

RAILWAY ELECTRIFICATION

9.1 Introduction

Despite the competition of airplanes, buses, trucks and cars, there will play a major transportation role in society, filling specific markets with an high-speed and even high-speed intensity passenger services, heavy haul of minerals and freight, urban light rail systems, and a commuter rail.

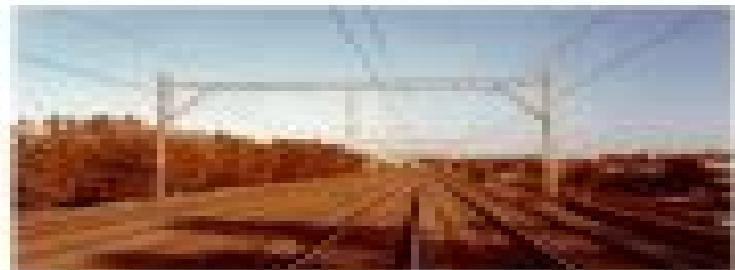


Figure 9.1: Railway high-speed train, France, 2010.

This chapter presents an introduction to electrification of rail systems. It is intended to provide a historical perspective and an overview of typical design principles, construction practices, and maintenance considerations. Those interested in learning more are invited to review ARCCMA's Manual for Railway Engineering, Chapter 13, Electrical Energy Utilization, and Chapter 17, High Speed Rail Systems, which provide various devices to electrification power supplies, traction power systems studies and guidelines for the design of electrical contact systems.

9.2 Development of Motive Power for Railways

The earliest practical motive power served a role in Germany, beginning in about 1825. The motive was developed because the pulling resistance of wheels on rails was much less

Railway Electrification 9 1 Introduction D

Brendan G. Carr



Railway Electrification 9 1 Introduction D:

Transportation Energy and Dynamics Sunil Kumar Sharma, Ram Krishna Upadhyay, Vikram Kumar, Hardikk Valera, 2023-06-13 This book provides a macro level understanding of transportation as an industry through the lens of all the stakeholders that make up the ecosystem It aids understanding about the transportation ecosystem its components challenges contribution to economic growth and the interplay between the stakeholders that govern the system The contents also examine the background and history of transportation emphasizing the fundamental role and importance the industry plays in companies society and the environment in which transportation service is provided The book also provides an overview of carrier operations management technology and the strategic principles for the successful management of different modes of transportation This book is of interest to those working in academia industry and policy in the areas of transportation

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