

THE IMPORTANCE OF HYDROELECTRIC PLANTS AND ENGLISH

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Abstract: This article analyzes the importance of hydroelectric power and the role of the English language in global energy. Hydroelectric plants occupy an important place as one of the main sources of clean and sustainable energy production in many countries of the world. The article examines the technological development of GES, its impact on the environment and its role in maintaining environmental sustainability. At the same time, the importance of English as an effective means of communication in the global energy industry is emphasized, since English plays an important role in scientific research, technological innovation and international cooperation.

Keywords: hydroelectric power plant, technical documentation, Encyclopedia, hydropower.

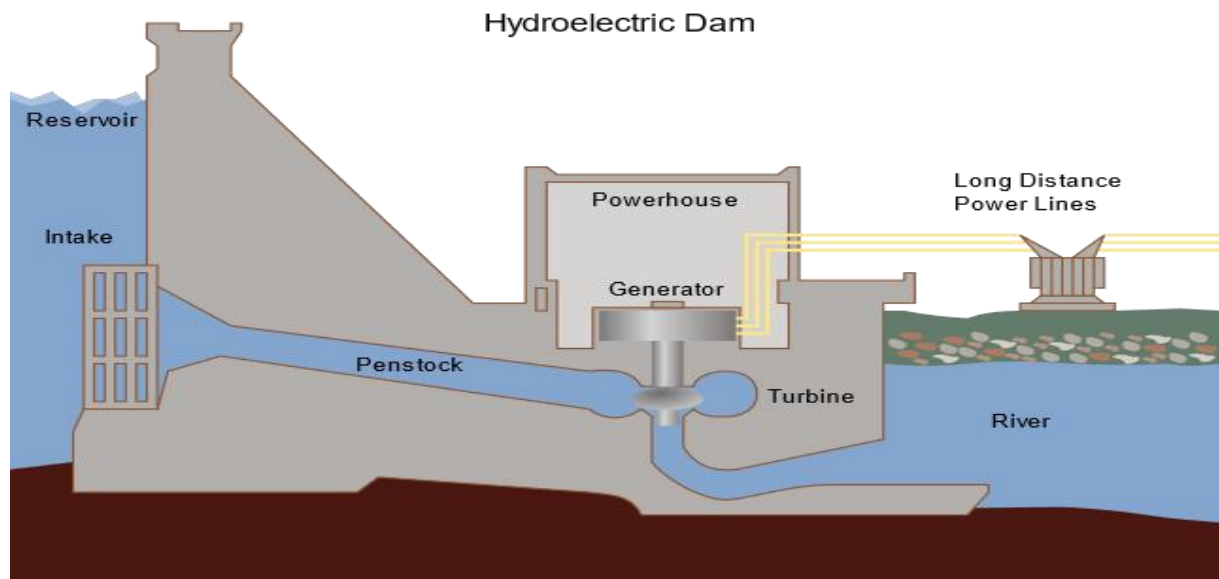
Introduction

A hydroelectric power plant (GES) is a hydro - technical facility that generates electricity using watercourses and masses. In the National Encyclopedia of Uzbekistan, the GES are described as follows: a set of hydraulic structures and energy equipment that convert the energy of the water flow into electricity using hydraulic turbines. Hydraulic structures are divided into dam-side, derivative and mixed types. At the gates next to the dam, with the help of a dam, the water level is raised and the required pressure is created. GES building is placed in 3 different: 1) beside the dam; 2) from the dam at beaten track; 3) below the dam, on the riverbed. In the GES, which are built next to the dam and on the riverbed, the water pressure is generated by the dam. Such Hesses are built on flat-flowing mountain rivers, where there is a lot of water, where the shadows narrow. Basically, the placement of hydroelectric plants will be in the construction of rivers, dams and reservoirs [1].

According to the data of the Sputnik site of Uzbekistan, at least two factors are required for the effective operation of the hydroelectric plant: Water supply is guaranteed all year round. For a strong flow, the slopes of a large river will be [2]. In our opinion, these aspects are important in obtaining electric energy from the power of water. It is appropriate to mention the history of hydroelectric power plants in this regard. The first hydroelectric power plant was built in the late 19th century and was commissioned in Appleton, Wisconsin, United States in 1882. This station began to use the kinetic energy of water to generate electricity during its time. Later, they began to be built in other territories, they were built in China, Brazil, Russia and Canada. The gesae also entered and began to develop into Central Asia in the 20th century. In the last 6 years, the number of Hess in Uzbekistan has increased day by day, and in 2017, the number of hydroelectric plants reached 58, which is 37. This indicator is one of the highest not only among the Republic of Uzbekistan, but also among the CIS countries [3]. In the development of hydroelectric power, English is important in the global dissemination of technology and scientific knowledge. Many R & D, technical documentation and innovative projects aimed at improving the construction, renewal and efficiency of hydroelectric power plants (GES) are carried out in English, which serves as the main tool in strengthening cooperation in the scientific and technological fields.

