

**A. AGRANOVSKY**

**STALINGRAD HYDROELECTRIC  
STATION—GREAT CONSTRUCTION  
OF COMMUNISM**



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# **STALINGRAD HYDROELECTRIC STATION— GREAT CONSTRUCTION OF COMMUNISM**

**by A. AGRANOVSKY**

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## 1. STALINGRAD AT THE FOREFRONT

Dawn rises over the Volga, the first rays of the sun cut through the veil of morning fog. Sleeping Volga islands, channels, shallows begin to come to life slowly. Quietly, calmly around. The great Russian river smoothly carries its waters. The sun rises above, floods the endless plain of the Volga region with light—and the familiar picture opens up to the gaze of Soviet man.

To the north of the Mamaev Kurgan, vast buildings of Stalingrad factories stretch along the Volga. Closer to the mound is the metallurgical giant Krasny Oktyabr, followed by the Stalingrad Tractor Plant.

South of the Mamaev Kurgan, the centre of Stalingrad is spread over the Volga. The vast area of the Fallen Fighters, surrounded by beautiful high-rise buildings. Tall, slender buildings with light balconies, sculptures, colonnades rose along a new street, which the people gave the name of Peace Street. The same houses were built on the finished sections of Stalin Avenue, the largest street in the world that stretches for 60 kilometres along the Volga. And everywhere you look—greens, squares, boulevards, flowerbeds, alleys. It seems that there is not a single street in this city, not a single alley without trees, shrubs, flowers.

This is the current Stalingrad. But not only peaceful labour today opens from the top of the Mamaev Kurgan, on which stubborn and bloody battles took place during the war years. Take a closer look, and everywhere, the pace of Western Europe and America has gone all over. And one of the significant dates in the annals of Stalingrad was the day of June 17, 1930, when Comrade Stalin addressed a welcome telegram to the people of Stalingrad.

“Greetings and congratulations on the victory to the workers and the management team of the first USSR Red

Banner tractor giant,” wrote Comrade Stalin. - 50 thousand tractors that you must give to the country every year, there are 50 thousand shells that explode the old bourgeois world and pave the way for a new, socialist structure in the countryside. I wish you success in implementing your program.”

Together with the entire Soviet country, the city of the great Stalin on the Volga grew and strengthened. In a short time, it became a major industrial centre of the country.

The war interrupted the peaceful creative work of the Soviet people, and in 1942, the greatest battle in the history of mankind broke out near the walls of Stalingrad.

The whole world with bated breath listened to the echoes of the Battle of Stalingrad, on the outcome of which the fate of mankind depended. The Soviet Union fought one on one against Nazi Germany. The treacherous rulers of England and the United States of America violated their allied obligations to open a second front. Fascists got the opportunity to transfer thousands of tanks, planes, artillery, dozens of fresh divisions from west to east against the Soviet Army...



“We swear before our battle flags, before the entire Soviet country, that we will not shame the glories of Russian weapons, we will fight to the last opportunity,” wrote the defenders of Stalingrad to comrade Stalin. “Under your leadership, our fathers won the battle of Tsaritsyno, under your leadership we will win and now in the great battle of Stalingrad!”

Fulfilling the brilliant strategic plan of the Supreme Commander of the Armed Forces of the Soviet Union, Comrade Stalin, the soldiers of the Soviet Army on February 2, 1943 triumphantly ended the Battle of Stalingrad. The 300,000th army of Nazi Germany, which besieged Stalingrad, ceased to exist, “Stalingrad was the sunset of the fascist German army,” comrade Stalin said. “After the Battle of Stalingrad, as you know, the Germans could no longer recover” The Great Patriotic War ended with the world-historical victory of the Soviet people, and our country again entered the peaceful period of its development. At the call of the Communist Party, Comrade Stalin, millions of Soviet patriots launched gigantic creative activity in the vastness of our Fatherland. It was necessary to heal the wounds inflicted by the war, restore the pre-war level of development of the national economy, and then significantly surpass it. (*J.V. Stalin, On the Great Patriotic War of the Soviet Union, State Political Publishing House, 1952, p. 113.*)

Once again, a post-war history of Stalingrad glorified by glory can serve as an excellent example of the successful solution of these problems. At the direction of J.V. Stalin, the restoration of the hero city (and it had to be essentially built anew) began during the war. Engineers, architects, masons, concrete workers—thousands of builders began to gather on the Volga. The party inspired and organized all these people to fight for the revival of the hero city.

The pace of construction grew continuously. Particularly quickly restored Stalingrad factories. The tractor giant rose from the ruins even more magnificent than it was before the war. Having restored the destroyed buildings and building huge new workshops, tractor manufacturers have significantly increased the production of tractors compared to the pre-war level and mastered the production of new powerful machines. The restored Krasny Oktyabr metallurgical plant also far exceeded the pre-war output of steel and rolled products. In the years of the post-war Stalinist five-year plan, “Red October” put forward remarkable masters of high-speed steel smelting. The best of them—the Stakhanovites N. Sidelnikov, P. Tushkanov and N. Skrypnikov—were awarded the title of laureates of the Stalin Prize.

The post-war five-year plan for the restoration and development of the national economy, the Soviet people fulfilled ahead of schedule—in 4 years and 3 months.

The Soviet people, led by the Lenin-Stalin party, achieved remarkable results in raising all sectors of the national economy and in strengthening the economic power of the Soviet state.

The following years brought new outstanding victories. “As you know,” said G. M. Malenkov in the report of the Central Committee of the All-Union Communist Party of Bolsheviks to the 19th Party Congress, “this year’s plan for the whole industry is not only successfully fulfilled, but also overfulfilled, so there is every reason to believe that in 1952 industrial output will be produced approximately 2.3 times more than in 1940” (*G. Malenkov, Report to the XIX Congress of the Party on the work of the Central Committee of the Central Council of the Bolsheviks*, Gospolitizdat, 1952, p. 39.)



Particularly rapidly developing industry, producing means of production. In 1951, it exceeded the pre-war level by 2.4 times. And, say, by the end of 1951, the Soviet Union smelted as much as England, France, Belgium, Sweden combined. And in the current year of 1952, the industry producing means of production will surpass the level of 1940 by about 2.7 times.

