1. Record Nr. UNINA9910788280403321

| | |
|---|---|
| Autore | Miller Bruce G. |
| Titolo | Fossil fuel emission control technologies : stationary heat and power systems / / Bruce G. Miller |
| Pubbl/distr/stampa | Amsterdam, [Netherlands] : , : Butterworth-Heinemann, , 2015<br>©2015 |
| Edizione | [1st edition] |
| Descrizione fisica | 1 online resource (515 p.) |
| Collana | Early Diagnosis in Cancer |
| Disciplina | 363.7387 |
| Soggetti | Fossil fuels - Environmental aspects<br>Greenhouse gases - Environmental aspects<br>Air quality management |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| Nota di contenuto | Front Cover; Fossil Fuel Emissions Control Technologies; Copyright Page; Dedication; Contents; Preface; 1 Introduction; 1.1 Organization of this book; 1.2 Overview of energy usage in the United States; 1.3 Fossil fuel usage in boilers for heat and power production; 1.4 Characteristics and composition of fossil fuels; 1.4.1 Coal; 1.4.1.1 Introduction to coal; 1.4.1.2 Coal classification; 1.4.1.2.1 Basic coal analysis; 1.4.1.2.2 Coal rank; 1.4.1.2.3 Coal type; 1.4.1.2.4 Coal grade; 1.4.1.2.5 Classification systems; 1.4.1.2.5.1 The ASTM classification system 1.4.1.2.5.2 International classification/codification system1.4.1.3 Analyses of selected U.S. coals; 1.4.2 Liquid fuels; 1.4.2.1 Introduction to petroleum; 1.4.2.2 Formation of petroleum; 1.4.2.2.1 Diagenesis; 1.4.2.2.2 Catagenesis; 1.4.2.3 Refining of crude oil into fuels; 1.4.2.4 Fuel oil properties; 1.4.2.5 Fuel oil analyses; 1.4.3 Petroleum coke; 1.4.4 Gaseous fuels; 1.4.4.1 Formation of natural gas; 1.4.4.2 Natural gas characteristics and properties; 1.5 Air emissions from fossil fuel usage; References; 2 Federal regulations and impact on emissions 2.1 History of legislative action for fossil fuel-fired stationary heat and power plants2.1.1 Pre-1970 federal legislation; 2.1.1.1 National air quality control act of 1967; 2.1.2 Clean air act amendments of 1970; 2.1.2.1 Air quality criteria and national ambient air quality standards; |

2.1.2.2 National emission standards; 2.1.2.2.1 40 CFR part 60, subpart D - standards of performance for fossil fuel-fired steam generators; 2.1.2.2.2 40 CFR part 60, subpart Da - standards of performance for electric utility steam generating units
2.1.2.2.3 40 CFR part 60, subpart Db - standards of performance for industrial-commercial-institutional steam generating units2.1.2.2.4 40 CFR part 60, subpart Dc - standards of performance for small industrial-commercial-institutional steam generat...; 2.1.2.2.5 40 CFR part 60, subpart GG - standards of performance for stationary gas turbines; 2.1.2.2.6 40 CFR part 60, subpart KKKK - standards of performance for stationary combustion turbines; 2.1.2.2.7 Emission factors; 2.1.2.3 National emission standards for hazardous air pollutants
2.1.3 Clean air act amendments of 1977 and prevention of significant deterioration2.1.3.1 Prevention of significant deterioration; 2.1.3.2 Nonattainment areas; 2.1.4 Clean air act amendments of 1990; 2.1.4.1 Title I: provisions for attainment and maintenance of national ambient air quality; 2.1.4.2 Title III: air toxics; 2.1.4.3 Title IV: acid deposition control; 2.1.4.3.1 The SO2 program; 2.1.4.3.2 The NOx program; 2.1.4.4 Title V: permitting; 2.1.5 Additional NOx regulations and trading programs; 2.1.5.1 Ozone transport commission NOx budget program (1999-2002)
2.1.5.2 NOx budget trading program/ NOx SIP call (2003-2008)

Sommario/riassunto

An expert guide to emission control technologies and applications, Fossil Fuels Emissions Control Technologies provides engineers with a guide to link emission control strategies to available technologies, allowing them to choose the technology that best suits their individual need.  This includes reduction technologies for Nitrogen Oxides, Sulfur Oxides, Mercury and Acid Gases. In this reference, the author explains the most critical control technologies and their application to real-world regulatory compliance issues. Numerous diagrams and examples emphasizing pollution formation mechanisms, key points in pollutant control, and design techniques are also included. Provides numerous diagrams and examples to emphasize pollution formation mechanisms Coverage of critical control technologies and their application to real-world solutions Explains Sulfur Oxides, Acid Gases, Nitrogen Oxides Formation and Organic HAPs, Control and Reduction Technologies Covers Particulate Matter and Mercury Emissions Formation and Reduction Technologies