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ACTUAL CONSTRUCTION OF KAKHOVKA GES TO BEGIN EARLY IN 1952

/Numbers in parentheses refer to appended sources/

The Leningrad Branch of the Gidroenergostroy, which was entrusted with the engineering and geological surveys for the Kakhovka GES, completed the selection of the site for the dam of the GES on 10 January 1951, the preparation of the preliminary hydraulic and geological data on 1 May 1951, and the data for preparing plans of the GES in September.(1)

On 27 October, 5 days before the target data, the Ukrainian Branch of Gidroenergoproyekt completed the specifications on which final designs are to be based.(2) It is expected that final plans will be completed by the institute before 1 January 1952.(3)

The plans provide for a concrete GES structure, earthen and concrete dams with a total length of 5 kilometers, a navigable lock, and structures to supply water from the Kakhovka Reservoir into the irrigation canal. The dam will raise the water level by 15 meters to form a reservoir of 14 billion cubic meters extending for 240 kilometers from Kakhovka to Zaporozh'ye.(4) Besides its primary purpose, the reservoir will also help the Dnepro GES to utilize more of its capacity.

According to the plans, the navigable lock will be located near the left bank of Dnepr, with the concrete spillway and the GES structure next to it in the order indicated. The rest of the river and a part of the river valley will be dammed with earth. The GES will be of the so-called combined type which has a smaller concrete spillway and passages in the concrete base of the GES itself. Part of the surplus water will pass through the passages to join the tail race of the turbines, thereby acting as an ejecting force to counteract the loss of the head during spring floods.

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The quantity of water passing through at Kakhovka varies greatly, from 21 to 85 billion cubic meters per year, because of the natural conditions of the Dnepr River system. A spillway with a wide, flat base has been designed for the GES. It will take care of the water, as well as of unusually high spring water which happens once in a thousand years.

The earthen part of the dam, which will require 8 million cubic meters of earth to build, will be constructed in two stages. This will enable those aggregates of the GES which do not require a full head for their operation to operate as soon as possible.

The turbines will be of the vertical type with adjustable blades 5 to 9 meters in diameter. Turbines with blades 6.6 meters in diameter are considered the most economical for this GES. However, the plants which will manufacture the turbines will have the final work in determining their diameter.

It is estimated that the main structures of the project will require placement of 1.2 million cubic meters of concrete, excavation of 12 million cubic meters of soft soils, and filling of 14 million cubic meters.(3) The use of 130 suction dredges, 600 excavators, and 2,400 scrapers and bulldozers is planned for the job.(6) Five powerful dredges were being assembled in Zaporozh'ye in September to be put into operation by the end of 1951.(5)

Many plants and factories in the USSR participate in supplying the construction site with equipment and materials. The city of L'vov supplies motor equipment; Chelyabinsk sends cranes; Chernvitsy and Arkhangel'sk, lumber; Kiev, Riga, and Tashkent, communications equipment; Ural Plants, excavators; and Velikiye Luki Oblast, prefabricated homes.(6) In December 1951, equipment and materials were arriving from over 200 industrial enterprises located in 120 USSR cities and towns; over 70 excavators and other machines have already arrived at the site.(7)

P. Medvedev, chief engineer of Dneprostroy in charge of constructing the Kakhovka GES, declared on 21 September 1951, the first anniversary of the government's announcement of the project, that the main task during 1951 was to prepare solid material and technical bases, and to carry out all the preliminary work to enable actual construction work to begin early in 1952. Activities of this nature have extended over a circle with a circumference of 200 kilometers with Kakhovka at its center.(5)

The completion of the high-voltage power transmission line from Krivoy Rog to the Kakhovka construction site, which would be 140 percent of the plan for 1951, was to be realized by the end of 1951. The line was to be in operation at the beginning of 1952 transmitting 154,000 volts.(4)

A stone quarry near Lubomir, 16 miles from Kakhovka, fully mechanized with the most modern machinery is already in operation. An electric power station of 250-kilowatt capacity was built on the spot in December 1951 to supply power to the quarry. The quarry is operated by 500 workmen, engineers, and other personnel. Its daily output was 13,000 cubic meters of rocks in December, but was to be increased eventually to 15,000 cubic meters.(7)

The 152-kilometer-long railroad from the Fedorovka Station of the Stalin Railroad System to Kakhovka, which was reported under construction in September 1951 and which was scheduled to be completed by the end of 1951 (5), was actually completed on 10 February 1952 when the first train arrived at Kakhovka.(8)

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On the whole, the construction and installation work planned for 1951 was completed 101 percent, according to a statement by Andrianov, chief of Dneprostroy.(9)

SOURCES

1. Leningradskaya Pravda, 15 Sep 51
2. Moscow, Komsomol'skaya Pravda, 28 Oct 51
3. Kiev, Pravda Ukrainy, 19 Sep 51
4. Moskovskiy Komsomolets, 20 Sep 51
5. Moscow, Izvestiya, 21 Sep 51
6. Tbilisi, Zarya Vostoka, 23 Dec 51
7. Petrozavodsk, Znamya, 23 Dec 51
8. Moscow Pravda, 11 Feb 52
9. Pravda Ukrainy, 30 Jan 52

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