

# Agenda for APTI Course No. 427 COMBUSTION EVALUATION

Sponsored by  
Central States Air Resource Agencies Association (CenSARA)  
PO Box 617; 707 N. Robinson Street  
Oklahoma City, OK 73101-0617

Location:  
Texas Commission on Environmental Quality  
12100 Park 35 Circle  
Austin, TX 78753

September 21-24, 2015

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

Monday, September 21, 2015

Unit	Time	Subject	Manual Pages
	8:30-8:45	Registration and Introductory Comments	
	8:45-9:45	Pre-Test	
1.	10:00-10:45	Introduction to Combustion Source Evaluation	1-1 to 1-13
2.	10:55-12:00	Combustion I: Basic Concepts	4-1 to 4-15
	12:00-1:00	Lunch	
3.	1:00-1:50	Fuels I: General Features	3-1 to 3-19
4.	2:00-2:50	Combustion II: Excess Air	4-15 to 4-24
5.	3:00-3:40	Combustion III: Chemical Energy	4-24 to 4-39
6.	3:50-4:30	Fuels II: Fuel Properties	3-19 to 3-44

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

Tuesday, September 22, 2015

Unit	Time	Subject	Manual Pages
	8:30-9:15	Discuss Review Exercises	1-14 & 4-40
7.	9:15-10:30	Combustion Systems I: Conventional Systems	2-1 to 2-29
8.	10:40-11:15	Combustion Systems II: Gas Incineration Systems	2-30 to 2-35
9.	11:25-12:00	Combustion Systems III: Boilers & Controls	2-36 to 2-47
	12:00-1:00	Lunch	
10.	1:00-1:25	Combustion Systems IV: Municipal Waste Comb.	
11.	1:25-2:10	Air Pollution Formation I: Acid Gases	5-1 to 5-10
12.	2:15-2:45	Air Pollution Formation II: Particulates and Metals	5-10 to 5-20
13.	2:50-3:20	Air Pollution Formation III: NO <sub>x</sub>	5-20 to 5-33
14.	4:30-4:00	Air Pollution Formation IV: Organics	5-33 to 5-41
15	4:00-4:30	Air Pollution Control I: Particulates	6-1-6-18

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

Wednesday, September 23, 2015

Unit	Time	Subject	Manual Pages
	8:30-9:10	Discuss Review Exercises	2-48, 3-45, 5-42
16.	9:15-9:55	Air Pollution Control II : Acid Gases	6-19 to 6-23
17.	10:00-10:45	Air Pollution Control III: Modification for NO <sub>x</sub>	6-23 to 6-41
18.	10:55-11:30	Air Pollution Control IV: NO <sub>x</sub> Flue Gas Cleaning	6-41 to 6-49
19.	11:35-12:00	Emissions I: Efficiency Applications	7-1 to 7-11
	12:00-1:00	Lunch	
20.	1:00-1:55	Emissions II: Monitoring Systems	7-11 to 7-16
21.	2:05-2:45	Emissions III: Calculations	7-16 to 7-19
22.	2:55-3:25	Emissions IV: Engines & Turbines	7-19 to 7-21
23.	3:35-4:30	Emissions V: Gas & Oil Boilers	7-21 to 7-24

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

Thursday, September 24, 2015

Unit	Time	Subject	Manual Pages
	8:30-9:00	Discuss Review Exercises	6-50 & 7-29
24.	9:05-9:45	Emissions VI: Coal & Wood-Fired Boilers	7-24 to 7-28
25.	9:55-12:00	Emissions Workshop	
	12:00-1:00	Lunch	
	1:00-3:00	Post-Test	
	3:00	Course Closing	