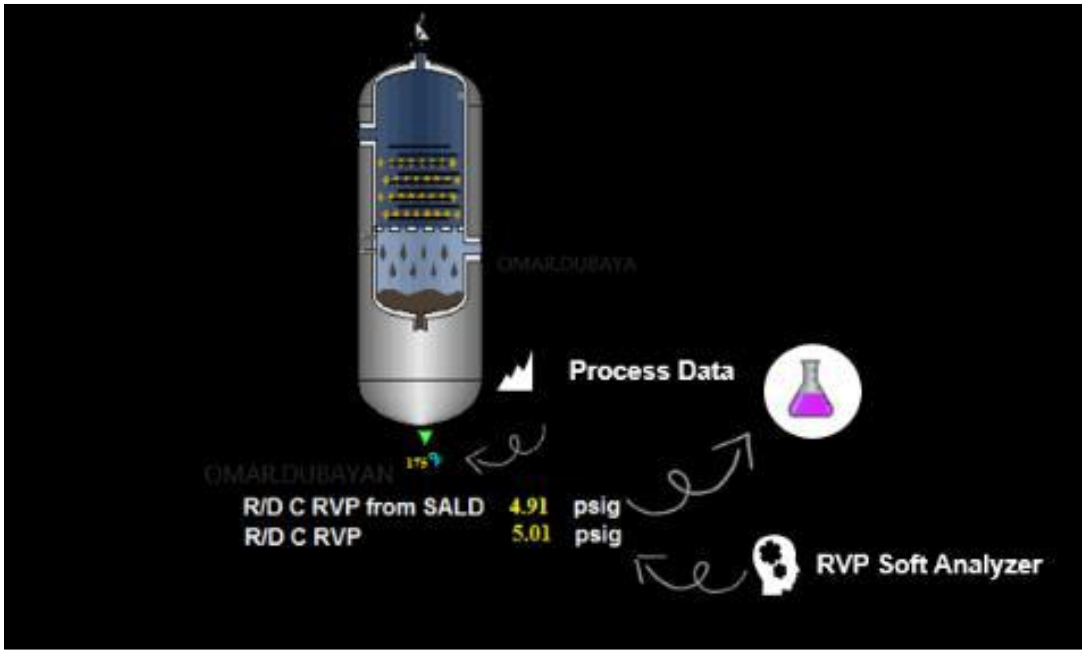
RVP Soft Analyzer
Saudi Aramco Company-Abqaiq Plants

In line with Saudi Aramco Company objective to achieve energy optimization, sustain production quality and to be at the forefront of industrial revolution, Abqaiq plants has developed a computational tool called "RVP Soft Analyzer Tool" based on engineering calculations linked to a PI system along with data mining process. RVP soft analyzer aims to advise the DCS operator in order to maintain one of the most critical measurement in Abqaiq Plants which is called RVP (Reid Vapor Pressure). The tool uses statistical learning method of HYSYS simulated data from the past 5 years with principle component analysis method by including non-direct factors. The RVP tool has been tested and verified through field tests and all results have supported the outcome of the tool.

- Continuous monitoring of the RVP in the rundown
- Better crude quality
- Reduce steam injection to reboilers by 60 Mlb/hr
- Reduce FG consumption by 1.726 MMSCFD
- Energy cost avoidance of $0.75 MM/year.
- Reduction in energy intensity by 1.93%
- Reduction in CO2 emissions by 36 Ktons/Year
- Reduction of 63 MM Gallon of water consumption per year
- Cost avoidance of $7.8 MM of purchasing the RVP analyzers

This idea is innovative as it provides a new and not used before method of monitoring RVP in Abqaiq Plants. It is also innovative because it manages to address needs and requirements at a significantly lower cost than alternative solutions.



Saudi Aramco: Company General Use