ATKINSProcess Rationalisation to Reduce Costs in Late LifeMember of the SNC-Lavalin GroupPeter Henderson (Process & Facilities Team Lead)



1. Problem Statement

Facilities in late life no longer require their nameplate production capacities. Retaining the process as designed can lead to unnecessary operational expenditure costs. In September 2017 an operator requested we use our proprietary tool MeasCap to assess their facility's capacity and identify options to reduce cost.

2. Aims

- Undertake external review of facility rationalisation to identify the most efficient means of processing the fluids
- Identify process modifications to reduce operational expenditure (OPEX) while minimising capital expenditure spend.
- Options must consider impact on availability and production capacity, and demonstrate financial impact
- Focus on short-term, high impact areas which achieve quick results

3. Method

- We quickly reviewed current overall capacity versus demand using Atkins' proprietary MeasCap software, to identify areas of over/under utilisation.
- We systematically identified options to remove excess capacity on a system and platform level, and used MeasCap to debottleneck equipment.
- The best individual options were then combined to determine any additional benefits e.g. utility efficiencies.
- Each option was conceptually assessed to understand OPEX savings and ability to meet target production in terms of capacity & availability with CAPEX for debottlenecking modifications estimated.
- These financial implications were combined to give NPV per option to enable comparison, and develop the optimum rationalisation timeline.
- Results were presented to the client management team and documented in the study report.

4.Impact

Multiple attractive options identified to reduce OPEX, minimise CAPEX and result in a positive NPV* – some examples below:

Option	Impact on production	CAPEX (US \$)	OPEX Saving/yr (US \$)	NPV (\$)
Decommission Platform A Separation Train	Sufficient capacity, reduced availability	7M	7M	36M
Smaller oil export pumps	Sufficient capacity	15M	9M	39M
Decommission Platform A Power Gen		3M	1M	3M
Combined option 1	Sufficient capacity, reduced availability	18M	17M	43M
Combined option 2		26M	21M	22M

*NPV takes into account CAPEX, OPEX, lost production, availability impacts and discount factor

 Use of MeasCap and Atkins expertise allowed an effective study of minimal duration – 6 week study costing ~ £50k.

Potential OPEX savings

Savings using MeasCap

\$15M - \$20M / year

~ 3 weeks quicker ~ £25k less

