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WORK CASES OF HEATING POWER PLANTS STUDYING AND RESEARCHING OPTIMIZATION CRITERIA

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Abstract:	**Keywords:**
This article examines the criteria for comprehensive optimization for all variable modes and the evaluation of active-reactive power from regime parameters, except for the working conditions of heating power plants, the schema parameters given in determining the electrical grid mode, including the active power of the power plant, the active and reactive loads of consumers, the distribution parameters between the nose voltage and studied.	Active and reactive power, Consumption description, Relative growth, complex optimization, Power balance.

Introduction

Electricity is an important resource that ensures the stability of economic growth and the well-being of the population, according to a press release from the President of the Republic of Uzbekistan. Great work is being done in the field of network modernization, increasing energy capacity and continuous supply to consumers. In accordance with the decision of our country's administrator on February 1, 2019, the Ministry of Energy of the Republic of Uzbekistan was established. On March 27, that year, in accordance with the Presidential Decree, Uzbekenergo Company was reformed, forming companies such as Heat Power Stations, National Electricity Networks of Uzbekistan, and Regional Electricity Networks. In 2019, as part of six major projects in our country, a total of 1,076 megawatts of electricity were launched. This year, electricity consumption is expected to be 71 billion kilowatt-hours, an average increase of 9 percent from last year, or 10 percent in demand for socio-economic networks and 8.5 percent of the population. It is estimated that by 2030, electricity consumption in our country is expected to be twice as high as it is now. Therefore, the Ministry of Energy has been instructed to launch new heating power plants with a total capacity of 7,900 megawatts in the next decade. With the involvement of investors, tasks have also been assigned to build solar and wind power stations with a capacity of 8,000 megawatts, increase the capacity of hydro power stations by 1,935 megawatts, and give the private sector the construction of small hydroelectric power stations. Non-governmental organizations, together with the Office of the High Commissioner for Vocational and Vocational Education, have been tasked with developing a five-year program to prepare secondary and junior professionals who work directly with advanced technology in the field of electricity. To assist individuals desiring to benefit the worldwide work of Jehovah's Witnesses through some form of charitable giving, a brochure entitled Charitable Planning to Benefit Kingdom Service Worldwide has been prepared. Below are the issues of studying and researching the criteria for optimizing the working conditions of heating power plants. [1]

In addition to the schema parameters provided for determining electrical grid modes, a number of mode parameters will be needed, including the active power of the power plant, active and reactive loads of consumers, the power of the nose or the reactive power produced in the nose (through power plant, synchronous compensator, static condenser batteries). at the same time, the transformer must have a transformation coefficient. Fact-based analysis of my energy shows that choosing the manually, incompatible option of parameters to be brought in can lead even qualified dispensation service events to deviate from permitted standards in some cases. This will always cause economic deterioration. Therefore, it is always required to choose the optimal one of these parameters. [2]

Today, two ways to solve the problem are being used.

- Barcha o'zgaruvchi rejimlar uchun kompleks optimallash;
- Optimization of electric network modes;

The cost description is *defined as Bi=f(Pi),* which varies between *Bi* and *[P_{min} Pmax]*, and the active power is connected to Pt. Initial cost B_0 minimum active power *is used to produce Pmin (Figure 1).*

You can use the method of final differentiation to determine the relative growth description *bi=φ(Pi)* by consumption description. In this case (1.-rasm)

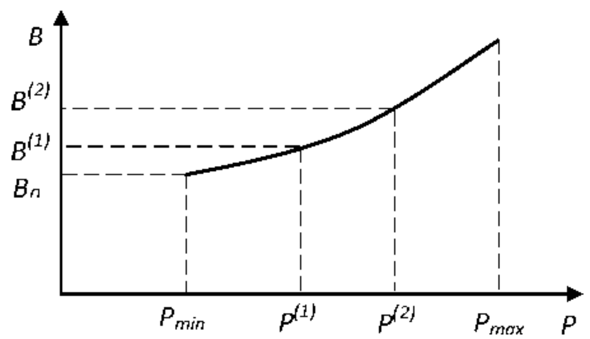
$$b = \frac{dB}{dP} \cong \frac{\Delta B}{\Delta P} = \frac{B^{(2)} - B^{(1)}}{P^{(2)} - P^{(1)}} \qquad (1)$$

