



Hangzhou Bay Bridge—A 36 km shortcut between Shanghai and Ningbo

Rengui WANG

Civil Engineer
CCCC Highwang
Consultants CO. Ltd.
85, Deshengmenwai
Street, Xicheng District,
(100088) Beijing CHINA
wrengui@263.net



Rengui Wang, born 1965,
received his civil engineering
degree from the South-East
University Nanjing PRC.

Fanchao MENG

Civil Engineer
CCCC Highwang
Consultants CO. Ltd.
85, Deshengmenwai
Street, Xicheng District,
(100088) Beijing CHINA
mengfanchao@hpdi.com.cn



Fanchao Meng, born 1959,
received his civil engineering
degree from the Chongqing
Jiaotong University PRC.

Abstract

The Hangzhou Bay Sea-crossing Bridge is the world's longest bridge over ocean waters. Its total length is 36 km in total length, of which 35.7 km is bridge. A great number of new techniques, new materials, new equipment, and new theories were adopted in the overall design of Hangzhou Bay Sea-crossing Bridge due to the large scale of the project, as well as complex hydrological, meteorological, geological, and sea erosive conditions which provided impetus to the innovation of bridge technology and design in many regards.

Keywords: Hangzhou Bay, Sea-crossing Bridge, General Design, Innovation

1. Introduction

The Hangzhou Bay Sea-crossing Bridge is a component of the national trunk line in the highway network of China's "Five and Seven arteries in south-north and east-west directions". It provides the most convenient way across the Hangzhou Bay on the highway from Shenyang to Haikou. The bridge is also an important component of highway network proposal of "2 transverse and longitudinal trunk lines separately, 18 link roads, 3 loop highways and 3 road corridors" before 2010 in Zhejiang province, and thus will effectively connect the southeast cities of Ningbo and ZhouShan of Zhejiang province with Shanghai to reduce driving time to under two hours.

The project starts from ZhengJiaDai of JiaXing city, crosses Hangzhou Bay and ends at ShuiLu Bay of Ningbo city (see Fig. 1). It consists of a north link road, north approach viaduct, north channel bridge, middle approach viaduct, south channel bridge, offshore platform, south approach viaduct, and south link road.

More than 70 special studies were carried out to provide scientific validation in preliminary design stage for the final plan of the bridge with regard to construction conditions, construction plan, safety, and durability of the structure. This provided a solid foundation for the successful implementation of the project.