



Tightening Control of Highly Oscillatory Processes

Enhancing Heat Rate – One Loop At a Time

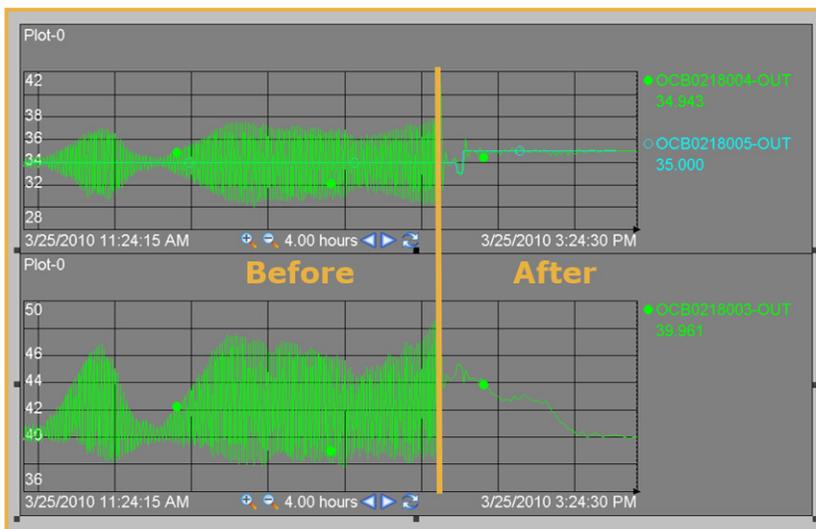
Optimizing heat rate is a critical success factor for most coal-fired power plants. Too little heat and the plant wastes the energy produced from bituminous coal and other costly production inputs. Too much heat and safety is put at risk – both the safety of production staff and of the plant's production assets. Although optimizing a power plant's injection water systems does not result in obvious financial gains, it plays an important role. Little improvements have a way of adding up to something big. When looking for ways of improving its heat rate, a large mid-American power company put Control Station's LOOP-PRO™ to work on lots of seemingly insignificant systems including the injection water system.



"Invest in Control – Payback in Profit" quantifies the benefits of improved regulatory control within a typical production facility. In particular, the study which was produced by the UK's Carbon Trust cited a 5% - 15% reduction in energy consumption by regularly tuning PID controllers."

When a Picture Tells a Thousand Words

The injection water system furnishes water for cooling and for sealing of both boiler feed pumps and boiler feed booster pumps. The graphic below shows the Process Variable (top) and Controller Output (bottom) from the injection water system of a coal-fired power generation facility. The graphic also showcases the control loop's performance before as well as after tuning was performed using LOOP-PRO™.



Due to their requirement for steady-state operation, traditional PID tuning software tools are unable to accurately model the dynamics of oscillatory processes. LOOP-PRO™ is unique in this regard. LOOP-PRO™ is equipped with a patent-pending modeling capability that enables it to accurately describe transitional and oscillatory process dynamics.

Using bump test data, LOOP-PRO™ modeled the process and provided improved tuning parameters for the injection water system. As is shown in the graphic, the new parameters enhanced control dramatically. The process' oscillatory behavior and the corresponding variability of the final control element were eliminated. As with most things, little fixes add up.

Finally – tune your facility's most complex PID control loops for optimal performance.

Learn why LOOP-PRO™ is the only product that accurately models oscillatory, noisy process data. Contact us today at +1 (860) 872-2920 or sales@controlstation.com.

