

Agenda for APTI Course No. 427 COMBUSTION EVALUATION

Sponsored by
SESARM
205 Corporate Center Dr., Ste. D
Stockbridge, GA 30281-7383

Location:
TN Dept. of Environment & Conservation
312 Rosa L. Parks Ave., 15th Floor
Nashville, TN 37243
July 25-28, 2017

Course Moderator & Speaker
Taylor Beard, PhD, P.E.

Tuesday, July 25, 2017

| Unit | Time | Subject | Manual Pages |
|-------------|--------------------|---|---------------------|
| | 8:00-8:10 | Registration and Introductory Comments | |
| | 8:10-9:00 | Pre-Test | |
| 1. | 9:10-10:00 | Introduction to Combustion Source Evaluation | 1-1 to 1-13 |
| 2. | 10:10-11:00 | Combustion I: Basic Concepts | 4-1 to 4-15 |
| 3. | 11:10-12:00 | Fuels I: General Features | 3-1 to 3-19 |
| | 12:00-1:00 | Lunch | |
| 4. | 1:00-1:50 | Combustion II: Excess Air | 4-15 to 4-24 |
| 5. | 2:00-2:50 | Combustion III: Chemical Energy | 4-24 to 4-39 |
| 6. | 3:00-3:50 | Fuels II: Fuel Properties | 3-19 to 3-44 |
| 7. | 4:00-5:00 | Combustion Systems I: Conventional Systems | 2-1 to 2-29 |

Homework: Read Chapters 1, 2, 3 & 4; Work Review Exercises Chapters 1, 3 & 4.

Wednesday, July 26, 2017

| Unit | Time | Subject | Manual Pages |
|-------------|--------------------|---|------------------------------|
| | 8:00-8:50 | Discuss Review Exercises | 1-14, 3-45 & 4-40 |
| 8. | 9:00-9:35 | Combustion Systems II: Gas Incineration Systems | 2-30 to 2-35 |
| 9. | 9:40-10:10 | Combustion Systems III: Boilers & Controls | 2-36 to 2-47 |
| 10. | 10:20-10:45 | Combustion Systems IV: Municipal Waste Comb. | |
| 11. | 10:55-11:30 | Air Pollution Formation I: Acid Gases | 5-1 to 5-10 |
| 12. | 11:30-12:00 | Air Pollution Formation II: Particulates and Metals | 5-10 to 5-20 |
| | 12:00-1:00 | Lunch | |
| 13. | 1:00-2:00 | Air Pollution Formation III: NO_x | 5-20 to 5-33 |
| 14. | 2:10-2:40 | Air Pollution Formation IV: Organics | 5-33 to 5-41 |
| 15. | 2:50-3:50 | Air Pollution Control I: Particulates | 6-1 to 6-18 |
| 16. | 4:00-4:30 | Air Pollution Control II: Acid Gases | 6-19 to 6-23 |
| 17. | 4:30-5:00 | Air Pollution Control III: Modification for NO_x | 6-23 to 6-41 |

Homework: Read Chapters 5, 6 & 7; Work Review Exercises Chapters 2 & 5.

Thursday, July 27, 2017

| Unit | Time | Subject | Manual Pages |
|-------------|--------------------|---|------------------------|
| | 8:00-8:40 | Discuss Review Exercises | 2-48 & 5-42 |
| 18. | 8:50-9:30 | Air Pollution Control IV: NO_x Flue Gas Cleaning | 6-41 to 6-49 |
| 19. | 9:50-10:20 | Emissions I: Efficiency Applications | 7-1 to 7-11 |
| 20. | 10:40-11:10 | Emissions II: Monitoring Systems | 7-11 to 7-16 |
| 21. | 11:10-12:00 | Emissions III: Calculations | 7-16 to 7-19 |
| | 12:00-1:00 | Lunch | |
| 22. | 1:00-1:50 | Emissions IV: Engines, Turbines | 7-19-7-21 |
| 23. | 2:00-2:30 | Emissions V: Gas & Oil Boilers | 7-21 to 7-24 |
| 24. | 2:40-3:40 | Emissions VI: Coal & Wood-Fired Boilers | 7-24 to 7-28 |
| 25. | 3:50-5:00 | Emissions Workshop V | |

Homework: Read Chapter 7; Work Review Exercises Chapter 6 & 7.

Friday, July 28, 2017

| Unit | Time | Subject | Manual Pages |
|-------------|--------------------|---------------------------------|------------------------|
| | 8:00-9:00 | Discuss Review Exercises | 6-50 & 7-29 |
| | 9:00-10:00 | Emissions Workshop V | |
| | 10:00-12:00 | Post-Test | |
| | 12:00 | Course Closing | |