



Catch of the Month

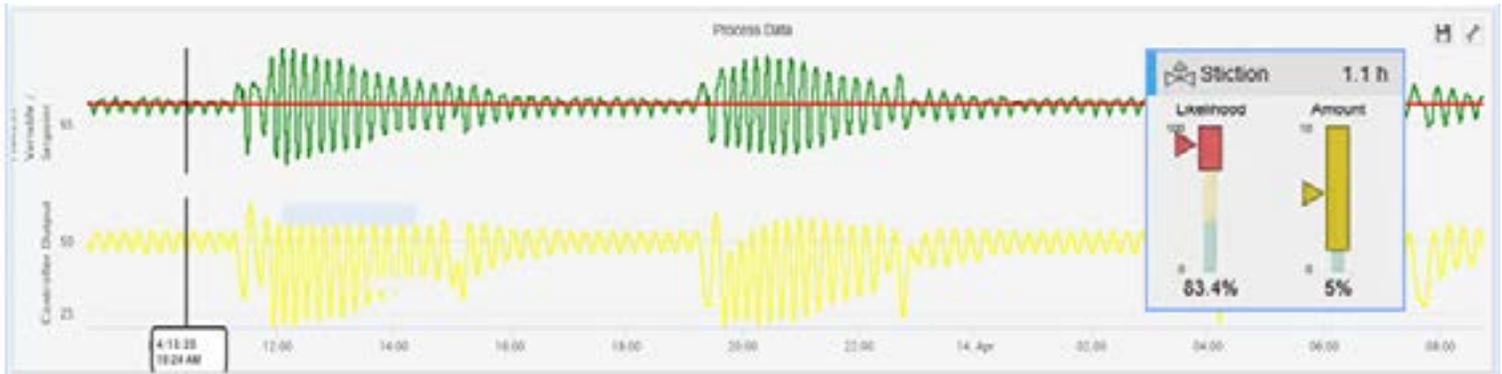
Chemicals

Facilitating Decision-Making with Data

Mechanical issues can often go undetected for long periods of time, all the while negatively affecting a facility's production throughput and efficiency. Although the responsibility of engineering staff is to root out and resolve such mechanical problems, they sometimes require multiple forms of proof before accepting the presence of poor process behavior. That's especially true when the behavior is invisible to the naked eye. For manufacturers in the Chemicals sector the need to thoroughly document the existence of mechanical issues can be particularly challenging. The dynamics of critical PID loops such as Temperature controllers can be so slow that adverse behavior is occasionally obscured. When a global manufacturer of petroleum additives implemented PlantESP, engineers at one facility were skeptical of KPI results clearly showing the presence of Stiction. Whereas the existence of 2% Stiction is generally sufficient cause for scheduling maintenance, engineers at the facility were especially dubious when a controller registered more than double that amount. At 5% Stiction the impact on a valve regulating the process' Chlorinator Temperature would be detrimental if not corrected. PlantESP provided all the proof that was needed to schedule maintenance. Book it!



Key Performance Indices



In addition to a library of intuitive and informative KPIs, PlantESP equips users with access to their facility's raw data. Shown is the Stiction KPI and a trend of the process data for the Chlorinator Temperature loop. As visible on the KPI, PlantESP calculated a very high Likelihood and Amount of Stiction – 83.4% and 5% respectively. In the trend, additional evidence of Stiction is shown in the form of sizeable disruptions that resulted in extended oscillatory behavior.

What was the cause?

Stiction is a mechanical issue that affects control valves and that is common across all sectors of the process industries. Stiction describes the restricted movement of a valve as it responds to incremental changes in position. A valve affected by Stiction frequently moves in such a manner that oscillatory behavior results. In the case of the Chlorinator Temperature loop, Stiction caused sizeable disruptions within the process and several hours were needed to correct for the resulting oscillatory behavior.

How did PlantESP find it?

PlantESP includes a unique Stiction KPI that quantifies both the likelihood and amount of Stiction, and the Stiction KPI is a prominent component in PlantESP's Oscillating Loop Report. Upon viewing the report engineers zeroed in on the Chlorinator Temperature loop due to the amount of calculated Stiction that was detected. Although the KPI's trend showcased a large, persistent level of Stiction, engineers wanted a secondary proof point. Clicking on the Process Data immediately confirmed PlantESP's findings.

Uncover today's performance issues before they become tomorrow's production problem.

Learn how PlantESP makes it easy to identify issues and isolate root-causes.
Contact us today at +1 (860) 872-2920 or sales@controlstation.com.