Significant successes were also achieved by workers in the socialist fields. The gross grain yield in 1952 amounted to 8 billion pounds and exceeded the pre-war level by more than 700 million pounds. "Thus, the grain problem, previously considered the most acute and serious problem, was successfully solved, finally and irrevocably resolved" (G. Malenkov, *Report to the XIX Congress of the Party on the work of the Central Committee of the Central Communist Party of the Bolsheviks*), State Political Publishing House, 1952, p. 48.)

The pre-war level of production of cotton, sugar beets, oilseeds, potatoes, and fodder crops has also been



exceeded. Exceeded the pre-war level and livestock of productive livestock.

The Lenin-Stalin Party united and directed all the efforts of millions of Soviet people to the struggle for the further growth of our economy, for the transformation of nature, for the comprehensive development of the productive forces of the Soviet Union.

The successes achieved in the restoration and development of the economy allowed the Soviet state to take a new step forward on the path to communism.

A remarkable milestone on this path was the decree of the USSR Council of Ministers and the Central Committee of the All-Union Communist Party of Bolsheviks, adopted on the initiative of Comrade Stalin in 1948, "On a plan of field-afforestation plantations, introduction of grass crop rotation, construction of ponds and reservoirs to ensure high and sustainable yields in the steppe and forest-steppe regions of European parts of the USSR. " This is an unprecedented in the history of mankind harmonious, consistent, planned system of measures designed to end forever with dry winds and drought in the vast expanses of the country.

The Stalinist plan for the transformation of nature provides for the planting of eight grandiose forest protection strips—green barriers against the dry winds—along the banks of the Volga, Urals, Don, North Donets and in other directions. Their total length is over 5,300 kilometres, and the entire area of new forest plantations is 117,900 hectares. In addition to these state forest belts, collective farm shelter-beds, forest plantation along ravines, gullies and sands, as well as the construction of over 44 thousand ponds and reservoirs on collective farms and state farms are planned.

The Soviet people not only fulfill, but also exceed the annual targets for transforming the nature of drylands. Six of the eight state forest belts pass through the territory of the

Stalingrad Region. A year after the publication of the plan for the conversion of nature, the Stalingrad collective farmers reported the completion of the construction of five hundred ponds and reservoirs. The Komsomol members of Stalingrad and the region took patronage over the Kamyshin-Stalingrad forest belt and already in 1952 completed forest planting on it. The year 1950 was marked by the further development of the Stalinist plan of attack on drought, on the elemental forces of nature. The Soviet government decided to build powerful hydroelectric power stations, shipping channels, grandiose irrigation and watering systems, which are an integral part of the brilliant Stalinist plan for transforming nature.

The Soviet people enthusiastically greeted the government's decisions on gigantic construction projects and called them the Stalinist construction projects of communism. And again, the city of great Stalin was advanced to the forefront of the struggle for peace, for the happiness of peoples, for communism. At the site of past battles, a gigantic hydraulic structure was erected—the Volga-Don Canal, which already came into operation in July 1952.

On August 31, 1950, a remarkable new page was opened in the heroic annals of Stalingrad. On this day, the historical resolution of the Council of Ministers of the USSR on one of the largest new buildings was published:

“To build a hydroelectric power station on the Volga River near the city of Stalingrad with a capacity of at least one million seven hundred thousand kilowatts and generating electricity of about ten billion kilowatt-hours in an average year of water availability. The construction of a hydroelectric power station began in 1951 and put into operation at full capacity in 1956.”

After 4 years, at the northern outskirts of the city of Stalingrad, where a large duct separates from the Volga-Akhtuba, a huge dam will rise from the waters. She will block

the path of the largest river in Europe, make her work for the benefit of the people.



The Volga lingers near Stalingrad, spills, fills part of the valley with its waters. On the map of our country, a new Stalingrad Sea created by the hands of a Soviet person will appear. Its length will be more than 600 kilometres. It will be a real sea, where the water surface will merge with the sky near the horizon, and the waves in the storm will reach 3 meters in height.

The Great Stalingrad junction will tie together dozens of the most complex structures—earth dams and concrete dams, pipelines and spillways, locks and moorings, highway and railway bridge crossings, watering and irrigation canals, pumping stations and mechanized river ports.

The hydroelectric building itself will reach unprecedented dimensions: the length will be hundreds of meters. The station

will exceed the volume of the new high-rise building on Smolenskaya Square in Moscow.

Powerful turbines and generators will be installed here. The height of each unit - the turbine and generator mounted on one shaft - is greater than the height of a six-story building. To transport such an aggregate, two full-weight trains are needed. And for the operation of each turbine, you will need as much water as the entire Dnieper in Zaporozhye carries in the summer during one second.

A railway bridge will be laid along the crest of the Stalingrad Dam. These new routes of communication through the Volga will play a large role in the development of vast areas of the country. They will improve the connection of the Volga and Central Asia with Stalingrad, the Industrial Centre and the coal Donbass.

People who will drive through the dam in 4 years will see a huge number of motor ships, oil vessels, barges, rafts passing through the Stalingrad locks below. These locks will be located on the left bank of the river. The engineers who designed the Stalingrad hydroelectric facility took into account the huge cargo flows of tomorrow's Volga and planned locks in two lines: ships and rafts will move north in one direction and south in another.

Above the dam in the Stalingrad Sea, a long protective dam will stretch. It will fence off a large section of the reservoir from the surging sea waves and create a quiet haven. Here, ships will be defended in front of the gateway entrance, as well as large rafts of the forest. A new mechanized port will appear on the shore of the harbour.

This port will rise at the intersection of the country's greatest river highways. The powerful transport artery of the Volga passes from north to south, the Volga-Don shipping channel named after V.I. Lenin branches to the west, and the 600-kilometre shipping route of the Volga-Urals goes to the

east. The new Stalingrad port will become one of the largest river ports in the south of the country.

The mooring line will stretch here for many kilometres. In dozens of places it will be cut by “buckets”—small bays into which vessels will become during loading.

A railway will pass along the berths, branching into hundreds of access roads. Trains can stop at the “buckets” next to the ships. And the powerful cranes that the port of Stalingrad will be equipped with will be able to carry goods directly from train cars to the holds of the Volga ships.

Electric energy will mechanize all loading and unloading operations in the port. Fish from lively loaded barges will be pumped through the elastic hoses of the “fish pumps”, grain will flow through the pneumatic “grain pumps”, powerful conveyors will load coal, cranes—machines, machines, equipment.



