STEEL MILL COMBUSTION AND THERMAL SYSTEMS

13–15 OCTOBER 2015
INDIANAPOLIS, IND., USA
THE HILTON INDIANAPOLIS HOTEL & SUITES

ABOUT THE PROGRAM

Approximately 20% of the cost of producing steel is energy, and of this, the largest component is fuel for thermal processing. Additionally, proper maintenance and operation of the thermal systems in a steel plant have ramifications for safety, profitability, product quality and environmental emissions. The seminar will be in a classroom setting and is designed for managers, engineers, operators and maintenance personnel engaged with thermal systems in steel mills.

The goal of the seminar will be to give the students the basic knowledge and operating background to assess and understand the condition of their equipment. Attendees will also be given exposure to the latest techniques for upgrade and optimization of their systems. The relationship of hardware and controls will be highlighted. Case studies and hands-on equipment samples will be provided to complement theoretical analysis. The thermal systems to be discussed include: reheat furnaces, batch and continuous annealing systems, continuous galvanizing systems, boilers, and ladle/tundish preheaters.

SCHEDULE OF EVENTS

TUESDAY, 13 OCTOBER 2015

4 p.m.
Registration

5 p.m.
Welcome Reception

WEDNESDAY, 14 OCTOBER 2015

7 a.m.
Registration and Continental Breakfast

8 a.m.
COMBUSTION FUNDAMENTALS
SHAILESH GANGOLI, AIR PRODUCTS & CHEMICALS INC.
Presentation will cover a general overview of key process variables in steel mill combustion operations, their role, and implications on process efficiency, productivity and product quality. This presentation will serve as an introduction of other topics that will be covered in detail during the course.

MORE INFORMATION AT
AIST.ORG/TECHNOLOGYTRAINING

8:50 a.m.

BURNER FUNDAMENTALS

9:35 a.m.
Break

9:50 a.m.

AIR AND GAS FLOW MEASUREMENT FOR COMBUSTION

RON DAVIS, FCX PERFORMANCE

A look at different pressure flow measurements for air and gas and how to improve accuracy.

10:40 a.m.

PIPE FLOW AND PIPING SYSTEMS

11:30 a.m.

BLOWERS AND FANS

DANIEL BANYAY, ROBINSON FANS

Presentation of the proper specification and selection of fans for combustion systems. Topics will include aerodynamic performance/control, mechanical design and sound.

12:15 p.m.
Lunch

1:30 p.m.

COMBUSTION SAFETY STANDARDS, BURNER MANAGEMENT SYSTEM

2:20 p.m.

COMBUSTION SYSTEM TROUBLESHOOTING AND MAINTENANCE

3:20 p.m.
Break

3:30 p.m.

COMBUSTION CONTROL COMPONENTS/HARDWARE

4 p.m.

COMBUSTION SENSORS AND DIAGNOSTICS

THURSDAY, 15 OCTOBER 2015

7 a.m.
Continental Breakfast

8 a.m.

QUESTIONNAIRE AND DISCUSSION OF DAY 1

8:15 a.m.

HEAT RECOVERY SYSTEMS: RECUPERATORS/ REGENERATIVE SYSTEMS

MICHAEL COCHRAN, BLOOM ENGINEERING CO. INC.

This presentation is an introduction to heat recovery systems, focusing on regeneration and recuperation. After describing some fundamentals, there will be a discussion of relative benefits/ merits of one heat recovery method over the other.

9:05 a.m.

OXYFUEL COMBUSTION

GREGORY BURAGINO, AIR PRODUCTS & CHEMICALS INC.

9:50 a.m.
Break

10:05 a.m.

ENVIRONMENTAL EMISSIONS

10:55 a.m.

ROLE OF REFRACTORY IN REHEAT FURNACES

GREGORY ODENTHAL, INTERNATIONAL TECHNICAL CERAMICS LLC (ITC)

This session provides a discussion on the role of refractory as it pertains to the steel reheat process, the most commonly used materials and key factors to consider when selecting the proper materials. A review of how refractory affects energy and ways to reduce energy costs. Also given are recommendations on maintaining furnace refractory and maximizing process efficiency and production.

11:45 a.m.
Lunch

1 p.m.

COMBUSTION CASE STUDIES

2:05 p.m.

ENERGY EFFICIENCY AND ECONOMICS

KURT JOHNSON, ARCELORMITTAL USA RESEARCH LABORATORIES

An overview of how to evaluate heating system efficiency will be presented, including the use of software tools and other resources. Various methods to improve efficiency will be examined to illustrate viable approaches to identifying and implementing an improvement project.

2:50 p.m.

Break

3 p.m.

QUESTIONNAIRE AND DISCUSSION OF DAY 2

REGISTRATION FEES

Advance registration by 1 September 2015: Member US$695, Non-member US$910. Registration after 1 September 2015: Member US$795, Non-member US$1010. Registration fees include Tuesday and Wednesday receptions, Wednesday and Thursday continental breakfast, lunch, continuous breaks, and a course workbook or flash drive including presentations.