

A letter from our President & CEO...

Giving Thanks

In the spirit of Thanksgiving, I would like to say a special thank you to the customers who have taken the time to share their experiences with other members of the industry about NeuCo and our optimization technology.

This issue of *OPTions* is filled with examples of customers using optimization to improve operational performance – be it through a single MaintenanceOpt® or PerformanceOpt® “Great Catch” or a unit-wide optimization project. It also announces other forums for customer sharing via webcasts and conference presentations. We realize all of these things take a lot of time and effort and really appreciate your support.

No place is the importance of such knowledge exchange made clearer than at our Plant Optimization Tour events. At last week’s Xcel Harrington Tour, we asked attendees why an on-site event including multiple plant and NeuCo personnel was valuable to them.

One customer said they appreciated how NeuCo encouraged customers, prospects and the host site to trade notes and experiences without needing to manage every interaction. Another saw value in learning how others deal with similar problems. Yet another said the fact that NeuCo can regularly take customers to different sites at different generators says a lot about our company. We think it says a lot about our customers as well.

Apart from the obvious value of these visits to NeuCo in terms of exposing more people to our solutions in action, we also appreciate the opportunity to build the “NeuCo family”. But don’t worry, even though we consider our customers family, we won’t show up for dinner on Thursday.

Thank you to the team at Xcel Harrington for making the event possible and to those who travelled from across the country to attend.

Happy Thanksgiving everyone!

— Peter J. Kirk, President & CEO

Optimization Plant Tour Series:

Amarillo Highlights

NeuCo’s latest Plant Optimization Tour took place on November 17 and 18 in Amarillo, Texas, home to Xcel Energy’s Harrington Power Station. The event was attended by NeuCo customers and other power plant personnel interested in BoilerOpt™ technology.



Anthony Perez, Senior Plant Engineer, addressing the audience.

Day 1 kicked off with a technology overview, followed by an introduction to the Harrington project by senior plant engineer Anthony Perez. Next was a series of presentations and interactive discussions about Harrington’s BoilerOpt project, which entailed the installation of CombustionOpt and SootOpt at all three 360 MW CE t-fired

units. The project objectives, implementation process, challenges and benefits were discussed in detail. Some of the results included reduced NO_x emissions and sootblowing operations as well as improved operating consistency. These gains were particularly difficult in the face of frequent unit ramping to accommodate the large amount of wind generation in the area. NeuCo Customer Support personnel were also on hand to discuss the ongoing efforts to maximize benefits.

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View from the top -- the coal yard

Amarillo Highlights, *continued from page 1*



On Day 2, the group went for a tour of the Harrington station for an opportunity to interact with the operations and engineering personnel who work with the optimizers. After touring the facility and talking to operations staff, the group gathered for a final Q&A with the Harrington project team as well as the BoilerOpt project manager from the Tolk station.

The plant did an excellent job as host, and attendees were impressed with the site and staff, as well as the “free exchange of information in a low pressure situation”.

One attendee expressed an appreciation for the “informal format of the event – being open to questions and discussion.” Another stated: “it was a great idea to have presentations about where the systems are in use instead of a vendor sales pitch.” In general the group enjoyed talking to other plant personnel and learning how they deal with issues similar to their own. ■

A segment of the Tour was recorded as a webcast – see details on page 3 of this newsletter. If you would like to receive future Optimization Tour announcements, please email us at info@neuco.net.

Click here for more photos and video clips from the Tour!



TECH SPOTLIGHT:

Introducing the Heat Loss Index for BoilerOpt™

Have you ever wondered how BoilerOpt (CombustionOpt and SootOpt) affects your unit’s heat rate? With the new Heat Loss Index, which is now included with every BoilerOpt system, you will no longer need to wonder.

The Heat Loss Index provides a real-time measure of the effects of BoilerOpt on heat rate. The Heat Loss Index is a summation of five different losses that are directly affected by BoilerOpt. These five losses include dry gas loss, reheat steam temperature deviation loss, reheat spray loss, superheat steam temperature deviation loss, and superheat spray loss. By summing these losses together, voilà, a single index of heat rate loss in units of btu/kw-hr is computed.

The Heat Loss Index provides two benefits to BoilerOpt users. First, the optimizers can be used to directly lower heat rate by including a goal (residual) in the optimization profile to minimize the Heat Loss Index. Second, the user can view and track the improvements in heat rate directly using the Heat Loss Index.

NeuCo will be rolling out the Heat Loss Index across our current install base. Two versions of the implementation will be offered: standard and custom. The standard version uses average coal compositions and correction curves to compute the components of the Heat Loss Index. The custom version uses coal compositions and correction curves that are specific to your plant. NeuCo will install the custom version in any cases where our customers provide us with the plant specific information. ■

See You at POWER-GEN® International 2010?

If you’re attending POWER-GEN® International 2010 in Orlando this December, be sure to take in the Xcel Harrington BoilerOpt™ presentation:

Boiler Optimization at Xcel Harrington Station – Mitigating Operational Impacts of Wind Power, NO_x Regulations and Boiler Cleaning

Anthony Perez, Senior Plant Engineer, Xcel Harrington Station

December 15th, 2010, 1:30 PM - 3:30 PM

303A, Level 3, Orange County Convention Center – West Building



To arrange a meeting with NeuCo at Power-Gen, contact us at info@neuco.net.



