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# MAINTENANCE SOLUTIONS

A PRACTICAL TRAINING SEMINAR

**14-17 SEPTEMBER 2014**

SHERATON STATION SQUARE

**PITTSBURGH, PA., USA**

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## ABOUT THE COURSE

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.

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## WHO SHOULD ATTEND

The conference is intended for maintenance, operations and engineering personnel. 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.

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## SCHEDULE OF EVENTS

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### SUNDAY, 14 SEPTEMBER 2014

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4 p.m.  
Registration

5 p.m.  
**Welcome Reception**

### MONDAY, 15 SEPTEMBER 2014

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7 a.m.  
Registration and Continental Breakfast

8 a.m.  
**Welcome**

8:15 a.m.  
**Conference Overview and Team Setup**

9:15 a.m.

## Leadership Skills for Improvement Initiatives

Chuck Kooistra, GP Strategies Corp.

This session will present leadership tips, tools and discussion in a fast-paced, practical fashion, striving to give all participants ideas to make them more effective leaders. Equally as important as having the technical skills and knowledge to manage an initiative or group of people, leaders need the ability to impact the culture of an organization, as well as to effectively manage change within it.

10:45 a.m.

Break

11 a.m.

## 2013 Bronze Reliability Achievement Award Presentation: "Laser Alignment of U. S. Steel – Gary Works No. 2 Caster"

Ryan Koenig, U. S. Steel – Gary Works

Slab surface concerns at U. S. Steel – Gary Works No. 2 caster led to the review of the cast line with respect to the alignment of the caster components. Various caster operating parameters, such as secondary cooling, mold flux powder and narrowface taper, were initially evaluated, but the changes did not solve the root cause of the slab surface imperfections. Based on prior gap sled runs, a full 3D caster alignment was conducted using a Faro LaserTracker. This presentation reviews the effort and results from the LaserTracker-based caster alignment. Recommendations for proper alignment are also given based on this experience.

11:30 a.m.

## 2013 Silver Reliability Achievement Award Presentation: "No. 2 Hot Mill High Water-Based Changeout"

Jonathan Maloy, ArcelorMittal Dofasco Inc.

This presentation reviews the benefits of a thickened HFAE hydraulic fluid. The fluid used in the largest hydraulic system in ArcelorMittal Dofasco was recently changed from a HFAE 95/5 micro-emulsion in water to a thickened HFAE fluid. To date, cost savings of greater than US\$1.5 million have been realized through decreased maintenance costs and improved system reliability. The new fluid has increased stability, lubrication, corrosion protection and an excellent cost/performance ratio.

Noon

Lunch

1 p.m.

## Rethinking the House of Reliability

Ian McKinnon, Reliability Solutions

This presentation introduces just what the "House of Reliability" model and thinking is, with a discussion on discovering the "Reliable and Predictable Plant." The presentation includes what a blueprint for reliability improvement could include, with considerations given to laying the correct foundation, developing managing metrics, improving existing skills and technologies, and including high-level performance tools to assist in re-evaluating and strengthening your reliable manufacturing model within your maintenance organizations.

3 p.m.

Break

3:15 p.m.

## In Pursuit of 100% Reliability

Robert Williamson, Strategic Work Systems Inc.

NASCAR race teams have relentlessly pursued 100% reliability of their equipment and flawless human performance. What can equipment-intensive industries learn from NASCAR's case for reliability and their leadership and teamwork focused on common high-performance goals? This session will explore behind-the-scenes answers to that question.

