

# Maintenance and Lubrication Go Hand in Hand at AIST's Maintenance Solutions Seminar

by Amanda L. Blyth



*“Maintenance should be important everywhere in the mill.”*

*“Make it right the first time.”*

*“Training is not the only answer.”*

*“A reliable plant is a safe plant.”*

These are just some of the key points from AIST’s Maintenance Solutions: Maximizing Maintenance and Lubrication Through Planning and Prediction seminar. About 70 attendees came to Pittsburgh, Pa.,

USA, on 17–19 September for the conference, which was a joint effort by AIST’s Maintenance & Reliability (MRTC) and Lubrication & Hydraulics (LHTC) Technology Committees.





Chuck Kooistra gave a lively presentation that, for many attendees, was the highlight of the seminar.



Attendees were split into groups for an “icebreaker” activity at the beginning of the course.

The attendees came from all over North America, from Washington to Florida; Ontario, Canada, to Nuevo Leon, Mexico. The crowd was a healthy mix of maintenance and mechanical personnel from steel-producing companies and representatives from suppliers. There was also one student who traveled from University of California – Irvine.

The aim of the conference is to provide the best available technologies for mechanical, electrical, lubrication, hydraulics, management system maintenance and reliability solutions. The program was split into two tracks specific to the MRTC and LHTC.

Throughout the course, certain themes took shape. Perhaps the most prominent was the need for more people to enter the field — not just in a maintenance capacity, and not just in the steel industry. In fact, there is a shortage of craftsmen across all manufacturing segments in the U.S.

This point was first brought up during Chuck Kooistra’s presentation, “What Does Good Look Like?” on Monday morning, and continued throughout the conference. It then was debated at length during the panel discussion on Tuesday afternoon and over breakfast on Wednesday.

The reality is that the average age of craftsmen in the U.S. keeps creeping up (it's somewhere around 58.5 years, according to Kooistra), with 60% of those craftsmen eligible to retire in the next few years. And with a shortage of vocational programs being offered to high school students, the problem is likely to continue.

One presentation geared toward addressing this problem was Noel Mackenzie's discussion on Butech Bliss' apprenticeship program, which was the final presentation in the maintenance track on Wednesday. Mackenzie detailed the particulars of the program, which was started on the philosophy of "if we can't find machinists, we'll train our own." One key demographic the program aims to expose to manufacturing is K-12 students. Butech has been able to conduct outreach campaigns for students even in the second grade.

Ken Flowers, senior salesman at Butech Bliss, and the MRTC's chair of this conference, said company buy-in is a large part of this initiative.

"If the entire company, management and employees are not serious and on the same page, it will never work," Flowers said.

This discussion seemed to strike a chord with the attendees. Rachel Schmidt, sales application engineer at Elwood Corp., said, "The discussions during the roundtable and Noel's presentation were very beneficial on how we draw people into working for the steel industry, how we train them, and how do we retain them once we have them. It was wonderful to see so many people sharing ideas and passion about the industry they work in."

Ken Flowers (speaking) served as chair of the conference for the Maintenance & Reliability Technology Committee.





John Tessling presented the Gold-level 2018 Reliability Achievement Award-winning project.

Across both tracks, improper lubrication was to blame for most failures. However, poor lubrication encompasses many factors and conditions — underlubrication, overlubrication, location and type of lubrication, and temperature.

In the lubrication track, presenters gave informative lectures on the art of lubrication. Salvatore Rea of LANXESS Solutions US began with a “50,000-foot view” of the fundamentals of lubrication. He explained the six factors of proper lubrication: the right lubricant, in the right amount, at the right place, at the right time, by the right personnel with the right attitude.

Also in the lubrication track, John Schlobohm of American Chemical Technologies Inc. presented “Choosing the Right Oil for Your Application From Group I to V.” In his discussion, he noted a few statistics pointing to lubrication-related failures, but quipped, “There are no bad lubricants, only bad applications.”