NeuCo
The Optimization Standard™

We hope to see you there!

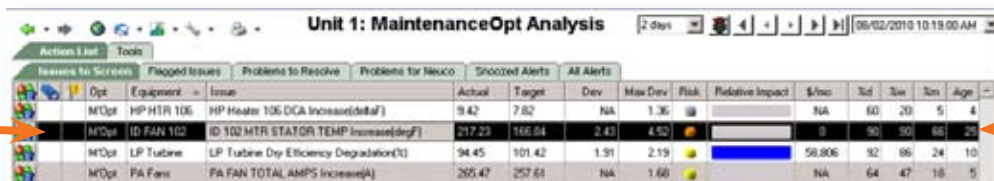
Comments? Want more info? Visit us at www.neuco.net or email us at info@neuco.net.

Catch of the Day

This recurring *OPTions* feature takes a deeper look at specific MaintenanceOpt and/or PerformanceOpt “Great Catches” and the process of identifying, diagnosing and resolving equipment or process issues. This example profiles a “High ID Motor Fan temperature increase” alert at Platte River Power Authority’s Rawhide Generating Station.

MaintenanceOpt Identifies Potential Problem

MaintenanceOpt issued an alert that an ID Motor Stator temperature increased beyond its maximum allowed deviation.



Issues to Screen	Flagged Issues	Problems to Resolve	Problems for NeuCo	Shooped Alerts	All Alerts								
Opt	Equipment	Issue	Actual	Target	Dev	Max Dev	Risk	Relative Impact	\$/hr	3d	3w	3m	Age
MOpt	HP HTR 106	HP Heater 106 DCA Increase(degF)	9.42	7.82	NA	1.36		NA	NA	60	20	5	4
MOpt	ID FAN 102	ID 102 MTR STATOR TEMP Increase(degF)	217.23	166.64	2.43	4.52		0	50	50	66	25	
MOpt	LP Tubew	LP Tubew Dry Efficiency Degradation(%)	94.45	101.42	1.91	2.19		58.806	92	86	24	10	
MOpt	FA Fan	FA FAN TOTAL AMPS Increase(A)	265.47	257.61	NA	1.60		NA	64	47	18	5	

The alert appeared on the MaintenanceOpt home page and Issues to Screen page.

Investigating the Problem

NeuCo Customer Support (CS) reviewed the alert context data and saw that the temperature had been increasing and was getting worse.

By clicking on the “show causes” screen, a list of the likely problem causes appeared and Dirty Filter was at the top of the list. Further data investigation revealed that while the temperature on ID Fan 102 was increasing, ID Fan 101 temperature was normal, which is consistent with a dirty filter.

CS contacted Rawhide plant personnel, voicing concern that the fan might fail in the near future.

Likely causes

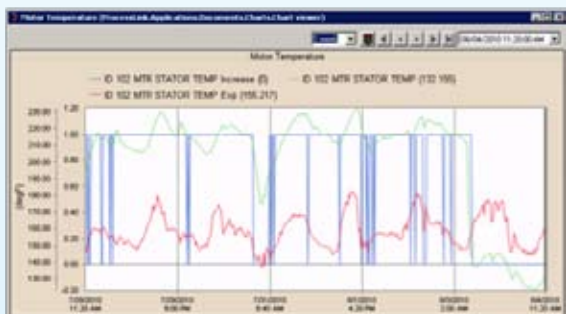
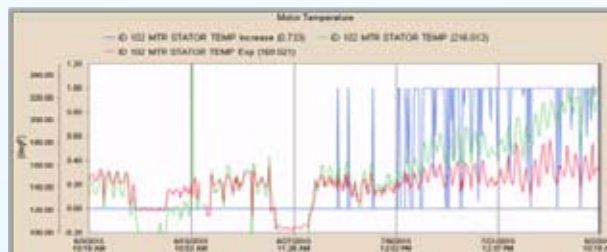
- Dirty Filter
- Motor Failing
- Other Cause
- Dirty Filter
- Motor Failing

Diagnostic rule

ID 102 MTR STATOR TEMP is Increasing
 ID 101 MTR STATOR TEMP is Normal or High

AND further investigation indicates
 Air filter inspection indicates filter is dirty and needs to be replaced.

THEN
 Replace motor air filter.



Plant Verifies Problem, Compliments NeuCo for Great Catch!

A plant operations crew quickly inspected the filter, confirmed it was dirty and replaced it. As the PI trend illustrates, the motor stator bearing temperature (red line) returned to normal. The plant noted that it “was another good case of MaintenanceOpt supporting their O&M efforts.”

WEBCAST

Optimizing Combustion and Heat Transfer at Xcel Harrington

Recorded live from the NeuCo-hosted Harrington Power Plant Optimization Tour in Amarillo, Texas, this webcast is a great opportunity to hear firsthand how Boiler Optimization technology gets applied in the field and the type of benefits to expect. Harrington’s Anthony Perez discusses the plant’s use of BoilerOpt to reduce NO_x emissions, minimize unnecessary sootblowing and increase unit reliability, both at base load and while ramping to accommodate wind generation. He discusses and fields questions about the project justification, objectives, constraints, implementation procedures and benefits at three 350 MW CE T-fired generating units.

Click here to virtually attend this exclusive power producer event: <http://www.brighttalk.com/webcast/24209>