



IMPLEMENTATION OF SMALL HYDROPOWER PLANTS IN AGRICULTURE

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Abstract. In this article, the guidelines for the application of small hydropower plants to agriculture were considered.

Enter

Currently, the design and construction of water management networks and complex hydroelectric units is carried out in accordance with the requirements of water supply of the national economy, irrigation, hydropower, water transport, fisheries and other sectors. The main problem of modern national economy is the problem of rational integrated use of water resources and its protection [1-4]. The development of industry and agriculture, the improvement of the urban and social situation creates demands for the use and protection of many water resources. From 1961 to 1980, water consumption in the Commonwealth of Independent States (CIS) more than doubled. Every year, the national economy uses more than 300 km³ of water, which is 6% of the total annual river water volume and is equal to 4.74 thousand km³. The most important current water consumer is agriculture (irrigated land) up to 60% and industry up to 30% of total water. Heat energy, metallurgy, fuel, oil, chemical, industries that have a great need for water include [5-7]. The amount of water used for utilities is not very large. With the increase in the level of water use, industrial, agricultural and municipal wastes are being poured into rivers and water bodies. As a result, pollution of many water sources or deterioration of water quality is observed.

MAIN PART

Uzbekistan is a country rich in hydropower, oil and gas fuel, and coal, which are effective types of energy sources. Currently, fuel products are the main source of electricity production in our republic. 60 billion in our country every year. About m³ of gas is produced. Gas and other fuel products can be used up in 30-40 years.



Approximately 48 thousand GW in one year in our republic. hour of electricity production, the share of gas and fuel-fired power plants is 84%, the share of coal-fired power plants is 3.5%, and the share of hydroelectric power plants is 12.5% [8-11]. Until 1923, there was only Murgob HPP with capacity $N=1350$ KW in Uzbekistan. Since 1923, hydropower began to develop in Uzbekistan, and in 1930 the Hydroproject was established, in 1926 the Bozsuv HPP with a capacity of $N=4$ MW, in 1933 the Kadirya HPP with a capacity of $N=13$ MW, in 1936 with a capacity of $N=6.4$ MW Borijar hydroelectric power plant, 1938-1941, the construction of Tavoqsoy hydroelectric power plants with $N=73.6$ mW and Komsomol hydroelectric power plants with $N=86.4$ mW began; The years 1941-1960 are characterized by increasing experience in hydraulic construction [12-18]. During this period, new technical methods of hydrotechnical construction were developed, from the construction of small and medium hydroelectric power stations to the construction of large hydroelectric power stations. During this period, Chirchik - Bozsuv tract hydroelectric power stations, Farhod hydroelectric power station with capacity $N = 126$ MW, Namangan hydroelectric power stations 1, 2, 3, 4, Aksuv hydroelectric power station, Okkavok hydroelectric power station, 6, 7 Shahrihan hydroelectric power station, Hishrav hydroelectric power station, Kumkurgan hydroelectric power station and other hydroelectric power stations were built; In 1961-1984, the construction of hydraulic engineering reached the level of high world practice. High dams were built, large hydroelectric power plants: Chorvoq hydroelectric power station, Khojakent hydroelectric power station, Ghazalkent hydroelectric power station, Tuyamoyin hydroelectric power station with a capacity of $N=150$ MW, Andijan hydroelectric power station with a capacity of $N=140$ MW were designed and started to be built; 1984-1990, during this period the first aggregates of the unique Charvoq HPP were put into operation; Gazalkent HPP with capacity $N=120$ MW, Uchkorgon HPP with capacity $N=180$ MW were built [19-25]. The design and construction of hydropower facilities has risen to the highest world level. In the use of the hydropower potential of the rivers of Uzbekistan, the requirements of many sectors of the national economy, especially the irrigation sector, were taken into account, and it was carried out in harmony with the construction of general hydrotechnics; stage from 1990 to the present. agricultural energy consumption in 2005 was estimated at 11.7 billion. KWh has reached, by 2010 this figure will be estimated at 20 billion. It can reach KW hours and cause electricity shortages [26-28].



CONCLUSION

Currently, half of the irrigated land in Uzbekistan is related to energy-consuming machine water pumping, the ever-increasing electricity tariff is an urgent issue today, that is, to supply the national economy with hydroelectric power stations, which are a cheap energy source. is cleaning up the ride. Economic studies of foreign scientists show that hydroelectric power plants will remain the main source of electricity production in the long term, as the price of fuel products increases, and the construction and operation of thermal and nuclear power plants become more expensive. At the current stage, taking into account all the difficulties associated with the construction of large hydroelectric power plants, it is possible to build medium and small hydroelectric power plants in existing irrigation networks and water reservoirs. It has been a long time since all existing small hydroelectric power plants in Uzbekistan were built and paid for, and today they are operating efficiently.

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