

# OVER FIRE AIR FUNDAMENTALS




**August 17, 2017**  
**EUCI Office Building Conference Center**  
**4601 DTC Blvd, B-100**  
**Denver, CO**

RELATED EVENT:

**COAL POWER PLANT FUNDAMENTALS**

August 15-16, 2017 | Denver, CO



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EUCI is authorized  
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0.8 CEUs for this  
course

## OVERVIEW

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This course deals with the fundamentals of the over fire air process including the origins of the use of over fire air and the current need and applications of over fire air. The primary reason for over fire air operation is to stage the combustion process in order to provide in reduction in NOx formation. As such combustion fundamentals, as well as NOx formation fundamentals will be covered. Once these have been explained, the various firing system approaches that utilize over fire air will be reviewed.

## LEARNING OUTCOMES

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- Discover how over fire air works and what types of results can be obtained
- List the types of firing systems that utilize over fire air
- Explain the formation on NOx during the combustion process
- Discuss the use of over fire air as it relates to the combustion of fuels

## WHO SHOULD ATTEND

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- New employees who work at or deal with over fire air systems
- Personnel with newly assigned duties in power plants looking to gain knowledge in plant operations
- Generation dispatchers who need a basic understanding of plant operations
- Regulators, communications staff, and others who need a basic understanding of over fire air
- Administrative or management support professionals who need a better understanding of over fire air to plan and implement projects
- Corporate staff personnel who desire a better understanding of over fire air, operations and the factors that can affect operating costs

## INSTRUCTOR

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### Carl R. Bozzuto

**Honorary Member / The Council of Industrial Boiler Owners**

Carl Bozzuto has nearly 50 years of experience in combustion and boiler operations and research. He began his career as a research engineer, senior project engineer, manager, and director for Combustion Engineering Inc. Carl was named vice president of process technology for the company, where he was responsible for the development and commercialization of new boiler and power plant technologies, including advanced cycles, ultra-supercritical boilers, alternative working fluids, fluid bed boilers, plant integration, and other plant component technology. Serving recently as vice president of technology for the Power Environment Sector at Alstom Power Inc., he was responsible for the development and implementation of new technology for boiler and environmental products on a worldwide basis. Bozzuto holds 18 U.S. patents and membership in the American Institute of Chemical Engineers (AIChE), the Combustion Institute, the Source Evaluation Society, and the American Society of Mechanical Engineers (ASME). He has authored more than 30 published technical papers and was editor-in-chief of the textbook Clean Combustion Technologies, published by Alstom Power in 2009. Bozzuto has earned Bachelor of Science and Master of Science degrees in chemical engineering from the Massachusetts Institute of Technology and a Master of Science degree in management from the Hartford Graduate Center (RPI).

# PROGRAM AGENDA

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THURSDAY, AUGUST 17, 2017

**8:00 – 8:30 am**            **Registration and Continental Breakfast**

**8:30 am – 5:00 pm**        **Course Timing**

**12:00 – 1:00 pm**        **Group Luncheon**

**Why Over Fire Air?**

- NOx formation

**Explain Combustion Processes**

- Origins of OFA

**Explain NOx Formation Process**

- Thermal NOx
- Fuel NOx
- Prompt NOx

**How Over Fire Air Works**

- Thermal
- Fuel

**Over Fire Air Strategies**

- Biasing
  - o Fuel
  - o Air
- Burners out of service
- Close coupled OFA
- Separated Over Fire Air (SOFA)
- Multi-level SOFA
- Variable pitch and yaw

**Firing Systems**

- Stokers
- CFBs
- Wall fired
- Tangential Fired
- Cyclone Firing

## INSTRUCTIONAL METHODS

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This program will use PowerPoint Presentations and group discussions, as well as active participation.

## REQUIREMENTS FOR SUCCESSFUL COMPLETION

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Participants must sign in/out each day, be in attendance for the entirety of the course

## IACET CREDITS

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EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

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## EVENT LOCATION

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Denver, CO 80237

## NEARBY HOTELS

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### **Hyatt Regency Denver Tech Center**

7800 E Tufts Ave  
Denver, CO 80237  
303-779-1234  
*0.3 miles away*

### **Denver Marriott Tech Center**

4900 S Syracuse St  
Denver, CO 80237  
303-779-1100  
*0.7 miles away*

### **Hyatt Place Denver Tech Center**

8300 E. Crescent Parkway  
Greenwood Village, CO 80111  
303-804-0700  
*0.9 miles away*

**REGISTRATION**  
*to register [CLICK HERE](#) or*

**Call: 201 871 0474**  
**fax: 253 663 7224**  
**email: [register@pmaconference.com/](mailto:register@pmaconference.com)**  
**web: <http://pmaconference.com/>**  
**Mail: POB 2303 Falls Church Va 22042**

Please make checks payable to: "PMA"

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**See Nearby Hotels on page 4**

## PLEASE REGISTER

**BOTH COAL POWER PLANT FUNDAMENTALS AND OVER FIRE AIR FUNDAMENTALS COURSES:**  
 August 15-17, 2017 | Denver, CO: US \$1995,  
 Early bird on or before July 28, 2017: US \$1795

**OVER FIRE AIR FUNDAMENTALS COURSE ONLY:**  
 August 17, 2017 | Denver, CO: US \$995,  
 Early bird on or before July 28, 2017: US \$895

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name Job Title

Company

What name do you prefer on your name badge?

Address

City State/Province Zip/Postal Code Country

Phone Email

List any dietary or accessibility needs here

**CREDIT CARD INFORMATION**

Name on Card Billing Address

Account Number Billing City Billing State

Exp. Date Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx) Billing Zip Code/Postal Code

**OR** Enclosed is a check for \$ \_\_\_\_\_ to cover \_\_\_\_\_ registrations.

**Substitutions & Cancellations**

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before July 14, 2017 in order to be refunded and will be subject to a US \$195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI's liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at (201) 871-0474.