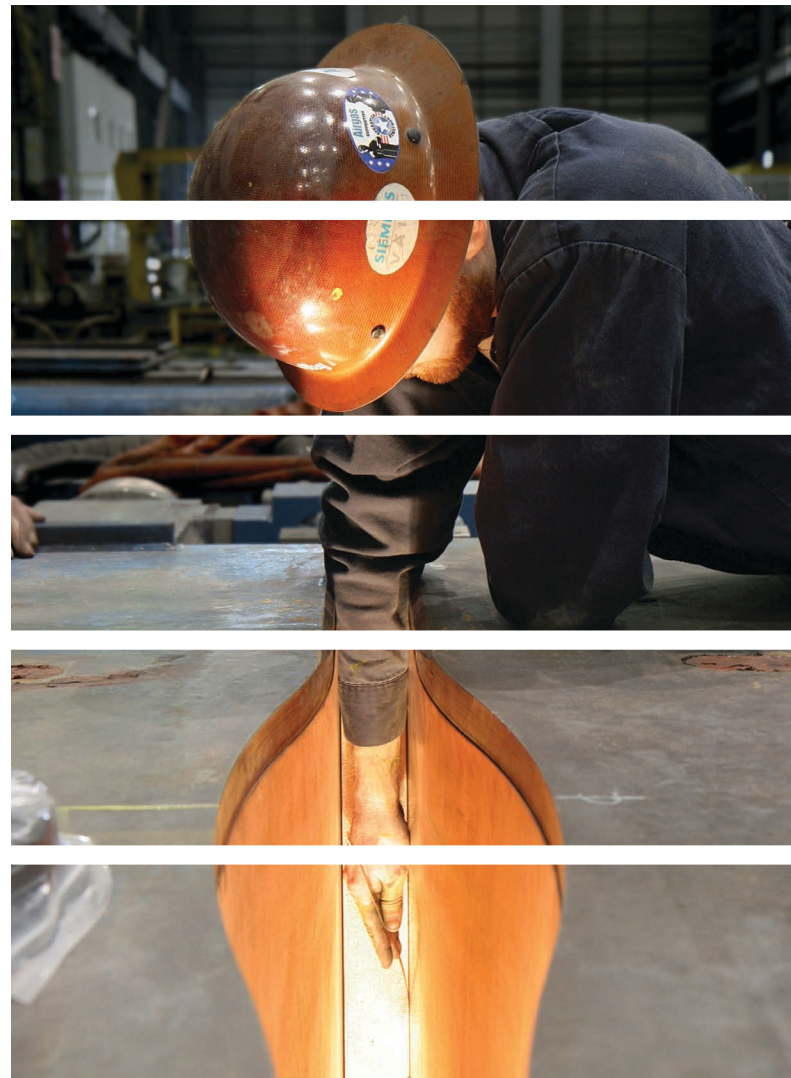
5:30 p.m.

Reception

## TUESDAY, 16 SEPTEMBER 2014

7 a.m.

Continental Breakfast





8 a.m.

## Safety and Reliability — Inseparable for a Reason

Randy Heisler, Life Cycle Engineering

In most steel plants today, when one asks, “What is the top priority?” the quick response is “Safety.” Much work has gone into providing a safe work environment for employees, and for good reason. A key contributor to a safe workplace is reliability. This session will provide safety and reliability correlation statistics, case studies, and practical advice on achieving both reliability and safety performance improvements.

9 a.m.

Break

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## TRACK 1

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9:15 a.m.

## Centrifugal Pump Troubleshooting Tools and Techniques

Colleen Reeves, Corrosion Fluid Products Corp.

An interactive program for operators and maintenance personnel designed to identify failure indicators, troubleshooting and corrective actions to avoid premature failures and downtime.

10:30 a.m.

Break

10:45 a.m.

## Preventive Maintenance Strategies

Charles Alvis, Schneider Electric

When evaluating the business gains and risks associated with an increasingly critical power infrastructure, decision makers often need to quantify the value of maintenance services. An effective electrical system preventive maintenance program is intended to mitigate the risk of catastrophic damage, significant power interruptions and loss of business functions. Best practices will be discussed, as well as application of the right strategy for your facility.

Noon

Lunch

1 p.m.

## Achieving Precision Alignment Results

Ian McKinnon, Reliability Solutions

When discussing precision alignment, a comment that is made frequently is, “We have a laser ... therefore we align everything precisely.” While a laser alignment tool is the most accurate device to date to gather information about the actual/relative position of the shafts being aligned, the final result doesn’t necessarily mean that machine(s) will run in a “precise” state. This presentation will be informative, provide practical tips and prepare the audience to think differently about achieving precise alignment.

