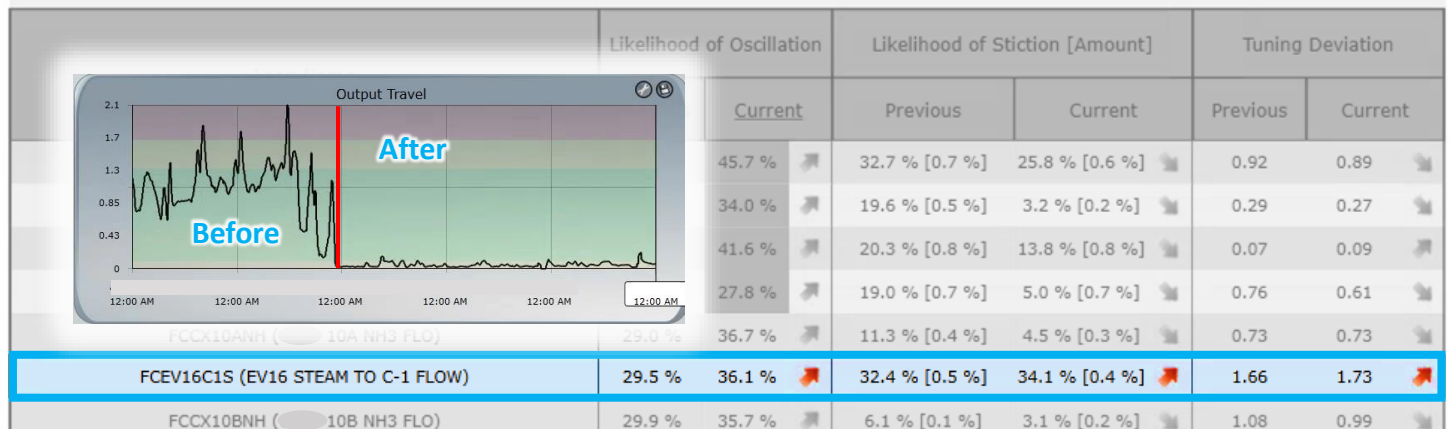


Food & Beverage: *Avoiding Premature Failure of Production Assets*

As simple as that – retuning a single oscillatory control loop improved process performance, eliminated unnecessary wear-and-tear, and nearly doubled the associated valve’s life. That’s not to mention the benefits of avoiding costly unplanned downtime and not having to assign yet another task to the plant’s maintenance team. The control loop’s valve movement measured in terms of Output Travel increased to 110% per hour, and the associated process variability as measured by Average Absolute Error (AAE) stood at 399 pounds per hour. Upon implementing tuning parameters recommended by PlantESP, Output Travel plummeted by 95% to 5% per hour and the AAE value dropped 45% to 218 pounds per hour. No prolonged root-cause analysis or additional testing required – just immediate benefits.

Oscillating Loop Report



A section of the customer’s Oscillating Loop Report is shown above with a single steam-to-flow loop highlighted. The loop was noteworthy as it referenced meaningful declines in three areas of performance. Also pictured is a trend of the loop’s Output Travel, showcasing the loop’s performance before and after tuning parameters recommended by PlantESP were implemented. Wear-and-tear on the valve decreased by 95% and the loop’s performance improved by 45%.

What was the cause?

Change in PID control loop performance is typically slow as was the case with this particular steam-to-flow loop. The loop was singled out in the customer’s Oscillating Loop Report as performance benchmarks were exceeded. A review conducted by engineering staff of the loop’s performance over an extended time period revealed a steady decline in performance. It culminated with a rapid increase in both Output Travel and AAE.

How did PlantESP find it?

The change in performance was highlighted in a weekly Oscillating Loop Report generated automatically by PlantESP. Noted in the report was a decline in the loop’s performance relative to three key attributes: 1) Likelihood of Oscillation, 2) Likelihood of Stiction, and 3) Tuning Deviation. Using hyperlinks embedded in the report the customer was able to quickly confirm PlantESP’s findings and implement the necessary changes to the controller tuning parameters.