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Nota di contenuto	Fuel and Combustion Systems: Safety What You Don't Know Can Kill You!; Contents; Foreword; Preface; 1 What You Don't Know Can Kill You; 1.1 Knowledge Gaps in Operating Fuel Systems and Combustion Equipment; 1.2 Managing Fuel Systems and Combustion Equipment Risks; 1.3 The Creation of Fuel Systems and Combustion Equipment Codes and Standards; 1.3.1 How Codes and Standards Are Structured; 1.3.2 Applying Codes and Standards; 1.4 Fuel System Codes and Standards; 1.5 Combustion Equipment Codes and Standards; 1.6 Other Widely Recognized Code- and Standards-Related Organizations 1.6.1 Other Standards Developers and Related Industry Organizations 1.7 Safety Instrumented Systems and Safety Integrity Levels; 1.8 The World of Insurance and Combustion Equipment; 1.9 Personal Criminal Liability; Notes and References; 2 Combustion Basics; 2.1 Combustion Defined; 2.2 Fuels; 2.2.1 Fuel Properties; 2.3 Heat/Ignition; 2.4 Oxygen/Air; 2.5 Combustion Chemistry; 2.5.1 Applying Combustion

Chemistry to Burner Systems; 2.5.2 Burner Fuel/Air Ratio Operating Conditions; 2.6 Environmental Emission Issues; 2.7 Basic Burner Design Issues; 2.7.1 Airflow Burners; 2.7.2 Nozzle Mix Burners
2.7.3 Premix Burners 2.8 Draft Systems; 2.8.1 Natural-Draft Systems; 2.8.2 Forced-Draft Systems; 2.8.3 Induced-Draft Systems; 2.8.4 Balanced-Draft Systems; 2.8.5 Draft Controls; 2.9 Understanding and Evaluating Flames; 2.9.1 Where To Look; 2.9.2 What To Look For; 2.10 Fuel/Air Ratio Evaluations; 2.10.1 Fuel/Air Ratio Evaluation of Closed Systems; 2.10.2 Fuel/Air Ratio Evaluation of Open Systems; Notes and References; 3 Natural Gas Piping Basics; 3.1 Natural Gas Piping Codes and Standards; 3.2 General Industrial Utilities Piping Fundamentals; 3.3 Manual Isolation Valves; 3.4 Blanks or Blinds
3.5 Steel Pipe Joining Methods 3.5.1 Welded Fittings; 3.5.2 Hot Taps; 3.5.3 Welding Certifications; 3.5.4 The Integrity of Welds; 3.5.5 Threaded Fittings; 3.5.6 Flanged Connections; 3.6 Fastener Issues: When a Bolt Is Not Simply a Bolt; Notes and References; 4 Gas Supply System Issues; 4.1 Incoming Natural Gas Systems; 4.1.1 Gas Yards and Fuel Conditioning; 4.1.2 Main Shutoff or Isolation Valves; 4.1.3 Pig Receiver and Launcher; 4.1.4 Pressure Regulation and Relief; 4.1.5 Dew Point or Water Bath Heaters; 4.1.6 Particulate and Coalescing Filters; 4.1.7 Metering
4.1.8 Odorization (an important issue)4.2 Piping Corrosion Protection; 4.2.1 Corrosion Concerns Where You Would Not Expect Them; 4.2.2 Conducting a Gas Piping Survey; 4.3 Considerations for Limiting Access to Service Entrances; 4.4 Gas Supplies From Digesters and Landfills; 4.4.1 Digester Gas Supplies; 4.4.2 Landfill Gas Supplies; 4.5 Incoming Propane Service Considerations; Notes and References; 5 Gas Piping Repairs and Cleaning; 5.1 Key Steps to Safe Gas Piping Repairs; 5.2 Planning the Project; 5.2.1 Routine and Small-Volume Low-Pressure Venting and Purging Projects
5.2.2 Nonroutine Venting and Purging Projects

Sommario/riassunto

There are code books and there is manufacturer literature but prior to this book nothing brings it all together and explains the basics in a comprehensive yet simple manner. If you own or operate any kind of boiler, oven, furnace, or large heating equipment you need to read this book and understand the issues. Topics included in the book include case studies of explosions through the years, top combustion systems hazards, and hazard recognition and abatement issues. The book also provides an introduction to combustion and combustion equipment followed by fuel trains and safety systems.