3 p.m.

Break

3:15 p.m.

## Optimizing Your Equipment Maintenance Program

Nizar Amarsi and Marc McLeod, ArcelorMittal Dofasco Inc.

A hands-on presentation with the aim of improving a maintenance program. This presentation will show an individual how to close the gap on program effectiveness using reliability-centered maintenance (RCM) tools.

4:15 p.m.

## Maintenance of Your Electrical System for Maximum Reliability

Alan Holt, Premier Power Maintenance

This presentation will include: reliability principles, system assessment, design flaws, and specific information regarding battery systems, transformers, circuit breakers, cables and protective relays.

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## TRACK 2

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9:15 a.m.

## Fundamentals of Lubrication

John Haspert, Castrol Industrial North America

This session will provide the foundation on which the rest of the seminar rests. It addresses the basics of the key elements of lubrication: tribology, interactions between interfacing surfaces, lubrication modes, mechanisms of wear and the importance of good lubrication.

10:30 a.m.

Break

10:45 a.m.

### **Greases and Grease Testing**

Jim Sidow, Fuchs Lubricants Co.

Discussion on types of greases that are available and the testing methods used to define a grease and its properties.

Noon

Lunch

1 p.m.

### **Lubrication System Technologies**

Brian Wilson, Bijur Delimon International

This presentation will cover various system types for oil, including circulating oil, mist and air oil systems. Grease and oil systems using a dual line, which include series, progressive and positive displacement injectors, will be discussed. Examples of these systems, such as machine tool lubrication (roll grinders and CNC high-speed spindles), will be shown, illustrating their usage within the steel industry.

2 p.m.

### **A Practical Approach to Ball and Roller Bearings**

Walt Kusnier, Messinger Bearings

This presentation covers the types of ball and roller bearings found in the metal mill industry. A brief overview will be made of each design, including the benefits and advantages over other designs. It will also include industry standards and interchangeability.

3 p.m.

Break

3:15 p.m.

### **Pairing Filtration Technology to Fluid Formulation and System Environment**

Dale Hodge, Hydac Corp.

New hydraulic and lubrication fluid formulations require a new look at how to store, filter, condition and service fluids today. New techniques and service tips will be discussed to upgrade older circuits and equipment, simplify product selection, reduce costs through fluid management technology and best practices.

4:15 p.m.

### **Design of Hydraulic Systems for Steel Mills**

Greg Rae, AVADAL Inc.

This interactive presentation will look at how hydraulic systems are designed for steel mills. Participants will follow a step-by-step approach to designing a system from actuator to pump.

## **WEDNESDAY, 17 SEPTEMBER 2014**

7 a.m.

Continental Breakfast

8 a.m.

### **2013 Gold Reliability Achievement Award Presentation: "Electric Arc Furnace Transformer Replacement"**

Travis Fisher, Nucor Steel-Utah

This presentation will focus on the replacement and installation of new electric arc furnace transformers. These units were designed to use higher voltage with less current. This resulted in improved power-on times and decreased wear on the furnace. In addition, it decreased electrode consumption by 2 lbs. per ton of steel produced.

9 a.m.

Break

9:15 a.m.

### **Trip Report and Jeopardy**

Noon

Lunch

12:15-5 p.m.

### **Plant Tour of TMK IPSCO, Koppel Plant**



## **REGISTRATION FEES**

Advance registration by 4 August 2014: Member US\$775, Non-member US\$990. Registration after 4 August 2014: Member US\$875, Non-member US\$1,090. Registration fees include continental breakfasts, lunches, and continuous breaks Monday through Wednesday, reception Sunday and Monday, plant tour and a course workbook or flash drive including presentations.

## **>> REGISTER NOW**

## **COMPANY DISCOUNT**

Three or more individuals from the same facility attending any one seminar can receive a 10% discount per person. All registrations must be received together along with payment to qualify for the discount. Not applicable with any other discount.