

ICS 27.140  
CCS P 59

**NY**

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

**NY/T 666-2003**

---

**Specifications on safe operation for micro hydraulic generator  
equipment**

微型水力发电设备安全操作规程

**(English Translation)**

**Issued on: April 1, 2003**

**Implemented on: May 15, 2003**

---

**Issued by: Ministry of Agriculture of PRC**

## Table of Contents

Foreword

1 Scope

2 Normative references

3 Water turbine generator set installation safety operation

3.1 Environmental conditions for installation of hydroelectric generating units

3.2 Installation of generators and turbines

### Foreword

This standard is specially formulated to ensure the safety of installation, operation and maintenance of micro hydropower equipment of 10 kW and below. This standard is the root According to the characteristics and actual installation and use of micro hydropower equipment in China, it is formulated.

This standard and GB/T 17522-1998 "Micro Hydropower Equipment Basic Technical Requirements", GB/T 17523-1998 "Micro Hydropower Electrical equipment test method is used together.

This standard is proposed and managed by the Department of Science and Education of the Ministry of Agriculture.

This standard was drafted. Nanjing Agricultural Mechanization Research Institute of the Ministry of Agriculture, Micro-Hydroelectric Equipment Quality Supervision, Inspection and Testing Center of the Ministry of Agriculture.

### 1 Scope

This standard specifies the installation, operation and maintenance of micro hydropower equipment (hereinafter referred to as micro hydropower) with rated power of 10kW and below.

Relevant safety operating procedures, including. installation of generator sets, erection of lines, installation of electronic controllers, system commissioning, daily Operation and maintenance.

This standard applies to all kinds of micro-hydropower with a power of 10kW or less. Exhaust type micro-hydro power units below 100kw can be referred to for implementation.

## 2 Normative references

The terms in the following documents become the terms of this standard by reference to this standard. All dated references, followed by all Modifications (not including errata content) or revisions do not apply to this standard, however, parties to agreements based on this standard are encouraged to study it is possible to use the latest version of these files? For undated references, the latest edition applies to this standard.

GB/T 17522-1998 Basic technical requirements for micro hydropower equipment GB/T 17523-1998 Test method for miniature hydropower equipment

### 3.1.1 Ambient temperature

The ambient temperature for installation and operation of micro-hydropower should be between 0 °C and 40 °C.

### 3.1.2 Environmental humidity

The ambient humidity of micro-hydropower installation and operation should be  $\leq 85\%$  (if the actual humidity exceeds this value, it should be clearly stated in the order contract).

### 3.1.3 Altitude

The altitude of ordinary micro-hydropower installation and work should be  $\leq 1000\text{m}$ . In areas with an altitude of  $>1000\text{m}$ , due to ordinary micro-hydropower the cavitation performance of the turbine and the cooling of the generator are difficult to guarantee, so special high-profile micro-hydropower should be used.

### 3.1.4 Flood protection and moisture protection

The installation location of the micro-hydropower should be selected where the water resources meet the water requirements of the micro-hydro power unit and the flood cannot be submerged. Built by the mountain There should be a drainage ditch between the computer room and the slope of the micro hydropower station. The inlet and outlet channels around the micro-hydropower unit should be covered to prevent water mist from splashing into the power generation.

on board. The generator room should have ventilation holes with good ventilation.

### 3.2.1 Manual handling of the unit in the mountainous area

#### 3.2.1.1

Due to the limitation of road conditions, when the per capita weight exceeds 50kg, unpacking and disassembly are allowed, but it is strictly forbidden to disassemble the generator.

#### **3.2.1.2**

When lifting the unit or equipment on a steep slope or cliff above 25°, the lifting path should be cleaned in advance, and the person who hangs the person is negative.

It is not allowed to exceed 35kg, and it is strictly forbidden to stand under the unit or equipment.

### **3.2.2 Construction of machine rooms and canals**

#### **3.2.2.1**

The opening and shooting work of the machine room and the canal shall be operated by a licensed gunner.

#### **3.2.2.2**

During the process of sloping slope protection, the work of sloping slope and bauxite should be carried out layer by layer. The sloping wall should not be built first, then filled with soil and bauxite.