

Project Title

Xiaolangdi Multipurpose Dam, Henan Province, China

The 1,836MW Xiaolangdi Multipurpose Dam Project, situated 40km north of the ancient city of Luoyang, Henan Province; is the largest of its kind on the Yellow River and is second only to the Three Gorges project on the Yangtze.

This US\$3.5 billion project, partly funded by the World Bank, is a key element in alleviating flooding for more than 100 million people living in the lower river basin as well hydro-electric power generation; providing water for municipal, agricultural and industrial use, and controlling sediment deposition in the lower reaches.



Tailrace tunnel discharge portals (to a common plunge pool)

The project, one of 27 planned for the river, is located such that it intercepts over 90% of the Yellow River catchment, an area 694,155km², and impounds a reservoir which is over 130km long and has a capacity of 12.65 billion m³. The extent of area inundated by the project necessitated the relocation of over 200,000 people in Henan and Shanxi Provinces at a cost of US\$3.5 billion. The project will alleviate the risk of catastrophic flooding for over 100 million people, will reduce the severe aggradations (rising) of the riverbed in the lower reaches; the result of the deposition of some of the 1.6 billion m³ of sediment carried by the river each year,

and remove the need for raising the flood defence levees for 20 years.

The civil works were divided into three principal packages; the 1317m long and 154m high zoned earth and rock fill dam with a sloping impervious core (Lot 1); the Spillway, Intake Structures, and nine Diversion Tunnels (Lot 2); and the six Headrace and three Tailrace Tunnels, and extensive underground Power Facilities capable of accommodating six 306MW turbines and associated works (Lot 3).



Turbine / Generator Hall excavation (cavern: 252m long, 26m wide and 61m high)

ICC were appointed by the joint venture of European contractors responsible for Lot 2 to determine the costs incurred in rectifying the extensive cracking which developed in cast in-situ concrete lining to all nine Diversion Tunnels, to advise on the options available to the joint venture in the pursuit of their claim against the insurers, to assist in the preparation of the arbitration submission, and to support the jv's legal advisor during the arbitration proceedings.