BD Energy Systems
A BD Group Industries Company

Steam Methane Reformer

Advanced Training Course

October 4th-6th, 2016 - Houston, Texas

Schmidt + Clemens Group

Northern Blower

BD Heat Recovery
A BD Group Industries Company

MP Magnetische Prüfanlagen GmbH | USTT U.S. Thermal Technology, Inc.

John Zink Hamworthy Combustion

Morgan Advanced Materials

Johnson Matthey Process Technologies

ParFab

Location:
BD Energy Systems Training Facility
For registration & information please contact:
Training@BDEnergySystems.com

Objective

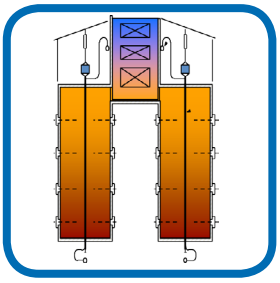
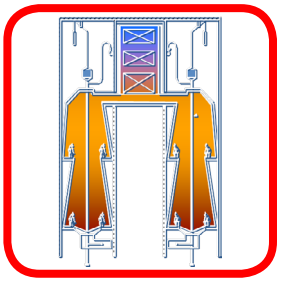
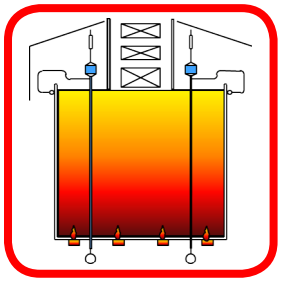
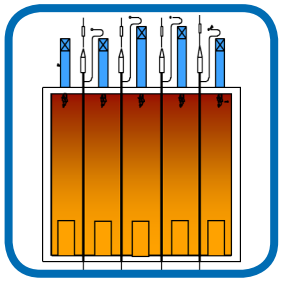
This BD Energy Systems advanced training course is directed toward improving the level of understanding among plant management, engineers, operators, maintenance, and HSE personnel. This course will assist all attendees to apply more effectively the knowledge gained from this course to make better decisions on how to manage specific operating and maintenance issues that plant personnel face on a daily basis, how to coordinate their efforts to achieve the best long-term performance, and to identify opportunities for improvement.

Target Group

Plant Management, Engineering, Operations, Maintenance, and Health, Safety & Environmental personnel in Ammonia, Methanol, Hydrogen, GTL, and Ore Reduction plants that require Steam Reformer furnaces for generation of hydrogen, synthesis gas, or reducing gas.

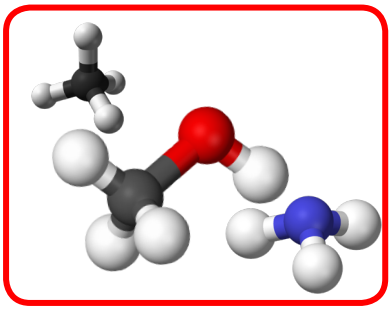
In This Course

The course starts with the basic fundamentals of Steam Reformer design and includes an overview of the historical evolution of various reformer designs and the impact of operating parameters on Steam Reformer reliability. The course progresses to an interactive discussion during which operating and maintenance issues will be introduced and comments from attendees will be addressed in a problem-solution format. BD Energy Systems instructors will also include an expert group of key-component suppliers of equipment and services for Steam Reformers during the interactive session to provide thorough analysis and discussion of each topic.

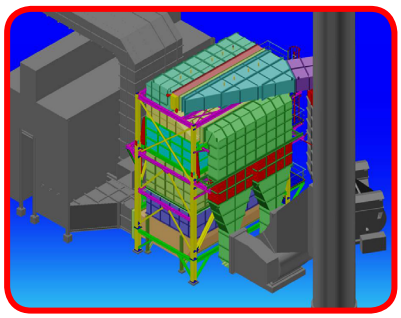
Part 1 - Introduction

- Chapter 1 - Steam Reformer Chemistry
- Chapter 2 - Steam Reformer Applications
  - (i) Ammonia Synthesis Gas
  - (ii) Methanol Synthesis Gas
  - (iii) Reduction Gas
  - (iv) Hydrogen Production
- Chapter 3 - Steam Reformer Arrangements



Part 2 - Critical Design Features

- Chapter 4 - Radiant Section
- Chapter 5 - Convection Section
- Chapter 6 - Exchanger Heat Recovery
- Chapter 7 - Flue Gas and Combustion Air Handling
- Chapter 8 - Design for High Efficiency
- Chapter 9 - Design for Low Emissions
- Chapter 10 - Insulation Systems



Part 3 - Operation and Maintenance

- Chapter 11 - Controls & Safety Systems
- Chapter 12 - Start-up & Normal Operations
- Chapter 13 - Emergency and Upset Conditions
- Chapter 14 - Typical Operating and Maintenance Issues
- Chapter 15 - Inspection Best Practices