The importance of planning and scheduling was another theme woven throughout the presentations. Ken Arthur’s presentation in the maintenance track, “Planning and Scheduling Success Factors,” addressed this directly. He explained that planned jobs are inherently safer. Arthur noted a statistic that more than 60% of maintenance accidents occur on reactive jobs, less than 40 hours from when it was identified.

Included in Monday’s programming was the presentation of the 2018 Reliability Achievement Awards (RAA) (Gold and Silver). The awards recognize iron- and steel-producing companies for reliability improvements and achievements that can be demonstrated as unique or first in the industry.

John Tessling of ArcelorMittal Indiana Harbor discussed the project “Minimization of Hot Mill Losses Originating From Downcoilers,” which was the RAA Gold winner. Tessling described the work involved in

Randy Heisler (right in both) presented the 2018 Reliability Achievement Awards:

1. John Tessling of ArcelorMittal Indiana Harbor (Gold).
2. Jared Handley of Nucor-Yamato Steel Co. (Silver).





A hands-on gallery was held on Tuesday afternoon.

compiling historical data — much of it handwritten — on an 80-inch hot strip mill to determine root causes of losses that originate from the downcoiler. The subsequent upgrade projects improved delivery downstream and reduced coil handling, cobbles and delays.

Jared Handley of Nucor-Yamato Steel Co. presented “Improvements of Self-Maintaining Air Cleaners,” which was the Silver level winner. Handley discussed the issue of unwanted buildup of conductive dust in the electric arc furnace vaults, which led to regular losses in production and posed safety hazards. By using pulsed compressed air, which allows for self-cleaning, the amount of filter usage and changes has been drastically reduced, resulting in a safer and cleaner working environment.

The conference included a choice of plant tour on Tuesday morning: PNC Park or U. S. Steel – Mon Valley Works, Edgar Thomson Plant. The PNC Park (home of the Pittsburgh Pirates) tour proved to be especially interesting for the attendees, as one of the tour guides was the chief engineer at the facility, who serves as lead of its seven-person maintenance team. In fact, the group was invited into the maintenance shop for a behind-the-scenes look at what all goes into maintaining a major league ballpark.

Back at the conference, a hands-on gallery was held on Tuesday afternoon, which included different parts such as bearings and hydraulic components, and services such as troubleshooting and failure analysis via mobile devices. It was a unique opportunity for attendees to speak directly with suppliers on specific components and issues they may be experiencing.

Following the hands-on gallery was a roundtable discussion and reception. Ken Flowers served as moderator for the panel, which included Salvatore Rea; Cory Mecham, Falk RENEW; Carl Garringer, Steel Dynamics Inc. – Flat Roll Group Butler Division; Jared Handley; Randy Heisler, Life Cycle Engineering; and Jeff Blankenship, Maintenance-Reliability Solutions Inc.

The panelists fielded a variety of questions from the audience, regarding everything from common bearing failures to vibration analysis and fire-resistant greases, to self-maintained air cleaners and their favorite software (which was not an easy question to answer).

Both tracks held sessions to wrap up the conference on Wednesday morning. On the maintenance side, the morning began with discussions about bearings. Jeff Blankenship challenged the audience to think



Rachel Schmidt (left) of Elwood Corp. presented a plaque of appreciation for the tour of U. S. Steel – Mon Valley Works, Edgar Thomson Plant.

outside the box about bearings, which are, as he put it, “designed to be the weak link in the system.” Rounding out the lubrication track were two presentations on hydraulic fluids by John Sherman and Salvatore Rea.

The organizers of the Maintenance Solutions conference would like to thank the following sponsors for their support: Superbooth, The Systems Group,

Falk PLI, The Timken Co., Butech Bliss, Quaker Chemical Corp., Dover Hydraulics and Trans-Lube. Special thanks also go to U. S. Steel – Mon Valley Works, Edgar Thomson Plant and the staff at PNC Park for hosting the tours. ♦

# Get Involved

with AIST's **30** Technology Committees



Technology Committee membership offers:

- An enhanced network of peers
- A forum to collectively solve problems
- Opportunities to advance individual technical know-how

Make the most of your membership.  
Find a committee at [AIST.org](http://AIST.org).

**Join today!**