Higher along the Volga there will be sawmills and woodworking enterprises. Here, huge rafts, rafted to Stalingrad from the upper Volga, Vyatka, Kama, will be divided into separate links, powerful conveyors will pull logs ashore, electric locomotives will take them to the factories. And then the forest will continue its path along the Volga, Volga-Don, Volga-Ural already in the form of beams, boards, plywood, prefabricated houses. Thus, Stalingrad, located in the centre of treeless areas, will become even more important in the supply of timber to the south of the country.

The far from complete list of structures that will appear on the Volga near Stalingrad should also be supplemented by a complex system of powerful transformers, step-down substations and high-voltage transmission lines that stretch from the Volga coast to the north and south, west and east.

The Stalingrad Hydroelectric Power Station will generate about 10 billion kilowatt-hours in an average year with a high water content. Of these, 4 billion kilowatt-hours will be transferred to Moscow, 1,200 million—to the regions of the central black earth regions, 2,800 million—to the regions of the Stalingrad, Saratov and Astrakhan regions, 2 billion—for the needs of agriculture of the Volga and Caspian regions.

The transmission of huge power over long distances is unprecedented in the world. The line from the Stalingrad hydroelectric station to Moscow will stretch for 1,000 kilometres; a current of 400 thousand volts will be transmitted through it. A few thousand kilometres will be built of high-voltage power lines in Saratov, Astrakhan, in the Volga region and the Caspian region.

On the vast plains of the Volga region, massive 32-meter masts will grow every 500 meters. Between the foundations of each of them four cars will be able to pass in a row. The weight of each mast is 20 tons. On the masts will stretch the wires on a string of insulators 6 meters long. High-voltage electric lines

from the Stalingrad and Kuibyshev hydroelectric stations will require about 100 thousand tons of wires. And the volume of earthwork at this “auxiliary” construction will be about 4 million cubic meters.

Stalingrad hydroelectric complex—a huge construction site. Its size can be judged by the needs for basic building materials. 5 million cubic meters of crushed stone, 2 million cubic meters of stone, 2.5 million cubic meters of sand, 500 thousand cubic meters of gravel and many other materials.

In total, construction will require the delivery of 45 million tons of various building materials and equipment.

The greatness of the work at the Stalingrad hydroelectric complex will become especially clear when compared with the data of the largest foreign hydraulic structures.

During the construction of the Boulder Dam (USA), 4 600 thousand cubic meters of soil were excavated, and during the construction of Grand Coulee (USA)—15,750 thousand cubic meters of soil.

The total amount of earthwork at the Stalingrad hydroelectric power station will be about 120 million cubic meters, and about 310 million cubic meters on the main canal. In total, about 430 million cubic meters of soil have to be removed.

It should be noted that the construction of Boulder Dam has been advertised by the American press for over 20 years, but until now it has not yet reached its design capacity. And the great Stalingrad hydroelectric complex will be put into operation at full capacity already in 1956.

Implementation of construction on the Volga in such a short time poses an unprecedented challenge for builders. And the success of the case is decided by the fact that our whole country takes part in the construction of the Stalingrad hydroelectric complex, that this construction site has unfolded

from the very first days on a wide front and has become nation-wide.



## 2. NATIONAL CONSTRUCTION

From the first days of the publication of the decision of the Council of Ministers of the USSR, the construction of the Stalingrad hydroelectric power station has become a truly national affair. The builders of Moscow, the metalworkers of Georgia and Uzbekistan, the miners of Donbass, the oil workers of Baku, the steelmakers of Magnitogorsk, the woodcutters of Karelia, the grain growers of Ukraine, Siberia, the Volga region, the army of many thousands of Soviet scientists—all of our mighty and hardworking people consider it their patriotic duty to help the great construction that unfolded on Stalingrad land .

First of all, it should be noted that in an unusually short time the preparation of the design assignment for the Stalingrad Hydroelectric Power Station ended. It was a major victory for the builders. Already at this first stage of work, they began the struggle for pace and gained time.

In order to draw up the correct, economical design of the Stalingrad hydroelectric complex, scientists, prospectors, designers had to carefully study the climate, soil cover, subsoil structure, nature of the earth's surface, the water regime of hundreds of rivers and underground streams of a vast region.

Conquering the Volga, blocking her path in the lower reaches, where she collected all the water of her large and small tributaries, is a task of unprecedented complexity.

At the construction of the Tsimlyansk hydroelectric complex in the fall of 1951, when the Don's channel was blocked, the lowest water consumption was 200 cubic meters per second.

Soviet people had to fight this raging torrent, and they won—Don was blocked by a powerful dam.

The Great Volga carries in winter, when it is planned to block its channel, not 200, but 3 thousand cubic meters of

water per second. And this terrible element of water must be supported by a dam and forced to work for a person.

The practice of hydraulic engineering construction in the capitalist countries knows many cases when a powerful spring flood, having crossed the dam crest, almost completely destroyed the structure. So, the South Fork Dam, built at the foot of the Allegheny Mountains in the United States, gained notoriety. The dam was destroyed by a catastrophic flood, and the water that rushed from the reservoir into the valley destroyed 2,500, according to government data, and according to data originally published in newspapers, 10,000 people—men and women, old people and children.

The list of such disasters is very long. Over the past 50 years alone, over 1,000 cases of serious accidents on dams and dams have occurred in various countries of the world. A fifth of the accidents occurred precisely because of the abundant spring floods of the rivers. Moreover, 80 percent of officially registered disasters fall on the share of the United States of America, whose ruling classes are interested in maximizing profits and least care about the welfare of workers.

In our country, despite the unprecedented scale of hydro-technical construction, for all the years of Soviet power there has not been a single accident at dams and hydroelectric power stations, it was not because we are building it in the interests of the people, on a strictly scientific basis, on the basis of deep and comprehensive research.

In order for the huge structures of the Stalingrad hydroelectric complex to be solid and stable, it was necessary to study in detail the properties of the soils on which the dam base, hydroelectric power station buildings, locks would stand. It was also necessary to study the physical and chemical properties of groundwater that could affect structures.

Geologists and hydrogeologists of the Stalingrad Hydroproject expedition did a great job. Suffice it to say that

only in the area of the dam, they drilled tens of thousands of meters of exploratory wells in the river valley.



