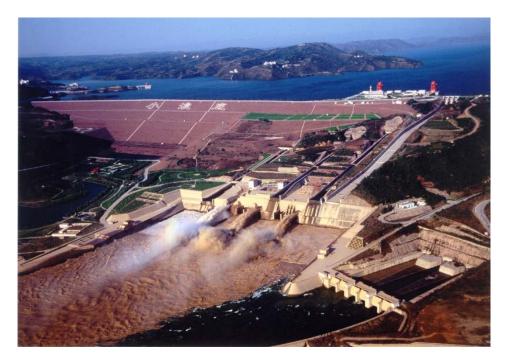
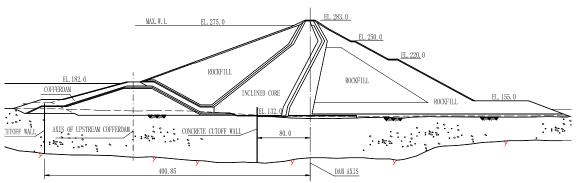
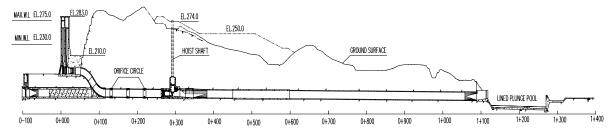
# Xiaolangdi Multipurpose Dam Project

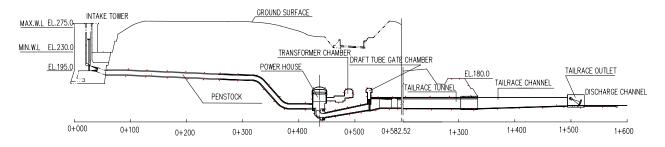




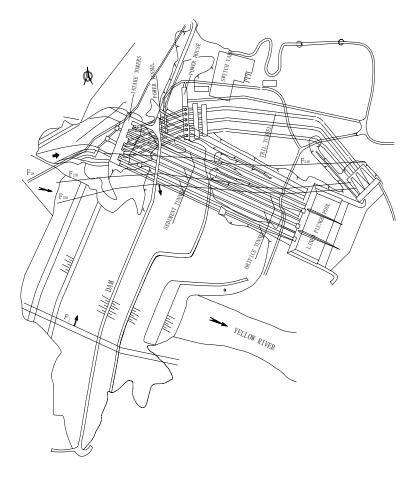
# Main dam—typical section



Orifice tunnel profile



Power tunnel profile



The Xiaolangdi Multipurpose Dam Project is located in the mouth of the last gorge in the middle reach of the Yellow River, about 40 km north of Luoyang, Henan Province. It is a key place to control flood and sediment in the lower reach of the Yellow River. This is an extremely large multipurpose dam project oriented to such main objectives as flood control, ice control, sediment reduction, as well as irrigation, water supply and power generation. Upon completion, the project will raise the flood control level in the lower reach from the present 60 year to 1000 year floods, essentially relieving the lower reach from ice-jam risks. Sediment retention by making use of the dead storage will defer bed raising in the lower reach by 20-25 years. With total installed capacity of 1800MW, the long-term average output will be 5.1 GWh.

## **Reservoir features**

Total storage 12.65 billion m<sup>3</sup>

Among of which

Flood control storage 4.05 billion m<sup>3</sup>
Regulation storage 1.05 billion m<sup>3</sup>
Sediment deposit storage 7.55 billion m<sup>3</sup>

Normal pool level 275m

### Hydrological sediment features

Basin area upstream of dam site  $694155 \text{ km}^2$ Long-term average flow  $1342 \text{ m}^3/\text{s}$ 

Design peak flood flow, one in 1000 year flood 40000 m<sup>3</sup>/s

Check peak flood flow, one in 10000 year flood  $52300 \text{ m}^3/\text{s}$ 

Real long-term average sediment passage 1.351 billion m<sup>3</sup>

Real maximum sediment content  $941 kg/m^3$ 

#### Dam features

Type

Rockfill dam with an inclined core

Maximum height 160m

Dam crest length 1667m

Embankment 50.73 million m<sup>3</sup>

### **Powerhouse features**

Type underground Size (L×W×H)  $251\times26\times61$ m Installed capacity  $6\times300$ MW Design water head 112m Long-term average output 5.1GWh

### Flood-discharge features

No. of orifice tunnels: 3No. of sediment tunnels: 3No. of free-flow tunnels: 3

Plunge pool Service spillway