SCREENING VARIABILITY REDUCTION
CASE STUDY

Our Goal:

To reduce variability in OHP1 and OHP2 screening plants by means of PID tuning and process Control Optimisation.

There were different opportunities, including:

- Increase operator level of comfort with current process control operation by providing improved gridlock protection and better reaction when different control loops take control.
- Tune PID response to compensate recent plant equipment changes.
- Challenge current constraint set points and safely push equipment to be operated to their nominal capacity,
- Include new constraints into the constraint system

Our Solution:

PID tuning and logic changes were implemented in order to achieve a reduction of variability on the screening plants.

Additional Feedforward logic was included and Gridlocking protection Setpoints were revised.

Group Start logic was fixed on both plants increasing operator's level of confidence with the automatic control.

Unlocked Potential:

There was a significant behaviour change in screening plant output with a reduction of standard deviation and increase of average at the bottleneck.

Plant's throughput Loop (in control 12% of the time) compliance to set point improved 14.31%, and standard deviation reduced 3.51%. Reduced the chance for Gridlocking events.

Total annualized potential capacity increase of ~ 309 ktpa

Key Success Factors

Time — 6 Weeks

Money — $50K

People — 1 Process Control Engineer

Tools — Schneider Electric, CitectSCADA

Wilson Florez

Co-founder & Director
Principal Process Control Engineer

Key Insight:

"It was incredibly encouraging working collaboratively with site teams to complete all activities related to this project.

Great support from site's leadership team made the job easier to implement giving in consequence outstanding results."

Identify Opportunities
To reduce variability in OHP1 and OHP2 screening plants

Propose Solution
Increase operator level of comfort with current process control operation by improving gridlock protection.
Tune PID loops.

Implement
PID tuning & logic changes were implemented to achieve a reduction on variability

Measure
measured annualised potential capacity increased of ~309ktpa

Communicate
Performed across the remote operation centres & site with operations and P&I Engineers