Part 4 - Steam Reformer Retrofit Options

- Chapter 16 – Capacity Increase
- Chapter 17 – Efficiency Improvement
- Chapter 18 – Emissions Reduction
- Chapter 19 – Enhanced Reliability

Part 5 - Turnaround Planning

- Chapter 20 – Detailed Planning / Scheduling
- Chapter 21 – Material Planning and Laydown
- Chapter 22 – Pre-Turnaround Preparations
- Chapter 23 – Turnaround Activities
- Chapter 24 – Post-Turnaround Activities
- Chapter 25 – Lessons Learned

Part 6 - Conclusions / Closing Remarks

- Feedback / Survey
- Content
- Usefulness
- Future Sessions

BD ENERGY SYSTEMS
A BD GROUP INDUSTRIES COMPANY

Steam Methane Reformer Advanced Training Course

Training Course

The BD Energy Systems Steam Methane Reformer Advanced Training Course is designed for all aspects of plant personnel. The course will empower your stakeholders to apply more effectively the knowledge acquired to better manage specific operating and maintenance issues that plant personnel face on a daily basis. Have a look at our brochure for more details and information. Contact us at any time for your reservation now!

Instructor Introduction

Dan Barnett is the primary instructor of the training and has more than 35 years of experience in the execution of Furnace related work where he has been involved in technology development, process design, detailed engineering, project execution, commissioning, and plant start-up advisory roles. Dan has been involved in more than 100 reformer projects and currently serves as Vice President of Engineering at BD Energy Systems. Previously Dan held the positions of VP of Engineering for Technip KTI, Managing Director of Furnace Technology for Shaw Stone & Webster, and Manager of
Furnace Technology & Chief Engineer of the Furnace Engineering Group at MW Kellogg & KBR.

Throughout his career Dan has worked both on new construction and revamps of reformer furnaces of all industry configurations and most of the technology providers. Included among these technologies are: KBR/MW Kellogg, Foster Wheeler, Davy, CB&I-Howe Baker, Technip KTI, Selas, Linde, Toyo, and John Brown. His experience encompasses Ammonia, Methanol, Hydrogen, and GTL plant reformer furnace applications.

Subjects Covered

- Centrifugally Cast Tubes and Fittings
- Catalyst Tube Inspection Best Practices
- Combustion APH & SCR Systems
- Reforming Catalyst
- Burner Systems
- Centrifugal Fans
- Spring Hangers

Brief of Subjects

- How or why your reformer is different from similar reformers in other services?
- How to apply best practices when it comes to an operation and maintenance?
- All of the options to upgrade your steam methane reformer?
- The design limitations of your reformer?

Cost • $495.00

Includes:
- Meals
- Refreshments
- Training Handbook

Whom Should Attend

- Plant Operations
- Engineers
- Plant Maintenance
- HSE Personnel

WWW.BDENERGYSYSTEMS.COM

BD Energy Systems, LLC. • 1001 South Dairy Ashford, Suite 410, Houston, Texas, U.S.A • 281.407.9812

For questions contact : training@BDenergySystems.com

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Registration Form
Advanced Steam Methane Reformer Training Course
Houston Seminar

October 4th-6th, 2016 **Houston, Tx.**

We welcome you to our seminar at a great rate of $495 per attendee.

Registrant's Name*: _____

Title: _____ Company*: _____

Mailing Address: _____ City, State: _____ Zip Code: _____

Country: _____ Telephone*: _____ Email*: _____

Please email or print and send the completed registration form. All fields required (*) must be filled out to be fully registered. Send email registration to Training@BDEnergySystems.com , Alternatively you may mail the completed form to BD Energy Systems, LLC. (Attn: SMR Training).

Signature*: _____ Date*: _____

Payment Information*:

○ MasterCard ○ Visa ○ American Express ○ Money Order (Enclosed) ○ Wire Transfer (contact us)

Cardholder's Name: _____

Card Number: _____ Expiration: _____ CVV#: _____

Billing Address: _____ City, State: _____ Zip Code: _____

Country: _____ Telephone: _____ Email: _____

*Cashier's checks or Money Order must be in **U.S. funds** payable to: **BD Energy Systems, LLC.** Registration confirimation / receipt and further information will be emailed.*

Cancellation, Changes and Refunds:

The last day for cancellation will be by September 12, 2016. Fees will be refunded, less a 35.00$ processing fee. All cancellations should be recieved in writing. After the date of September 12, 2016, there will not be any refunds given. ANY substitutions are allowed at no charge.

1001 South Dairy Ashford, Suite 410
Houston, Texas, USA 77077

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