But this is not enough. It was necessary to study the water regime of the great river, to know when and how much water the Volga carries. It was necessary to calculate in advance how

long the new reservoir, the Stalingrad Sea, would fill up, how many months the ice cover on this sea would be maintained, etc. Dozens of hydrological units and parties, hundreds of gauging posts scattered throughout the Volga, studied the regime of its waters .

But that is not all. The wind will create high waves in the Stalingrad Sea, it will drive ice floes through the water directly to the slopes of dams and to the bulls of the dam. To correctly design these structures, you need to know everything about the direction and strength of the air flow, to have detailed data on temperature and humidity, about precipitation, on which the water level in the reservoir depends.

It is also impossible to design hydraulic structures without detailed data on soils, topography, and the nature of the surface of the earth. All this is necessary in order to properly position the waterworks facilities, to select the best canal routes, to accurately determine the coastline of the future reservoir.

So far, only the tasks of prospectors have been listed. But in addition to this, great work was to be done by economists, foresters, land reclamators, fisheries specialists, etc.

Complicated, responsible business was the drafting of the Stalingrad hydroelectric station. And truly enormous, invaluable help in successfully solving this problem to the people of practice—geologists, hydrologists, designers, builders of the Stalingrad hydroelectric complex—is rendered by the people of science—the largest scientists of the country, entire scientific teams.

Science came to the Stalingrad construction site. Scientists of the Soviet country transferred their research laboratories directly to the construction sites of the hydroelectric complex, to forest strips passing through arid regions, to the tracks of new canals.

It is these very close ties between practice and science that explain the high rates and good quality of the most complex studies at the Stalingrad hydroelectric station.

The most prominent Soviet scientists advised Stalingrad geologists on the most complex problems of geology. Serious studies were conducted for the Stalingrad hydroelectric station by scientists from Rostov University, Voronezh and Novocherkassk scientific institutions. Stalingrad soils, fossil remains of ancient plants and animals were investigated in detail. The quality of building materials—gravel, sand, stone, gravel found by Stalingrad prospectors, was studied in numerous scientific laboratories of the country, research was carried out on Stalingrad soils, etc. So already at the first stage of design and survey work, usually a lot of a narrow group of specialists, they appeared on the construction of the Stalingrad hydroelectric station visible features of a nation-wide construction.

Advanced Soviet science not only solved the urgent tasks of the day, giving answers to hundreds of complex questions that arose in construction. Soviet scientists looked into the future, developed a scientific forecast of what our plains, seas, rivers, fields, forests will be like in 10, 20, 100 years. What crops will wheat produce on lands that are now covered with sand dunes? Will the Caspian Sea become shallow in 100 years? What waves will be in 5 years on the Stalingrad Sea? What will the climate of the Trans-Volga steppes become like after new forests grow there and water irrigates collective and state farm fields? .. All these and many other questions are confidently solved by Soviet scientists, remembering the wonderful Leninist words:

“A wonderful prophecy is a fairy tale. But scientific prophecy is a fact.” (V.I. Lenin, *Soch.*, Vol. 27, ed. 4, p. 455.)

The close connection of the practice people with scientists helped the surveyors and designers to choose the best place for

the construction of the Stalingrad dam and arrange the hydroelectric facilities in such a way that they could withstand the onslaught of the mighty river under all conditions.

The giant dam that will block the Volga will consist of two parts: a concrete spillway about a kilometre long and an earthen dam that stretches across the main channel and most of the floodplain of the river.

The Stalingrad Dam will be built so solidly that in case of need through it without damage to the structures it is possible to let over 65 thousand cubic meters of water per second. The consumption of such an amount of water is theoretically possible once every 10 thousand years. This means that in the most severe floods, during which the water flow even theoretically does not reach 65 thousand cubic meters per second, the dam will stand indestructible.

In capitalist countries, the stage of design and survey work usually continues on large hydraulic construction projects for 10-15 years. This is explained by the fact that prospectors work separately, that the lands through which a river flows are privately owned. In order to start work, it is necessary to obtain the consent of the landowner to build a hydraulic structure on his land. But that's not all. Even if it is possible to reach an agreement with the landowner, the exploration work is extremely slow, because a fierce struggle begins between the competing monopolies.

In Stalingrad, this stage, thanks to the dedicated work of prospecting expeditions, as well as the enormous help of Soviet scientists, was completed in one year. At the same time, along with the work of prospectors on the banks of the Volga, the construction of the great hydroelectric complex began.

In the struggle for the time, the builders, without waiting for the finished project, launched preparatory work on a large scale. Even before the start of the construction of the dam, hydroelectric power station, locks and other main facilities of

the hydroelectric complex, tens of thousands of workers had to be resettled, a whole network of new highways and railways had to be built, a complex energy economy was established, and auxiliary plants were built to service the construction site. This is what the collective of Stalingrad-hydrostroy took up from the very first days after the publication of the government decree.

At the height of the construction, according to the calculations of the designers, the daily growth of concrete structures of the hydraulic system will reach 12 thousand cubic meters. And this means that every day only one raw material for the preparation of concrete—sand, gravel and stone—will require at least 25 thousand tons.

It is clear that this requires an extensive network of railways and highways, a grand warehouse. The Stalingraders built two new railway stations—Spartanovka on the right bank and Hidrostroyevskaya on the left bank, laid several new railway lines, equipped new river moorings.

For only one highway, from the Square of Fallen Fighters in Stalingrad to the alignment of the future Stalingrad Dam, in addition to restoring the bridge over the Mokruy Mechetka River, it was necessary to build a dam across the Zabaznaya beam and a structure for passing spring water on the Sukhaya Mechetka River.

For the needs of the great construction was required to build many subsidiary enterprises. On the left bank of the Volga rose the white buildings of the central mechanical plant. This large enterprise with a large number of well-equipped workshops is 85 percent built and partially commissioned. Repair workshops are being built at distant hydraulic systems of the hydroelectric complex. All of them are designed to service walking excavators, scrapers, bulldozers and other earth moving machinery working in construction.



To service vehicles, a specialized repair plant is being built, designed for overhaul of at least 2,000 trucks a year, and the construction of a well-equipped car park for 400 cars is nearing completion.