Methods

A hydroelectric power station (GES) is a complex of hydrotechnical structures and energy equipment that converts the energy of a stream of water into electricity using hydraulic turbines. Hydraulic structures are separated into dam-side, derivative and mixed types. In hydroelectric power plants next to the dam, the water level is raised with the help of the dam, creating the required pressure. The hydroelectric plant building is placed in three different ways: 1) next to the dam; 2) from the dam at chetrok; 3) below the dam, on the riverbed. At hydroelectric power plants, which are built next to the dam and on the riverbed, the water pressure is generated by the dam.



General issues of the use of hydroelectric power plants. It is typical of all types of power plants and, according to its main function, is considered as a technological enterprise that generates electricity from the mechanical energy of the water flow. Its main functions are: - continuous energy supply to the consumer; - normal capture of the quality of the electricity being sent; - fulfillment of the daily-load graphic requirement at the maximum cost-effectiveness of the work of the power plant and power systems (when using hydropower resources for its intended purpose, ensuring the profitability of production); - protect the environment and people from the harmful effects of production. These general issues are included in the rules of technical use and are the basis for the organization of production. Hydroelectric plants have the following advantages over power plants where gas, fuel oil or nuclear power is used: - the possibility of fully automating the process of producing electricity; - the ease of introducing equipment into work and maintenance; - the absence of environmental harm; - the low cost of electricity generated. The tasks of hydroelectric plants when connecting to the power system are as follows: - participate in the coating of peak parts on the energozone load graph, - perform the function of a quick-start backup in the event of an accident with a decrease in voltage and frequency in the power system[4].

The reliability of hydroelectric power plants is to prevent the safety of people. Operational quality indicators of GES facilities and equipment are as follows: technical characteristics (hydroturbine and hydrogenerator useful work coefficient, anti-cavitation properties, etc.), which provides the power considered in the design of a power plant that meets the modern requirements of production, water permeability, durability, robustness and other factors of water-throwing facilities; the actual life of [5].

In Uzbekistan, a major forum and exhibition will be held in the field of hydropower. In 2021, a large forum and Exhibition in the field of hydropower took place on February 17-18. Currently, more than 150 companies and representatives of more than 20 countries have participated for this major congress. This major hydropower forum and exhibition was held in cooperation with the countries of Europe, Latin America, the United Kingdom, Iran, Georgia and the CIS. The event is traditionally held annually by the International Organization Vostock Capital, which is considered a leader in the development of the energy sector and the organization of major international events. The main lectures, which took place from the forum, were devoted to the large-scale reforms carried out in the field of hydropower in our country, current and expected prospects [6]. Modern solutions such as energy conservation, renewable power sources, and energy backup technologies are often developed and popularized in English. All negotiations between organizations regarding world-class problems in the energy sector, including ensuring energy security, reducing carbon gas emissions, and introducing alternative sources, are usually conducted in English. Advanced technological solutions such as automated control, artificial intelligence, IoT, cloud technologies and environmental monitoring are being widely implemented to form a competitive and sustainable production system in modern hydropower. This solution minimizes the impact of the human factor, preventing technological errors and ensuring production stability through real-time monitoring. Energy management systems (EMS), on the other hand, provide a unified platform for the production, distribution and backup capabilities of the GES.

Discussion

In conclusion, hydroelectric plants are of great importance in the production of clean and sustainable energy through the use of water flow energy. Energy production using runoff energy from water resources not only provides environmental safety, but also helps to reduce global warming. By developing hydroelectric plants, we will be able to save our natural resources and bring more sustainable and clean energy sources to future generations. English, on the other hand, is an important tool to make this process more effective, helping to integrate scientific and technical knowledge around the world, introduce new innovations and strengthen international cooperation. The integration of the English language and the GES plays an important role in the formation of a global sustainable energy system in the future.

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