Abstract

Objectives/Scope: The objective of this paper is to share the new technology used to remove the salt from Oil without the need for Fresh wash water addition.

Methods, Procedures, Process: Al Noor Production Station has experienced several salt precipitations related station trips since 2011. This calls for a need to remove the salt and Al-Noor Desalting Project was initiated. A filter type Desalter was selected (by VENDOR) to remove the salt to spec level. Part of the project scope is to add wash water to the desalter in which it calls for Water treatment plant along with two water wells and disposal system. At Detail Design (DD) stage, the amount of fresh water was challenged with Vendor as the amount of fresh water will affect the sizing of the Water Treatment Plant (WTP) and its associated huge cost of water wells and disposal system. Subsequently, vendor have asked for the latest composition of oil inlet to the desalter and once the composition has been shared, vendor (VENDOR) confirmed that his technology is able to remove the salt based on the water content available with the oil (produced water) and there is no need to add fresh water to the desalter.

Results, Observations, Conclusions: This resulted in optimizing the WTP scope along with the water wells and disposal system which led to around 2.6 M$ CAPEX savings and around 150 k$/year OPEX.

Novel/Additive Information: This will set the seen for future projects with similar fluid properties to use the produced water associated with the oil to remove the salt instead of adding fresh water.