In addition, factories of reinforced concrete and plaster products, a powerful stone-crushing enterprise, and dozens of electrical substations are being built. An asphalt concrete plant has already been commissioned. A large number of seedlings and flowers are produced by the “green workshops” of Stalingrad-hydrostroy—nurseries, greenhouses, etc.

All these powerful plants—a whole industrial area—are needed only during the construction of the Stalingrad hydroelectric station. But in our socialist state, under the planned economic system, “temporary” subsidiary enterprises were designed in such a way that after the construction is completed they will remain forever in their places.



The same central mechanical plant was built with the expectation that after the construction of the Stalingrad dam to the walls, the waters of the new sea would come close to it. And then the plant, repairing excavators and bulldozers, will begin to repair the Volga ships. This will be the largest shipyard on the Volga. Other auxiliary enterprises will also inherit the new industrial area.

Housing construction is being carried out with the same calculation. From the very beginning of the work, not a single temporary wooden hut was built on the banks of the Volga. On a flat site of the left bank, in the bare steppe, a new city of builders was laid down—a big, beautiful, well-maintained city for 75 thousand inhabitants.

With the construction of the hydroelectric complex, it will be surrounded by water: from the north the Stalingrad Sea will approach, from the east—the Volga–Ural canal, and from the west from the city, the Volga–Akhtuba canal flows. The new city will be surrounded by a wide half-kilometre green ring of forests that will shield houses and streets from dusty Trans-Volga winds.

In every detail of this construction, the great Stalinist concern for people is reflected. There are quarters of beautiful stone buildings with balconies, bathtubs, central heating. At the same time, a spacious bright school, a canteen, shops, a kindergarten, a nursery, a clinic, a hospital, a cinema, and two libraries were commissioned. A stadium of builders with a swimming pool and a Culture House with a hall for 800 seats are being built. A hydro-technical school and a hydro-technical faculty of the Saratov Automobile and Road Institute have been created and are operating. On the banks of Akhtuba, a large forest park is laid out; landscapers follow the builders, and alleys of perennial trees stretch along all the built-up streets of the city. Over 5 thousand seedlings, 75 thousand

bushes and about 2 thousand large trees have already been planted here.

The new socialist city is growing before our eyes. In the spring of 1952, there were already thousands of inhabitants. Until the end of the construction of the Stalingrad hydroelectric station, builders will live in it. And when the turbines of the great hydroelectric complex give their current to the country, people will go to other construction sites to build new dams, and they will hand over their city to the service personnel of the Stalingrad hydroelectric station, workers of the new Stalingrad port, and workers of the local factories.

The next important part of the preparatory measures is the complex energy economy of Stalingrad-hydrostroy. From the first days of construction, hundreds of cars required electricity. First, thirty mobile power stations and two powerful energy trains came to the rescue. But this was not enough. Indeed, in the future, thousands of mechanisms that will come to the construction site—excavators, dredgers, cranes, concrete pumps, motor vehicles and others—will require a huge amount of electricity.

At first, the Stalingrad Thermal Power Plant gives current for a great construction site, but in order to transfer this energy to the construction site, it was necessary to build a high-voltage line through the Volga.

To do this, the builders had to cut through wide forest clearings, mount dozens of powerful metal poles up to 90 meters high, lay about 4 thousand tons of concrete in the bases of these poles, stretch the wires through a mile-wide expanse of the great river. And when the construction of the high-voltage line and the powerful step-down substation was completed, the energy of Stalingrad came to the construction site of the Stalingrad hydroelectric station, giving life to hundreds of mechanisms.

All of these works—the creation of a new city, the organization of an energy economy, the construction of a transport hub and powerful plants—were just the threshold of the great construction of communism. But already in this period, the work reached such proportions that no team could cope with their tasks if the construction of the Stalingrad hydroelectric station did not become a great nation-wide construction site.

The construction of the Stalinist construction projects of communism involves not only those working directly on construction sites, but also millions of workers of the Soviet Union in their workshops at distant and nearby factories, in mines and mines, on railways and rivers.

Shortly after the publication of the resolution of the Council of Ministers of the USSR on the construction of the Stalingrad hydroelectric station at the country's factories, a competition began for early and high-quality production of products for communist construction projects. On the Volga there were then only a few houses and tents of geologists and a dozen drilling rigs. There was not even a project of the Stalingrad hydroelectric station. And the Volga hydroelectric complex was already under construction - was being built at hundreds of enterprises of the country. Newspapers and radio every day brought new messages about popular assistance to Stalingrad builders.

The design bureau of the Leningrad Electrosila plant named after Kirov has begun developing hydroelectric projects for the Stalingrad hydroelectric station. The head of the bureau, Stalin Prize laureate Ivanov, said that the party and non-party workers of the plant will do everything to make a mechanical heart for the Stalingrad hydroelectric station on time.

Uralmash reported on the rally in the machine shop. Kumachev's poster flew over the heads of the Urals—a poster familiar from the years of the war: “Help

Stalingrad!” The party organization of the glorious Ural giant rallied the entire team to fulfill the honorary order of the Volga construction site.



In sunny Georgia, Kutaisi metalworkers pledged to fully provide the construction team of the Stalingrad hydroelectric station with powerful deep artesian pumps. And from distant Tashkent the first batch of hoisting mechanisms was already shipped to Stalingrad-hydrostroy. As a result of the competition organized by the Communists of the Tashkent plant “Lift”, his team was able to fulfill an order an unprecedentedly short time order Stalingrad hydroelectric station.

The nation-wide character of the great construction project is reflected in the fact that each of the republics contributes to the creation of the Stalingrad hydroelectric station, supplying builders with equipment, machines, machines produced at its enterprises, as well as necessary building materials.

All Soviet republics, all the peoples of our country participate in the construction of the Stalingrad hydroelectric station. The Stalinist friendship of the peoples of the USSR, born of the Great October Socialist Revolution, hardened in the crucible of the Great Patriotic War, is now extremely pronounced on the construction sites of Stalingrad

Hydroelectric power station and other construction projects of communism. Just as in the formidable year of war, Russian and Kazakh, Ukrainian and Georgians, Latvian and Uzbek fought shoulder to shoulder against the walls of Stalingrad, today workers, engineers, scientists of the Russian Federation, Kazakhstan, Ukraine, Georgia are working shoulder to shoulder on the Volga shores Latvia, Uzbekistan and all other Soviet republics.

