Maintenance Solutions:

Latest Applied Mechanical, Lubrication and Hydraulic Technologies

5–8 November 2017
DoubleTree Resort by Hilton & Suites Charleston – Historic District
Charleston, S.C., USA

AIST
ASSOCIATION FOR IRON & STEEL TECHNOLOGY

About the Program

The AIST Maintenance & Reliability Technology Committee, AIST Lubrication & Hydraulics Technology Committee, and industry leaders have joined together for 2017 Maintenance Solutions: Latest Applied Mechanical, Lubrication and Hydraulic Technologies. This workshop-based training seminar will provide attendees with hands-on instruction, tools, and the best available technologies for mechanical, electrical, lubrication, hydraulics, management system maintenance and reliability solutions. In addition, maintenance and outage planning, system design, maintenance troubleshooting and techniques will all be covered. Manufacturing reliability is an integral part of sustainability in the metals industry. Improvement in reliability is essential to assuring manufacturing results at the lowest cost. Both operations and maintenance personnel must understand the direction their organizations need to take with respect to improving and managing their equipment maintenance programs.

Who Should Attend

The conference is intended for maintenance, operations and engineering personnel, including lubrication engineers. It is useful for individuals who are in middle management or frontline supervisor positions, as well as maintenance, operational, and reliability personnel responsible for equipment reliability processes, including planners, schedulers, senior tradesmen, maintenance managers, maintenance engineers, plant engineers, project engineers, maintenance superintendents, operators and operations managers. Maintenance technology, equipment and service suppliers should also attend.

BRING YOUR OWN YOUNG PROFESSIONAL
Visit AIST.org/byoyp for more information

Organized By

AIST's Maintenance & Reliability and Lubrication & Hydraulics Technology Committees.

Schedule of Events

Sunday, 5 November 2017

4–6 p.m.
Registration

Monday, 6 November 2017

7 a.m.
Registration and Breakfast

8 a.m.
Welcome
Randy Heisler, Life Cycle Engineering

8:10 a.m.
Conference Overview
Colleen Reeves, Andronaco Industries; Ken Flowers, Butch Bliss; and David Novak, The Timken Co.

9 a.m.
Break

9:15 a.m.
Getting Executive Sponsorship for Reliability — A Reliable Plant Is a Safe Plant Is a Cost-Effective Plant
Ron Moore, The RM Group

Beyond the data supporting the relationship between reliability and safety, this presentation will outline a comprehensive reliability process, along with the key organizational elements that are essential to assure a reliable and safe operation, i.e., executive sponsorship, a production and maintenance partnership, a process for shop floor engagement, and key measurement principles. Attendees will take away from this presentation data and processes to bring to their executives to get their full support and sponsorship for a reliable, safe, cost-effective operation.

10:30 a.m.
Break

10:45 a.m.
Reliability Achievement Award Description and Summary
Bill Bennett, Melter S.A. de C.V.

10:50 a.m.
2017 Bronze Reliability Achievement Award Winner — The Making of a Vertical Turbine Pump Station
Jason Howard, California Steel Industries Inc.
Rebuilding the vertical turbine pumps at California Steel Industries using a pit proved to be unsafe and not efficient. This paper discusses a way to standardize the rebuild process.

11:25 a.m.
2017 Silver Reliability Achievement Award Winner — Caster Segment Bearing Reliability Improvements
Brian Sulatycky, ArcelorMittal Dofasco Inc.

Noon
Lunch

Track 1 — Maintenance & Reliability:

1 p.m.
FMEAs for Maintenance Strategy Development
Rich Jansen, Life Cycle Engineering
A technique is presented for using failure modes and effects analyses for developing effective maintenance strategies to mitigate risk.

1:50 p.m.
Break

2 p.m.
Managing Project Risk by Better Specifying, Buying and Managing Measurement Services
Michael Falk, Falk PLI
This presentation discusses basic and advanced surveying and industrial measurement processes, the technologies available, and the uses, results and improvements to be expected.

2:50 p.m.
Break

3 p.m.
Sealed Roll Neck Bearings on Mill Stand Work Rolls
Mike Allega, The Timken Co.
Topics include bearing lubrication methods and materials, usage patterns, fits and bench end play, maintenance, bearing and chock features for lubrication, and suggested industry best practices.

