Combined cycle systems for near-zero emission power generation

Chapters discuss the technology, efficiency and emissions performance of natural gas-fired combined cycle (NGCC) and integrated gasification combined cycle (IGCC) as well as novel humid air cycle, oxy-combustion turbine cycle systems.

Combined cycle systems for near-zero emission power generation. A. Rao. Published 2012. Engineering, Environmental Science. View via Publisher. Save to Library. Create Alert. Cite. 77 Citations. Citation Type. More Filters. Simulation of a Combined Cycle Process with Oxyfuel Combustion and Carbon Capture. Ilmo Heiska.

Abstract: Hybrid fuel cell gas turbine systems consisting of high-temperature fuel cells (HTFCs) integrated into cycles with gas turbines can significantly increase fuel-to-electricity conversion efficiency and lower emissions of greenhouse gases and criteria pollutants from the electric power sector.

This chapter presents a discussion of recent developments in oxy-fuel combustion systems for the creation of near-zero emission power plants to control CO 2 emissions. Rather than oxy-fuel approaches for pulverized coal boilers, the focus in this review is on oxy-fuel turbine-based combined cycle systems. These power cycles seek to ...

This book provides a comprehensive review of the design, engineering and operational issues of a range of advanced combined cycle plants. After introductory chapters on basic combined cycle power plant and advanced gas turbine design, the book reviews the main types of combined cycle system.

Discusses the technology, efficiency and emissions performance of natural gas-fired combined cycle (NGCC) systems and integrated gasification combined cycle (IGCC) systems, as well as novel humid air cycle systems and oxy-combustion turbine cycle

Combined cycle systems for near-zero emission power generation Combined cycle power plants are promising and flexible approaches to conventional, fossil-fuel and biomass-fired energy production. This title provides a comprehensive and systematic review of