The socialist competition unfolding in the country in honour of the great construction projects showed the inexhaustible strength of creative initiative and productive activity of the broad masses of working people of the Soviet Union.

A glaring example of this is the glorious work of the working people of the Stalingrad region. The builders of the waterworks in the first days needed a brick—tens of millions of pieces of brick. This was a serious problem. Fulfilling the honorary order of the building of communism—the Stalingrad hydroelectric station—the Communists of Silicate Plant No. 4, together with the whole team, calculated their capabilities and decided to significantly increase brick production. The Communists led the competition for expanding brick production. After a short time, production at the plant more than tripled.

The Stalingrad silikatiks appealed to all the working people of the region to launch a socialist competition in honour of the construction of communism—the Stalingrad hydroelectric station. This appeal was picked up by all enterprises of the

region. The communists of the hero city became skirmishers in the competition. Millions of pieces of brick, which the hydro-builders demanded, were given by the enterprises of the region ahead of schedule.

The Lenin-Stalin Party directed the efforts of the entire Soviet people towards a common goal—the building of communism. This great goal aroused the great energy of the masses, the inexhaustible initiative of the Soviet people. Inspired by the Communist Party, Soviet people warmly respond to all appeals of builders, ahead of schedule fulfill orders of Stalin's construction projects, send the best, high-quality products to their addresses.

At one time, Stalingraders experienced difficulties in repairing dump trucks. Due to the pace and scope of work, repair crews did not keep pace with the production workers. In Stalingrad, there were not enough spare parts for cars. Then the public of Stalingrad-hydrostrbya turned to the staff of the Leningrad carburettor plant named after Kuybyshev with a request for comradely help. The party organization of the carburettor plant discussed the appeal of Stalingraders at meetings of workers and employees and took the lead in the competition for early and high-quality fulfillment of the order of hydraulic builders. Soon, Stalingrad-gidrostroy received a large batch of necessary spare parts for cars.

There are many such examples.

The party organization of the Minsk Automobile Plant led a truly massive competition in honour of the great construction projects of communism. As a result, the annual plan for the delivery of dump trucks for the Stalingrad hydroelectric station was completed by the plant in five months. Machine builders of the Novo-Kramatorsky plant named after I.V. Stalin completed the installation of the first walking excavator for the Stalingrad hydroelectric station—ESh-4-40 three months ahead of schedule. Three months ahead of schedule came to

Stalingrad and the Ural excavators. Odessa cranes, Gorky cars, and the Kama forest arrive at the address of the great construction site ahead of schedule.

Since 1952, the firstborn of the great construction projects of communism, the Volga-Don Shipping Canal named after V.I. Lenin, began to help the Stalingrad hydroelectric station. The Tsimlyansk waterworks will provide its energy for the needs of the Stalingrad construction site, and Armavir high-strength gravel, Novorossiysk cement, Donetsk coal and other necessary materials have already sailed along the Volga-Don to the site of the future dam.

National assistance, organized everywhere by our party, all the time mobilizes the many thousands of hydro-builders, pushes them forward, inspires new exploits.

From the first days of construction, workers, engineers, and technicians began to come to Stalingrad from all over the country. In just one month since the publication of the government decree on the construction of the Stalingrad hydroelectric station, the Hydrostroy human resources department received thousands of letters from people who wanted to participate in a great construction site on the Volga. Among them were skilled engineers and ordinary workers, old builders and young students, but all of them were united by a selfless love for the Motherland, an ardent desire to fulfill the brilliant plans of the great Stalin.

The success of the work depended on how quickly these people of different ages, different skills, different knowledge united into a single monolithic team. It was necessary to properly arrange the people, to organize the training of thousands of builders, because the great construction site posed unprecedented difficulties not only for the young excavator, but also for the grey-haired design engineer, it was necessary to organize a mass socialist competition.

“I’ll ask everyone to think about preparing themselves for the level of the tasks that the construction of communism requires of us,” said the head of Stalingrad-hydrostroy F. G. Loginov at one of the first arbitrary meetings. The challenges facing us are growing and will continue to grow every day. And for us, for the party, for the state, it is advisable to hear after a few years that there were ordinary Soviet people who came to the Stalingrad construction site, and they were sometimes insufficiently prepared, but the environment, the atmosphere, the greatness of the task assigned to them, grew from these people a real Bolshevik collective, capable of fulfilling any task of the party and government!

The struggle for personnel began. The training plant, organized at Stalingrad-hydrostroy, trained hundreds of specialists of mass qualifications—scraperists, bulldozer drivers, excavators, drivers, electricians, mechanics, craftsmen, foremen. Great help in this important matter has been and continues to be provided by the construction of the enterprise of Stalingrad. A tractor factory is preparing bulldozers for the Hydrostroy; in Red Army, a southern suburb of Stalingrad, excavators are studying. It is not for nothing that the Stalingraders say that “the courses of the great construction site stretched for 100 kilometres.”

Other construction projects of communism also assist Stalingrad-hydrostroy. So, the crew of the first dredger of the Stalingrad hydroelectric station passed an internship on the Volga-Don, and the crews of other dredgers were trained at the construction of the Kuybyshev hydroelectric complex. The best Stakhanovites of the Stalingrad construction site visited Kuibyshev, and a delegation from the Main Turkmen Canal came to them to exchange experiences, with the team of builders who are competing with the Stalingraders. Since the second half of 1952, engineers, technicians and skilled workers



from the Volga-Don, who completed the construction of the great canal, have been of great help to Stalingrad-hydrostroy.

Here is the typical fate of a young builder, of which there are thousands at the Stalingrad construction site.

A shepherd from Mordovia Gennady Stepashkin sent a letter to Stalingrad-hydrostroy, asking him to give him the opportunity to participate in the construction of the waterworks. He agreed to any work, even as a loader. He was told that no movers were needed at the construction of the Stalingrad hydroelectric station, but people with education were needed, because they would not have to carry the loads on their backs, but with powerful cranes.

Stepashkin said that he had graduated from the seven-year plan, and then they agreed to hire him. First, they sent Stepashkin to dozero courses at the Stalingrad Tractor Plant. He graduated from the courses "excellent", went through a month's practice under the guidance of experienced craftsmen, and only after that he was entrusted with the car.

