An Innovative Solution for Shutdown Options of Gas-oil Separation Plants to Maximize Emissions Reduction

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Abstract

The key performance indicator (KPI) used to gauge energy performance is Energy Intensity (EI). For Saudi Aramco Gas-Oil Separation Plants (GOSPs), the EI can be defined as the power consumption to the amount of useful product (hydrocarbons production). The EI formula excludes the produced water, since it is not a useful product even though it requires high energy to be injected back to the reservoir. As a result, achieving a continuous improvement in EI represented a major challenge to South Ghawar Producing Department (SGPD). So, in SGPD we worked on an in-house initiative of analyzing our facilities performance and ranking them based on their Power consumption, average flaring and EI. After inserting all those parameters in a matrix, a priority list was generated. This list provides the best option for shutting down any facility during low rate demand. By this we achieve the maximum benefit of those shutdowns.