also other aspects of refinery operation. Good quality recycled process water is ideal such as recycled overhead sour water from the crude unit and / or stripper sour water bottoms. However, these streams have to meet certain quality standard to ensure they are low in impurities such as ammonia and / or amine contents.

Wash water volume is of paramount importance so blending with other water sources is a common practice. However, care should be taken so that the quality of the wash water is not compromised.

The use of water sources containing oxygen, hardness and solids are not recommended.

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