G. Stepashkin fulfilled his first monthly plan by 158 percent, the next month's plan by 214 percent, and soon he was awarded an honorary diploma of the Komsomol Central Committee for his excellent work.

There are hundreds of such advanced Stakhanovites at the Stalingrad hydroelectric station. Already in the first year of construction, the excavators brothers Ivan and Valentin Bulgakov, Borisov and Polyakov, drivers Elistratov and Mayorov, turner Ryabikov, bulldozer Dikaryov, electric welder Sedov and many others became famous for their work. The socialist competition unfolding on the Volga shores, every day puts forward more and more new names of leaders. In 1952, the ranks of the Stakhanovites were replenished by excavators Nechaev and Lykov, drivers Pronin, Makeev, Bondarenko, scraper Mamontov and dozens of others.

A huge role in uniting thousands of builders into a single friendly team, in the development of mass socialist competition, is played by the party organization Stalingrad-hydrostroy. The communists of the great city have rich experience in such work. By the time the builders were at that time the Volga-Don school, which was in full swing by the time work began at the Stalingrad hydroelectric complex. It has become commonplace to work with a team of thousands of builders, there was extensive experience in political work in construction.

At the construction of the Stalingrad hydroelectric station, one of the country's largest party organizations was established, numbering 1,862 communists. They are located on the most important construction sites. Communists act as skirmishers in mastering new professions, organizers of the struggle for the development of new technology, leaders of socialist competition. At all major construction sites, primary party organizations have been created. By the end of the first year of work, twenty libraries had been opened at the construction site, and campaign teams were created, in which more than four hundred agitators and speakers work. The party organization educates thousands of collectives in the spirit of Soviet patriotism, mobilizes builders in the struggle for the exemplary fulfillment of the honourable task.

In 1951, the best excavator of the Right-Bank Construction Directorate Komsomolets Viktor Borisov achieved remarkable results. Having studied his car very well and having wonderful working methods, he reduced the excavation cycle to a minimum. The party bureau of the commission instructed the communist Kozyrev, the chief mechanic of the site, to study the experience of the machine operator. Comrade Kozyrev deeply delved into this matter and acquainted with the methods of work of Borisov all other excavators. This allowed the Right-Bank construction site to take first place in

earthworks. Many excavators, having mastered the technique of excavation used by Comrade Borisov, showed examples of highly productive labour.

There are many such examples, and their number is increasing every day. Party members are shooters in socialist competition, they pick up and distribute everything new, advanced, which is born in the construction of the hydroelectric complex.

Back in 1951, the Communists organized and led the builders' movement for high labour productivity, for the best use of technology. As a result, about 250 car drivers pledged to bring the mileage of their trucks without major repairs to 100-150 thousand kilometres. Many drivers have achieved remarkable results. Hero of Socialist Labour, driver Rozhnov, fulfilled his semi-annual plan of 1952 by 149 percent. The driver Solovyov brought the mileage of his car without major repairs to 125 thousand kilometres, Nechaev—122 thousand. In total, the drivers of Stalingrad-hydrostroy transported 4 million tons of various cargoes during the first half of 1952.

In June, the news of the remarkable success of the Komsomol driver Yuri Pronin circled the construction site. Having successfully mastered new equipment - the Minsk 25-ton MAZ dump truck,—Y. Pronin fulfilled the July plan in nine days. In August, he gave two monthly assignments. Comrade Pronin initiated the creation of integrated teams of drivers and excavators. The party organization supported the innovator and took measures to widely disseminate his valuable experience. Already in August 1952, drivers Peter Mary, Vladimir Makeev and Nikolai Bondarenko, competing with Pronin, began to transport 1,100-1,200 tons of soil per shift at a rate of 300 tons.

The construction communists picked up the call of the excavator, Comrade Polyakov, to launch a competition for the reduction of the production cycle, following the example of the

Volgodons. In this competition, the party organizer of the construction site, excavator Nikolai Lykov, achieved great success. His Uralets excavator was put to slaughter in June 1952. And from the very first days, drawing on the rich experience of the Volga-Don, N. Lykov began to exceed the shift rate of excavation by 400-500 cubic meters. In July, it reached a record output of 2,500 cubic meters per shift. But the Stakhanov crew did not stop there.

“Our excavator,” says N. Lykov, “takes out the soil with loading it onto dump trucks. It took 30-35 seconds to take the earth, turn the boom and unload it. We have introduced a strict work schedule and reduced the production cycle to 24-25 seconds. A lot of improvements were made by our team in the design of the machine. All this allowed to block the design capacity of Uralets. For a shift, we now take out 2,700-2,800 cubic meters of soil.”

And at the end of August, party organizer N. Lykov told his comrades about the new record of another excavator—Ivan Netaev. Arriving at the Stakhanov shift in honour of the 19th Party Congress, I. Netaev took out 3,557 cubic meters of soil for a shift on his Uraltsa.

The party organization in every way expands criticism and self-criticism. At the reporting and election meetings, at the meeting of party activists, party members in their speeches revealed a number of serious shortcomings in the work of the collective. Demand for the quality of construction work was still low. Some primary party organizations poorly led the competition. The facts of mismanagement and misuse of mechanisms were noted.

The first batch of 25-ton dump trucks that arrived for construction was going to be sent to secondary lines of work due to the fact that they were supposedly bulky and slow. It took criticism of the advanced Stakhanovites and the intervention of the party organization so that the new cars were

sent to the main sections of the construction site, where the drivers Pronin, Mary, Makeev, Bondarenko and others achieved their remarkable success.

The party organization Stalingrad-hydrostroy raises the whole team to the struggle to eliminate the shortcomings existing at the construction site.

Communists of great construction everywhere go ahead and lead the whole team. The party organization directs the efforts of the army of thousands of builders towards a common goal—the fulfillment of the honorary Stalinist mission. The planned task for 1951 was overfulfilled by the builders of the Stalingrad hydroelectric station 2 times. The growth rate of construction in 1952 is characterized by the following data. During the first quarter, the cost of construction and installation works remained at the level of the fourth quarter of 1951. In the second quarter, the cost of the work performed doubled compared to the first quarter, and in July in one month the volume of construction and installation work exceeded everything that was done in the first three months of this year. The team of Stalingrad-hydrostroy provided a significant overfulfillment of the plan for the second year.

Having completed the construction of subsidiary enterprises, the team of builders began work on the main structures—a spillway dam, a hydroelectric power station building, at locks and connecting channels.

