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Code for construction of PV power station

光伏电站施工规范

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1 General

1.0.1

In order to ensure the construction quality of photovoltaic power station projects, promote the improvement of engineering construction technology, and ensure the safety and reliability of photovoltaic power station construction, this specification is formulated.

1.0.2

This specification is applicable to newly built, rebuilt and expanded ground and roof grid-connected photovoltaic power stations, and not applicable to building-integrated photovoltaic power generation projects.

1.0.3

Before the construction of the photovoltaic power station, the construction organization design documents should be compiled, and a special emergency plan should be

formulated.

1.0.4

The construction of photovoltaic power station projects shall not only comply with this specification, but also comply with the current relevant national standards.

2.0.1 PV module

Refers to the smallest indivisible solar battery combination device with packaging and internal connection, which can provide direct current output alone. Also known as solar cell components.

2.0.2 PV string PV string

In a photovoltaic power generation system, several photovoltaic modules are connected in series to form a circuit unit with a certain DC output voltage. It is called component string or group string for short.

2.0.3 PV supporting bracket

A special bracket designed for placing, installing and fixing photovoltaic modules in a photovoltaic power generation system. Referred to as the bracket.

2.0.4 Square array (photovoltaic square array) array (PV array)

A DC power generation unit composed of several solar cell modules or solar panels mechanically and electrically assembled together in a certain way and with a fixed support structure. Also known as photovoltaic array.

2.0.5 Combiner-box

In the photovoltaic power generation system, several photovoltaic modules are connected in series and parallel and then connected.

2.0.6 Tracking system tracking system

Through the combined action of mechanical, electrical, electronic circuits and programs, it is a device that adjusts the spatial angle of the photovoltaic module plane to realize tracking of incident sunlight to increase the power generation of photovoltaic modules.

2.0.7 Inverter

A device that converts direct current into alternating current in a photovoltaic power station.

2.0.8 PV power station

A power generation system that directly converts solar radiation energy into electrical energy by using the photovoltaic effect of solar cells.

2.0.9 Grid-connected PV power station

Photovoltaic power stations connected directly or indirectly to the public grid.

3 Basic Regulations

3.0.1

The following conditions should be met before starting work.

- 1 Before the construction of the project starts, the construction unit shall obtain relevant construction permit documents.
- 2 The construction site should have the conditions of water, electricity, road, telecommunications and site leveling.
- 3 The qualifications of the construction unit, qualifications of special operators, construction machinery, construction materials, measuring instruments, etc. should be reported to the supervisory unit or construction unit for review.
- 4 The construction drawings necessary for the start of construction shall pass the joint review; the design disclosure shall be completed; the construction organization design and major construction plans shall have been approved; the project division and quality evaluation standards shall be determined.
- 5 The construction unit shall complete the layout of temporary construction facilities according to the requirements of the general construction layout drawing.
- 6 Engineering positioning measurement datum should be established.

3.0.2

The specifications of equipment and materials shall meet the design requirements, and unqualified equipment and materials shall not be used in the project.

3.0.3

The qualification certificates, manuals, test records, accessories, spare parts, etc. of the equipment and materials entering the site shall be complete.

3.0.4

The transportation and storage of equipment and equipment shall comply with the requirements of this specification; when the product has special requirements, it shall meet the special provisions of the product requirements.

3.0.5

Concealed works shall meet the following requirements.

1 Before the hidden project is concealed, the construction unit should conduct self-inspection according to the project quality assessment and acceptance standards, and submit an acceptance application to the supervisor after passing the self-inspection.

2 Concealment can only be carried out after passing the acceptance check by the supervisory engineer, and the concealed project acceptance visa form should be filled out in accordance with the relevant requirements of the current industry standard "Regulations for Acceptance and Evaluation of Construction Quality in Electric Power Construction" DL/T 5210.

3.0.6

The construction process records and related test records should be complete.

4.1 General provisions

4.1.1

The construction of civil works shall be carried out in accordance with the relevant provisions of the current national standard "Unified Standards for Construction Quality Acceptance of Construction Engineering" GB 50300.

4.1.2

The surveying and setting-out work shall be carried out in accordance with the relevant provisions of the current national standard "Code for Engineering Surveying" GB 50026.

4.1.3

When raw materials used in civil works enter the factory, the following tests shall be carried out.

1 When the raw materials enter the site, the variety, specifications, appearance and size should be checked and accepted. The material packaging should be intact, and there should be product qualification certificates, Chinese manuals and relevant performance test reports.

2 When the steel bar enters the site, the test piece should be taken for mechanical performance inspection according to the current national standard "Steel for Reinforced Concrete" GB 1499 and other regulations.

3 When the cement enters the site, its variety, grade, packaging or bulk warehouse number, date of delivery, etc. should be inspected, and its strength, stability and other necessary performance indicators should be re-inspected. Salt Cement" GB 175 and other regulations.