3:50 p.m.
Break

4 p.m.
13 Ways to Kill a Gearbox
Cory Mecham, Rexnord Industrial Services
This presentation covers gear reducer maintenance do's and don'ts.

Track 2 — Lubrication & Hydraulics:

1 p.m.
Fundamentals of Lubrication
John Haspert, Castrol Industrial N.A. Inc.
Learn about the basic building blocks for lubricants and their usage. The science of friction, wear and lubrication will be discussed in everyday terms to provide attendees with working knowledge that can be applied to their daily jobs.

1:50 p.m.
Break

2 p.m.
Oil Analysis: Diagnosis, Decision and Response
Mark Shierman, The Fluid Life Corp.
An overview of how to effectively respond to oil analysis test results.

2:50 p.m.
Break

3 p.m.
Automated Lubrication Systems in the Steel Industry
Jason Craft, DropsA USA
This presentation covers the automated lubrication systems used in the steel industry, including the basics of series progressive, dual-line systems for oil, grease and air oil as they are used in the mills.

3:50 p.m.
Break

4 p.m.
Case Study: Switching From Grease to Air Oil
Jason Craft, DropsA USA

5 p.m.
Reception

Tuesday, 7 November 2017

7 a.m.
Breakfast

8 a.m.
Plant Tour of Nucor Steel–Berkeley, Beam Mill or Cold Mill 

Noon
Lunch

1 p.m.
Understanding the Effects of Equipment Downtime Using Simulation Modeling
Jason Merschat, Advanced Process Optimization Inc.
Advanced Process Optimization uses simulation software to design and analyze manufacturing and business process systems. This technique is used to model scenarios, find improvement opportunities, design new processes, conduct what-if analyses and evaluate the impact of decisions using the model. This presentation will explore the use of simulation modeling for the maintenance and reliability of manufacturing systems.

1:30 p.m.
Hands-On Gallery:
> Andronaco Industries — Expansion Joints: Proper installation, sizing, failure indicators and design selection
> Dover Hydraulics — Various failed hydraulics components: What the components are and the reasons for failure
> IVC Technologies — Predictive maintenance tools: vibration analysis, infrared thermography and ultrasonics
> Melter — Displaying different technologies of furnace panel pipe returns and specialty coatings for the EAF area
> MRSI/Valley Forge and Bolts — Hands-on torquing effects of fasteners while monitored with load-indicating fasteners
> Rexnord Industrial — Gearbox: Look inside to see all components
> The Fluid Life Corp — Small rig: How to collect oil samples using various techniques
> Timken Bearings — Sealed work roll bearing: Bearing will be cleaned and disassembled to show inner components

3 p.m.
Break

3:30 p.m.

Roundtable Discussion and Reception

Moderators: Ken Flowers, Butech Bliss, and Colleen Reeves, Andronaco Industries

Panelists:

> Bill Bennett, Melter S.A. de C.V.
> Fred Blancett, Fuchs Lubricants
> Randy Heisler, Life Cycle Engineering
> Salvatore Rea, Lanxess
> John Schlobohm, American Chemical Technologies Inc.
> Buck Stone, Systems Spray-Cooled Inc.

Wednesday, 8 November 2017

7 a.m.
Breakfast

Track 1 — Maintenance & Reliability:

8 a.m.

Aging Electrical Systems

Ric Bryant and Rick Tyner, FLUOR

If a facility's electrical system is at least 30 years old, it is time for business owners to start thinking about their options for the next 30 years. The risks posed by the condition and design of an aged electrical system must be assessed proactively, and action plans and budgets developed for the immediate, short and long terms. This presentation will provide basic knowledge and awareness of electrical system risks, regulations, and the options available to maintain safe, reliable and efficient operations. This presentation will discuss an approach to allow business owners to understand their present situations. This approach includes evaluation of the current condition of the electrical system, plus analysis and upgrade of the current electrical system reliability and maintenance practices.

8:50 a.m.
Break

9 a.m.

