



Construction of Suspension Bridges across the Yangtze River in Jiangsu, China

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Summary

As Jiangsu is located in the middle and lower reaches of Yangtze River with particular natural conditions and high navigational clearance requirements, suspension bridges are always one of the preferable bridge types to consider for crossings of the Yangtze. This paper gives a brief description of bridge type and main structural details about two completed bridges-the Jiangyin Bridge and the Runyang Bridge-and two bridges under construction-the Taizhou Bridge and the Nanjing 4th Bridge. This paper also gives a brief introduction to the design concept and methodology adopted for construction of river-crossing suspension bridges in Jiangsu and development and progress with regard to choice of main structural system.

Keywords: Jiangsu provincial, Suspension over Jiangsu Yangtze River, multi-span continuous, anchorage

1. Introduction

Jiangsu, located in the economically-developed and prosperous Yangtze River Delta, is the place where the Yangtze River and East Sea converge. The province adjoins other municipalities and provinces including Shanghai, Zhejiang, Shandong, and Anhui. Its economy makes heavy demands on both land and water transportation. For a long time, the Yangtze River hindered communication between its southern and northern banks and consequently limited economic development of the northern part of Jiangsu. With increasing demands on transportation as a result of recent social and economic development, a study of the construction of crossings of the Yangtze River was carried out in Jiangsu province in 1986. Out of this study, 12 possible locations for bridges and tunnels were selected based on economic development, transportation, and natural conditions. In 2006, overall planning of the river crossings in Jiangsu was further adjusted to confirm that there will be a total of 24 river crossings in Jiangsu province. Eleven of these will be highway crossings (Fig. 1). In recent years, five cable-supported bridges across the Yangtze River have been built in Jiangsu, including two large span suspension bridges (the Jiangyin and Runyang Yangtze River Highway Bridges, completed in 1999 and 2005 respectively) and three major cable-