



THE STATE AND PROSPECTS OF DEVELOPMENT OF THE ELECTRIC POWER INDUSTRY IN THE ANDIJAN REGION OF UZBEKISTAN

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Annotation This article is devoted to the current state and prospects of the development of the electric power industry of the Andijan region according to the materials provided in the information of the Andijan branch of JSC Territorial Electric Networks for 2023. It highlights the role of the development of the electric power industry to improve the living standards of the population of the region, as well as the development of industrial facilities and agro-industrial complex of the region on the basis of appropriate measures and the allocation of funds from JSC Territorial Electric Networks.

The article also provides directions for the development of the electric power industry in the region with the widespread introduction of renewable energy sources in the commonwealth by foreign investors.

Keywords: substation, solar panels, renewable sources, photovoltaic plant

Introductions

At the initiative of the President of the Republic of Uzbekistan, the ongoing reforms are now yielding positive results.

Comprehensive support of the country's population aimed at improving their living standards and ensuring the growing demand for electric energy in the Andijan region, as well as throughout the country, is accompanied by a number of positive measures.

It should be noted that the Andijan region is a densely populated region of the Republic. In this regard, ensuring the growing demand of the population for agricultural products and necessary industrial goods is also of particular importance.

Methodology

Today, the Andijan branch of “Territorial Electric Networks” JSC provides electric energy to all the population of the Andijan region, social facilities and business entities with the help of 135 substations, overhead electric lines with a length of 19124 km, 224 large power transformers and 8119 low-voltage transformer stations, 7,60085 apartments and 21222 business entities are also provided with electric energy.

Results.

To prepare for the autumn-winter season, the following organizational work was carried out by the JSC staff:

—82.4 km of high-voltage electric lines and 5 pcs. substations, 1882.6 km of low-voltage electric transmission lines and 789 pcs. transformer stations, another 1531.7 km of high-voltage electric transmission lines, 213 pcs. power transformers at substations, 2435 km of electric power transmission lines and 1,580 transformer stations were periodically repaired;

—for the purpose of improving power supply, from the beginning of this year to today, installation and installation works were carried out at the expense of 63.6 billion soums on 678.3 km of electric transmission networks and 278 transformer points;

As a result of the work carried out above, electricity supply has improved for 287,000 residents living on 306 MHZ and more than 3,000 social and business facilities.

Recall that in the autumn-winter period of 2021-2022 in the Andijan region, power transformers of 135 110-35 kV substations and 72 pcs of power transformers at 54 substations worked with severe overload. However, until today, the loads on

27 power transformers and 23 substations have returned to normal. As a result, an additional 111.6 mVA of power was added throughout the region.

Two power transformers with a capacity of 16 mVA each, which were installed on the territory of “Uz Avtomotors” JSC in the Asakinsky district, were transferred and installed at the “Sohil” substation, which operated under heavy load. The transformers removed from this substation of 10 kV each were installed at a new 110/6 kV substation, which was installed on the territory of the “Ikbol” agricultural complex in the city of Andijan and put into operation. As a result, all 4 substations, “Sohil” (load 126%) , “Andijan” (load 115%), “Darkhon” (load 114%), “Yayilma” (load 126%), the loads returned to normal.

The 16 MVA power transformer that was in stock was repaired and installed instead of the 10 mVA power transformer installed at the “Alamaydon” substation in the Izbaskentsky district and operating with a load of 134%. After removal, this 10 mVA transformer was installed in place of a 4 mVA transformer (132% load) operating at the “Yangi chuvama” substation. The 4 mVA transformer removed from there was replaced by a 2.5 mVA transformer (load 134%) operating at the “Ulugbek” substation. After removal from this place, a 2.5 mVA power transformer of T-2 quality was installed and put into operation at the “Mamurobod” substation (load 134%) of the Kurgantepa district. As a result, the loads at four substations returned to normal.

A power transformer with a capacity of 10 mVA installed at the “Mekhanika” substation and belonging to JSC Tashkent Mechanical Plant located in the territory of the Andijan district was repaired with all electrical equipment and installed in the place of T-2 with a capacity of 6.3 mVA and a voltage of 110/10 kV of the “Gumbaz” substation located in the Shakhrikhan fog and put into operation. The transformer removed from there as a T-2 with a capacity of 6.3 mVA was installed at the “Urmonbek” substation (load 130%) located in the Balikchinsky district and put into operation. As a result, two substations "Gumbaz" and "Urmanbek" were

noticeably unloaded, and as a result, the power supply to consumers in the Bustan district has significantly improved.

By launching a 2.5 mVA power transformer belonging to “Oltin Teri” LLC at two substations "Alam" and "Altinkul" located in the Altinkul district, the loads were relieved.

