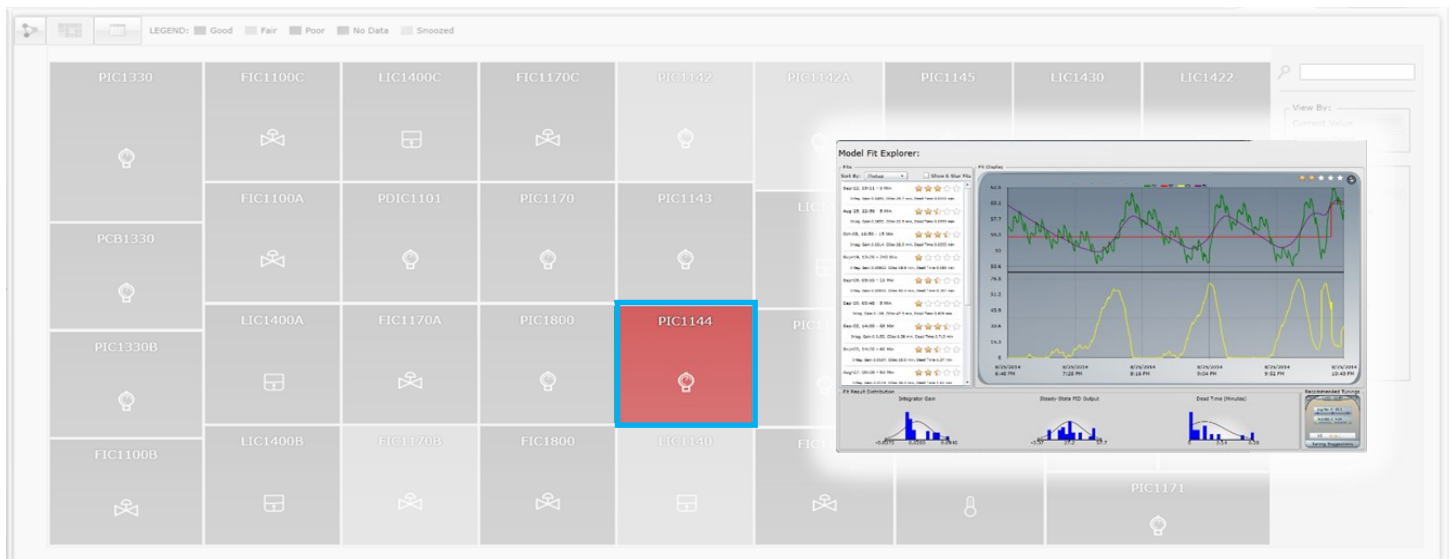


Oil & Gas:

Continuous Process Modeling and Optimization

Sit back and relax – the underperforming PID was easily spotted and optimal tuning parameters were already calculated. Performance of the control loop's existing tuning parameters was off by a factor of 5 as shown by PlantESP's Tuning Deviation metric. As a result, the controller no longer regulated steam pressure effectively. Fortunately the aggregated results of model fits from 110 different output changes had been captured. The results confirmed PlantESP's assessment, and it included recommendations for new tuning parameters. Once implemented control was reestablished instantaneously. For many manufacturers the difficulty of maintaining optimal PID control is knowing which loop needs attention and setting aside time to retune it. PlantESP does all of the leg work automatically for this heavy oil producer. No 'thank you' needed.



PriorityVue's color coding made it easy to single out the Medium Pressure Steam Separator loop. Performance data was examined by the customer in the context of Tuning Deviation – one of PriorityVue's many KPI filters that evaluate controller tunings. With just two clicks of the mouse the user confirmed PlantESP's assessment and examined the numerous model fits which had been calculated using the data from everyday output changes.

What was the cause?

When the valve regulating medium steam pressure was repacked the process' dynamics had changed substantially. Indeed, maintenance to the valve undermined the PID's ability to deliver effective control while using the same tuning parameters. Adjustments to the controller that allowed for a less aggressive response to upsets were needed, including changes to its Proportional and Integral terms. Given the degree of variability that resulted from the PM, the loop stood out when viewed using PriorityVue™.

How did PlantESP find it?

PriorityVue is one of the at-a-glance utilities within PlantESP that simplifies the identification of performance problems. This particular flow loop stood out in bright red when data was viewed based on Tuning Deviation. By clicking thru to the loop details page the user reviewed PlantESP's analysis – which included model fits from 110 manual Controller Output and automated Set Point changes – before uploading the recommended tuning parameters. Using PlantESP there was no need for additional bump tests.