



# Environmental Solutions:

## Meeting EPA Air Emission Requirements

16–18 October 2017  
Indianapolis, Ind., USA  
Sheraton Indianapolis City Centre





## About the Program

Challenging EPA pressures, a changing workforce and increased market demands are some of the hurdles facing the steel industry. Attendees will be presented with design, operation and maintenance requirements for air emissions capture systems. Case studies will be reviewed that highlight real-world pitfalls and problems, and solutions will be presented to rectify the deficiencies in these systems. Additional presentations will be given on data gathering and understanding various compliance tools to ensure environmental personnel can gauge the effectiveness of their systems and respond to EPA regulators in an effective manner.

## Who Should Attend

This course is aimed at engineers, operators and maintenance staff, as it presents technologies and equipment available for air emissions capture in iron and steel manufacturing.



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YOUNG PROFESSIONAL**

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## Organized By

AIST's Environmental Technology Committee.

# Schedule of Events

## Monday, 16 October 2017

7 a.m.  
Registration and Breakfast

8 a.m.  
**Introductions**

8:15 a.m.  
**Understanding the EPA and How They Are Enforcing Today's Air Emission Requirements**  
Michael Brooks, Steel Dynamics Inc. – Engineered Bar Products Division  
Discussion of recent regulatory approaches to air compliance at steel mills.

9 a.m.  
**Capture of Pollutants — Thermodynamics, Plume Behavior and Collection Hoods**  
Dejan Zrelec, Tenova Goodfellow Inc.

10 a.m.  
Break

10:15 a.m.  
**Heat Transfer, Control, and the Impact on System Design and Operation**  
Bill Allan, Ramboll Environ  
Review of the heat transfer considerations for a fume control system design for EAF and BOF steelmaking operations. Process control parameters and their effect on performance will also be reviewed.

11 a.m.  
**Keys to Effective Evaporative Gas Cooling for Hot Process Gas**  
Gordon Janes, JAGO Environmental Technologies  
Finely atomized water sprays evaporate completely to cool the gas. The keys to success are thermal aspects, drop size calculations, nozzle design, gas flow dynamics, and correct design of pumping and controls.

11:45 a.m.  
**First Draft of Trip Report**

Noon  
Lunch

1 p.m.  
**Fan Fundamentals**  
Vern Martin, Flowcare Engineering Inc.

2 p.m.  
**Retrofitting Higher-Efficiency Fans**  
Dan Banyay, Robinson Fans

3 p.m.  
Break

3:15 p.m.  
**Overview of Control Technologies — What Is Used and Why**  
Ray Tedford, Schust Engineering Inc.

4:15 p.m.  
**Panel Discussion**

5 p.m.  
First Day Wrap-Up

6 p.m.  
Reception

## Tuesday, 17 October 2017

7 a.m.  
Breakfast

8 a.m.  
**Introduction**

8:15 a.m.  
**Compliance Strategies for Air Emission Requirements as They Relate to Integrated Mills**  
Thomas Maicher, ArcelorMittal USA  
A review of techniques and tools used to simplify and standardize requirements for operations and drive continual improvement toward superior compliance.

9:15 a.m.  
**Improving Baghouse Operations**  
Mike Allen, Parker Hannifin Corp.  
This presentation will discuss the importance of understanding air pollution control equipment and how to detect and prevent potential problems before they become visible emissions or restrict production.

10 a.m.

Break

10:15 a.m.

### Mechanical Dust Transport

Trevin Berger, Martin Sprocket & Gear Inc.

Mechanical conveying equipment to convey baghouse dust to include, but not limited to, screw conveyors, drag chain conveyors, rotary valves and double-dump valves.

11 a.m.

### Baghouse Filtration Media — Types, Selection, Failure and Steps to Optimizing Performance and Life

Larry Brown, BWF Envirotec

Discussing the types of filter media used in the metals industry and the selection criteria, solutions for the most common types of bag failures, and ways to optimize bag performance and life.

Noon

Lunch

1 p.m.

### Overview and Evolution of Broken Bag Detectors — Can This Help Meet EPA Requirements?

Earl Parker, Auburn Systems LLC

Evolution of broken bag detectors into bag leak detection systems and how they are a valuable maintenance and diagnostic tool. Complying with U.S. Environmental Protection Agency requirements and providing savings on operation and maintenance cost.

2 p.m.

### Applied Industrial Ventilation — How This Can Impact EPA Requirements and Operation and Maintenance Cost

Ray Tedford, Schust Engineering Inc.

3 p.m.

Break

3:15 p.m.

### CFD Modeling for System Upgrades: What Else to Consider?

Dejan Zrelec, Tenova Goodfellow Inc.

4 p.m.

### Quantification of Emissions From Steel Shop

Kyle Edwards, ArcelorMittal Dofasco Inc.

A summary of different methodologies to estimate or quantify emissions from steel shops, with references to benchmarks where available.

4:45 p.m.

### Trip Report

5:15 p.m.

Conclusion

5:30 p.m.

Adjourn

## Wednesday, 18 October 2017

7 a.m.

Breakfast in conjunction with Environmental Technology Committee Meeting

8:30 a.m.

### Depart for Plant Tour of Steel Dynamics Inc. – Engineered Bar Products Division

Noon

Return From Plant Tour and Adjourn

## Registration

### AIST Members

**US\$845**

by 4 September 2017

**US\$945**

after 4 September 2017

### Non-Members

**US\$1,060**

by 4 September 2017

**US\$1,160**

after 4 September 2017

## Registration Includes

Reception, breakfast and lunch Monday and Tuesday, continental breakfast Wednesday, plant tour with bus transportation, and a course workbook or flash drive including presentations.

## Hotel Accommodations

A block of rooms has been reserved at The Sheraton Indianapolis City Centre. Please call the hotel at +1.888.627.8186 by 24 September 2017 to secure the AIST discount rate of US\$164 per night for single/double occupancy.



## Featured Plant Tour

Steel Dynamics Inc. —  
Engineered Bar Products  
Division

## 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



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

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