The 2.5 mVA power transformer in stock has been repaired and installed as a T-2 at the “Kulla” substation in Bulakbashinsky district, as a result of which the transformer loads have returned to normal.

The T-2 transformer with a capacity of 16 mVA and which is in stock at the “Uygur” substation in the city of Andijan has been repaired and put into operation. As a result, the load of the T-1 with a capacity of 16 mVA of the substation returned to normal.

To transfer the loads of the “Yayilma” substations of the city of Andijan and “Maslahat” of Altinkul fog to the “Bobur” substation from the L-Tashkent -35 kV line, a new 10 km long power transmission line was built.

A 10 mVA transformer installed at the “Madierov” substation and belonging to “Navigul” LLC of the Khojibad district has been put into operation. As a result of the launch of the “Hidirsha” substation with a capacity of 10 mVA, the construction of which was being completed in the area of the Hidirsha settlement, the loads of substations,” Zavrak”, “Huzhaobod” and ZHFK-0 were normalized

By transferring a 10 mVA power transformer installed at the “Yangi khayet” substation of the Asakinsky district to the central distribution branch of “F.Ekubov” and by connecting it to the L-Mehnat -110 kV line, work began on relieving the loads of the “Asaka” substation.

Discussions

In total, it is planned to ease the loads of 42 power lines in the region, which are constantly working with overload. In this regard, new power transmission lines with a length of 42 km have been built. Recently, 12 new 6 kV power transmission

lines have been put into operation in the city of Andijan, 1 new power transmission line has been put into operation in the Khojibad district, and today, as necessary, work is underway to divide 24 new lines.

Technical inspections have been carried out on 27 special vehicles of "Territorial Electric Networks" JSC, as a result of which they are prepared for continuous operation during the spring and winter period and they are provided with the necessary spare parts.

Efficient use of electric energy by consumers of the region, the introduction of solar panels, energy-saving technologies and funds for powerful consumers lead to noticeable savings in electric energy.

Installation and implementation of renewable energy sources:

a) for the installation of solar panels: by

2023, installations of 79.3 MW solar panels were planned, but in reality 33.5 MW panels were installed, which is the fulfillment of the plan for 42%

From this:

—751 units for social spheres and public institutions with a capacity of 13.6 MW, the plan is fulfilled by 107%

—1152 units for buildings and facilities of business entities with a capacity of 8.6 MW, the plan is fulfilled by 50%

—7314 units in the apartments of residents, with a capacity of 11.2 MW, the plan was fulfilled by 39%

b) for the construction of the FES:

1. On May 18 of this year, the state institution "Powerchina International Group Limited" KHP, the Ministry of Energy of the Republic of Uzbekistan and the Khokimiyat of the Andijan region signed a trilateral "Memorandum" on the construction of photovoltaic plants with a capacity of 400 MW.

The construction of these photovoltaic plants was carried out on the Yangi Andizhan massif of the region. Which have the first capacity of 100 MW by April

1, 2024 and full capacity by November 30, 2024 should be put into operation. After the commissioning of these stations, 700 million kWh of electric energy will be produced per year. As a result, 212 million cubic meters of natural gas are extracted and it is possible to prevent the shutdown of the output of 294 thousand tons of harmful gases

2. Under another agreement drawn up with the People's Republic of China, Sanoat Hub, Andijan Green Energy LLC, in cooperation with Chinese investors, began the production of solar panels in the amount of 200 million US dollars (200 jobs, daily production capacity of 500 kW)

3. The foreign enterprise Industrial Energy Group undertakes to install solar panels with a capacity of 8 MW in the amount of 7.5 million US dollars and currently work is underway to allocate 10 hectares of land on the adyr lands of the Khojiabad district.

The project will enter into operation in November of this year.

c) installation of solar panels for newly built houses:

This year, a total of 23 new houses are planned to be built and commissioned in the region and solar panels with a total capacity of 0.5 MW will be installed.

To date, solar panels with a capacity of 0.070 MW have been installed on seven multi-storey buildings.

Conclusions.

1. In order to improve the living standards of the population and fully provide electric energy to industrial and agricultural facilities in the region, a number of urgent measures were taken by the staff of the Andijan branch of "Territorial Electric Networks" JSC.

2. To improve energy supply, from the beginning of the year to today, 678.3 km of new power transmission lines have been built at the expense of 63.6 billion soums and 278 transformer stations have been installed.

3. To normalize the load on the overloaded lines, relief works were planned and 42 km of new power transmission lines were built.

4. Further development of the energy sector of the region should be guided by the widespread introduction of renewable energy sources with the widespread introduction of solar panels and FES in the commonwealth by foreign investors.

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