Vibration Analysis 101: Focusing on the Fundamentals

Bob Miller, IVC

Of all the predictive technologies that are used in the fields of asset reliability, condition monitoring and condition-based maintenance, vibration analysis continues to be the technology of choice. For this reason, it is important to have a solid understanding of fundamentals such as planning and preparation for vibration testing, acquiring good vibration data and analyzing the data accurately. This presentation provides straightforward and practical explanations, as well as real-world examples of properly applying the technology to maximize the takeaway value to attendees.

9:50 a.m.
Break

10 a.m.

Vibration 201: Advanced Analysis in Steel

Brad Kintner, ITR

This presentation discusses basic vibration analysis of drive systems, including signature interpretation, source identification and corrective action recommendations.

10:45 a.m.
Break

11 a.m.

Achieving Expansion Joint Reliability

Colleen Reeves, Andronaco Industries

This is an educational presentation relating to sizing, selecting, installing and inspecting expansion joints for optimal safety and reliability.

Track 2 — Lubrication & Hydraulics:

8 a.m.

New Hydraulic Piping System Commissioning

John Augustinovich, Eagle Services Corp.

Discussion will include what the flushing contractor should furnish and what the owner should expect for the subject program. Chemical cleaning, oil flushing, filtering and final testing will also be discussed.

8:50 a.m.
Break

9 a.m.

Case Study: Caster Grease at U. S. Steel

John Schlobohm, American Chemical Technologies Inc.

9:25 a.m.

Calcium Sulfonate Complex Grease Applications in Steel Mills

Salvatore Rea, LANXESS Solutions US Inc.

This presentation will provide an overview of calcium sulfonate complex grease lubrication applications in steel mills. A case study will be reviewed.

9:50 a.m.
Break

10 a.m.

Practical Application: Selection of Fluids and Greases/Compatibility and Environmental Concerns

Bruno Sanchez, Quaker Chemical B.V.

The selection of fluids and greases for steel plant equipment is often based on original equipment manufacturer recommendations and the experience of maintenance personnel. Fluids and greases originally selected for an application don't always perform as expected, and deliver poor or insufficient component life and high failure rates, along with unexpected downtime. As a consequence, the fluids and/or greases need to be switched to other types of oils or thickeners with higher performance, fire resistance or environmental friendliness, which might cause issues with compatibility. This presentation covers compatibility of different oil and thickeners, typical changeover procedures, and tips for changing over to a different type of oil and grease.

10:45 a.m.
Break

11 a.m.

Advances in Industrial Oils for the Steel Industry

Fred Blancett, Fuchs Lubricants Co.

Noon
Lunch

1 p.m.

Did We Learn Anything?

Randy Heisler, Life Cycle Engineering

A review of the group's learning objectives and how attendees can get more out of this type of conference.

2 p.m.
Conference Adjourn

AIST.org

Registration

AIST Members

US$895 by 25 September 2017

US$995 after 25 September 2017

Non-members

US$1,110 by 25 September 2017

US$1,210 after 25 September 2017

Registration Includes

Breakfasts and lunches Monday through Wednesday, reception Monday and Tuesday, plant tour with bus transportation, and a course workbook or flash drive including presentations.

Hotel Accommodations

A block of rooms has been reserved at DoubleTree Resort by Hilton & Suites Charleston – Historic District. Please call the hotel at +1.800.809.9721 by 13 October 2017 to secure the AIST discount rate of US$164 for single/double occupancy.

Featured Plant Tour

Nucor Steel–Berkeley

Upcoming Events

> Managing Technology — Big River Steel
12–14 September 2017
Sheraton Memphis Downtown Hotel > Memphis, Tenn., USA

> Sheet Processing and Finishing Lines — A Practical Training Seminar
17–21 September 2017
Ann Arbor Marriott Ypsilanti at Eagle Crest > Ypsilanti, Mich., USA

> Material Handling and Transportation Logistics
10–12 October 2017
The Seelbach Hilton > Louisville, Ky., USA

> Continuous Casting — A Practical Training Seminar
16–19 October 2017
Courtyard by Marriott > Fort Wayne, Ind., USA

> Secondary Steelmaking Refractories – A Practical Training Seminar
23–26 October 2017
The Westin Milwaukee > Milwaukee, WI, USA

Association for Iron & Steel Technology
186 Thorn Hill Road
Warrendale, PA 15086-7528 USA
+1.724.814.3000 • Fax +1.724.814.3001 • AIST.org