



**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB 50987-2014**

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**Code for fire protection design of hydraulic engineering**

**Issued on: December 2, 2014**

**Implemented on: August 1, 2015**

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**Issued by: MOHURD**

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## 1 General provisions

1.0.1 This Code was prepared in order to prevent fires in hydraulic engineering, reduce fire hazards, and protect personal and property safety.

**1.0.2 This Code is applicable to the fire protection design of large and medium-sized hydropower plants, pumping stations, sluices and navigation facilities of new construction, expansion and reconstruction of hydraulic engineering.**

**1.0.3 The fire protection design of hydraulic engineering shall proceed from the overall situation and make overall considerations to ensure safety, application, advanced technology and economic rationality.**

**1.0.4 In addition to complying with this Code, the fire protection design of hydraulic engineering shall also comply with the relevant national standards.**

### 2.0.1 ground plant (powerhouse or pump house)

a hydroelectric power plant or pumping station that the motor layer or the installation floor can be directly connected to the external road, and the doors and windows are directly connected to the atmosphere

### 2.0.2 plant within dam

a hydroelectric power plant or pumping station plant that is located in the cavity of the retaining dam body

### 2.0.3 underground plant

a hydroelectric power plant or pumping station plant that is set up in underground cavern

### 2.0.4 main plant

the general name for the installation of the hydro-generator unit or pump unit and its auxiliary equipment, and the installation room for installation and maintenance work

### 2.0.5 auxiliary plant

other electromechanical equipment rooms other than the main plant, as well as work and living rooms for operation, maintenance, testing and management



and multilayer auxiliary plant is not limited.

#### **5.1.2 The maximum allowable building area for each fire compartment of the**

high-rise auxiliary plant shall not exceed 4000m<sup>2</sup>. The maximum allowable building area for each fire compartment of underground auxiliary plant, auxiliary plant within dam shall not exceed 2000m<sup>2</sup>.

#### **5.1.3 When a level III production site is set within a factory building with level**

IV fire hazard, it shall use non-combustible partition wall with a fire endurance of not less than 2.00h and non-combustible floor slab with a fire resistance of not less than 1.50h to separate it from other parts. The door shall be A1.50 fire-proof door, equipped with corresponding firefighting facilities.

#### **5.1.4 The fire compartment division of other buildings shall comply with the**

provisions of current national standard GB 50016 "Code of Design on Building Fire Protection and Prevention".

#### **5.2.1 Safety exits shall be decentralized. For each fire compartment, each floor**

of one fire compartment, the horizontal distance between the nearest edges of the two adjacent safety exits shall not be less than 5.0m.

#### **5.2.2 The safety exits and evacuation walkways of hydropower plants and**

pumping stations for hydraulic engineering shall comply with the following provisions.

- 1 The generator floor or motor layer of the ground plant shall have no less than 2 safety exits that are directly connected to outdoor ground;
- 2 There shall be 2 safety exits in the generator floor or motor layer of the underground plant and the plant within dam. And there is at least 1 that is directly connected to outdoor ground. The incoming traffic tunnel can be used as a safe exit to the outdoor ground;
- 3 The safety exit of the whole plant operation corridor below the generator floor or motor layer in the plant shall not be less than 2. And the evacuation distance shall not exceed 60m;
- 4 The distance from the farthest working place in the floor below the generator layer or motor layer to the nearest safety exit of the floor shall not exceed 60m;

#### **6.1.1 The fire separation distance between oil-immersed transformer or oil-**

immersed reactor with a capacity of 2500 kg or more shall not be less than the