

RESEARCH OF CONTROL AND CONNECTION SCHEMES OF PHOTOVOLTAIC POWER PLANTS

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Анотація

На данному етапі науково-дослідної роботи розглянуто принципи та методи підключення та схемотехніку сонячних електростанцій.

Ключові слова: схема підключення сонячних станцій.

Abstract

At this stage of research the principles and methods of connection and circuitry of solar power plants are considered.

Keywords: connection diagram of solar stations.

Вступ

As we all know by now, power stations are integral parts of our existence. One of them is solar power plants. At the moment, they are the most environmentally safe and profitable in terms of cost and operation.

The purpose of the work is to study the connection scheme of all equipment, which is necessary for the correct operation of solar power plants, regardless of the purpose of use and the number of consumers.

Research results

On the image (Figure 1) you can see the schematic diagram of the connection of an industrial solar power station. The main elements of an industrial solar system are: photo panels, central industrial network inverters. The photo panels are connected to inverters that convert the direct current from the photo panels into alternating current to generate electricity for the grid. The inverter is connected to the general network through a transformer.

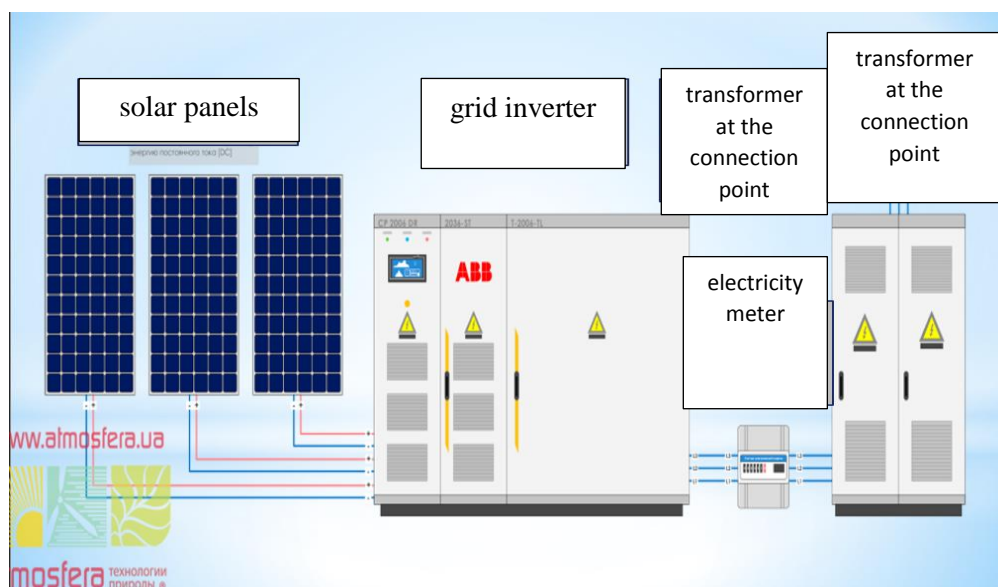


Figure 1.1 is a connection diagram of a network solar electric station

The location of these stations is an important factor, as there are many different factors that could interfere with correct operation, which would lead to failures.

It is also worth remembering that since this is a power plant, you should not save on its installation, that is, it is not recommended to use already used elements again. One of the problems that will arise when using used equipment is a short service life. Therefore, manufacturers are divided into 3 classes Tier-1, Tier-2, Tier-3.

Висновки

Solar stations are an alternative power source that uses the sun's energy. The connection scheme and the most basic and necessary elements of this scheme are also considered. It was emphasized that solar stations must be installed with certain requirements.

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