When there is a relative growth description (NO'T), the formation of a consumption description from it is carried out using a final integration method. If (picture 1) we call the distinguished figure a curved trapety, then its surface AB is determined as follows

$$\Delta B = \frac{1}{2}\left(b^{(2)} + b^{(1)}\right)\left(P^{(2)} - P^{(1)}\right) \qquad (2)$$

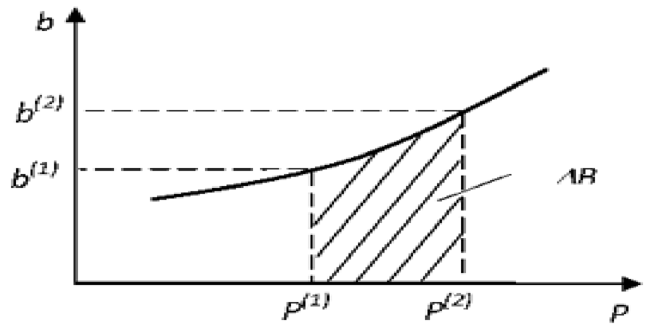
In this case $B^{(2)} = B^{(1)} + \Delta B$.

a



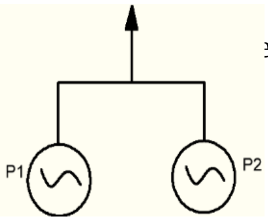
b

1.-Figure (a, b) You *can use the final differentiation method to determine* the relative growth description bi=φ(Pi) by consumption description. [3]



In case the total load of the two stations is P s (2.-rasm), the following power balance must be met:

Ps= P1+P2. *(3)*



2.-Rasm In this case, the total fuel consumption in the system:

B=B+B2. *(4)*

If the first station *is assigned to the* *current P1*(0) value, be equal to the power.$P_2^{(0)} = P_s - P_1^{(0)}$

To evaluate the optimality of the distribution between stations, we unload the first station from $P_1^{(0)}$ ΔP value and load it into the second station:ΔP

$$P_1^{(1)} = P_1^{(0)} - \Delta P \; ; \quad P_2^{(1)} = P_2^{(0)} - \Delta P \qquad (5)$$

Such a process leads to a decrease in the cost of fuel at the first station and an increase in the cost of fuel at the second station. If so, the total fuel consumption of both stations will increase in value:$\Delta B_1^{(1)} \Delta B_2^{(1)} \Delta B_2^{(1)} > \Delta B_1^{(1)} \Delta B^{(1)}$

$$\Delta B^{(1)} = B_2^{(1)} - \Delta B_1^{(1)} > 0 \qquad (6)$$

When we load the first station *into ΔP* and unload the second station to the same value, $P_1^{(2)} = P_1^{(0)} - \Delta P \; ; \quad P_2^{(1)} = P_2^{(0)} - \Delta P$ bdies and comes from it, that is, we achieve economic efficiency. If we continue in this way, we will see that it is provided when it is the most optimal situation.$\Delta B^{(2)} = B_2^{(2)} - \Delta B_1^{(2)} < 0$ $\Delta B_2 = \Delta B_1$

From the terms of the power balance: or $\Delta P_2 = \Delta P_1;$ $\frac{\Delta B_1}{\Delta P_1} = \frac{\Delta B_2}{\Delta P_2}$*b1=b2*

we can determine. If there are several stations in the energy system, this condition is expressed as follows: $b_{1=b2=}....= b_n$.

Thus, the optimal criterion for distributing the active load of the energy system is the equation of relative growth. [4]

Available Literature

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