On May 21, 1952, the first cubic meter of soil was excavated near the Osadnaya beam on the left bank of the Volga. Thus began the construction of the 600-kilometre Stalingrad main canal. Due to the abundance of perfect domestic technology, the pace of work is growing here with extraordinary speed. Over the summer, trucks transported half a million cubic meters of soil, taken out of the channel of the future channel. Work does not stop day or night.

At the same time, the first sucker shell entered the quiet channel of Akhtubia. Here, the crew trained on the Volga-Don began to break through the internal connecting Volga-Akhtubia canal.

In the spring of 1952, when meltwater subsided, dozens of powerful machines were put into operation, driven by bold craftsmen. A dredging projectile approached the Sandy island, located on the site of the future dam, and began to pave the way to the centre of the island. He moved farther and farther, leaving behind a deep moat filled with water.

Thus began work on the construction of a pit intended for the building of a hydroelectric power station and a concrete spillway dam. A whole flotilla of dredging projectiles loosens the sand, carrying it along with water to the upper lintel that encloses the construction site from the Volga waters. Dredgers daily take out and wash up to 50 thousand cubic meters of soil on the lintel.

Dredging shells will deepen the pit to hard bedrock. And then dredgers will be replaced by powerful walking excavators at the bottom of the pit.



### 3. ELECTRIC ENERGY

“Communism is Soviet power plus the electrification of the whole country” (V. I. Lenin, *Soch.*, Vol. 31, ed. 4, p. 484.)

Vladimir Ilyich Lenin put forward this coined formula 32 years ago, at the end of 1920. From those times, from the historical plan, GOELRO traces its great pedigree to the great Stalingrad waterworks, which will give the country about 10 billion kilowatt-hours of cheap electric energy per year.

Prophetic Leninist words were made that year when the republic's power plants generated only 500 million kilowatt hours—almost four times less than that of tsarist Russia, which occupied the 15th place in the world in power generation before the October Revolution.

Back in 1918, V.I. Lenin became interested in the Volkhov hydroelectric power station project and instructed to immediately begin its implementation. In the same 1918, exploration work began on the Volga-Don watershed. In the fall of 1918, white tents of geological detachments appeared on the banks of the Svir—the design of the Nizhne-Svirskaya hydroelectric power station began.

In December 1920, at the Bolshoi Theatre in Moscow, which hosted the VIII All-Russian Congress of Soviets, on the country's thirty-lit bright bulbs card denotes Shih thirty major regional power, which is planned to be built. Their total capacity was to be 1,500 thousand kilowatts. In addition, it was planned to reconstruct the power plants available in the country, with an increase in capacity of 250 thousand kilowatts. The annual energy production of all power plants in the country increased to 8.8 billion kilowatt hours. The construction period was planned at 10-15 years. This was the historical Leninist-Stalinist electrification plan of Russia—the GOELRO plan.

The delegates of the VIII All-Russian Congress of Soviets, who gathered from all over the country, holding their breath, listened to the prophetic words of Vladimir Ilyich Lenin:

“... If Russia is covered by a dense network of power plants and powerful technical equipment, then our communist economic construction will become a model for the coming socialist Europe and Asia” (V. I. Lenin, *Soch.*, Vol. 31, ed. 4, p. 486. )

Joseph Vissarionovich Stalin praised the country's electrification plan. He described the plan as “a masterful sketch of a truly unified and truly state economic plan without quotes”, as the only Marxist attempt at that time “to bring under the Soviet superstructure the economically backward Russia really real and only possible under the current conditions of the technical and production base” (J. V. Stalin, *Soch.*, vol. 5, p. 50.)

The Soviet people, led by the glorious Communist Party, began to implement the Leninist-Stalinist plan for electrifying the country. In difficult conditions, construction began. There was not enough equipment, not enough building materials, few skilled workers — concrete workers, reinforcers, installers. The main figure at the construction site was a digger, the main mode of transport is a graveyard. In the first year of construction, Volkhovstroy had one single excavator, and even that was inactive.

The whole world was voiced in those years by the heart-rending cries of the enemies of the Soviet people:

- Nothing will come of the Bolsheviks!
- They will not build!
- Utopia! Utopia!

In 1920, the English writer Herbert Wells arrived in Moscow. Before that, he wrote many fantastic novels about time machines, about flights to the moon. It would seem that he



should have possessed the gift of imagination. But Wells was not able to look into tomorrow of the Country of Soviets.

“Lenin... with all his might supports the plan for organizing gigantic power plants in Russia, which should serve entire areas with light, water and motor power,” the Englishman wrote in his book “Russia in the Dark.” “Is it possible to imagine a bolder project in a vast, flat country with endless forests and illiterate peasants, with an insignificant development of technology and with dying industry and trade?... I personally cannot imagine anything like this.”

Fourteen years later, during his second visit to our country, Herbert Wells was able to make sure that “utopia” became a reality in the USSR.

**The GOELRO plan was overfulfilled already in 1931.**

In October 1932, the grand opening of the Dnieper took place, at which the faithful ally of the great Stalin, Sergo Ordzhonikidze, said:

“Unbelievers and doubters, you are welcome to make sure—the Dnieper Hydroelectric Power Station has come into operation.”

Summing up the results of the first five-year plan, Comrade Stalin said: “In the sense of generating electric energy, we were in last place. Now we have moved to one of the first places” (*J. V. Stalin, Soch., Vol. 13, p. 179.* )

In 1936, the GOELRO plan was exceeded by the main indicators by almost 3 times.

The subsequent period of socialist construction was marked by a new huge upsurge in all branches of the national economy. Large hydroelectric power stations in the Upper Volga, Central Asia, Transcaucasia, the Urals and large thermal power plants, such as Gorkovskaya, Stalinogorsk, Chelyabinsk, Bereznikovskaya, Stalingrad and others, were commissioned one after another. In 1940, the Soviet Union was

already producing 48.3 billion kilowatt-hours of electricity and was ranked 3rd in the world in terms of electricity generation.

The war with fascist Germany caused great damage to the energy economy of the Soviet Union. The Nazis destroyed and burned all the power plants in the temporarily occupied territory. They blew up dozens of large hydropower plants, including the Dnieper Hydroelectric Power Station and Svirges. All these stations were restored by the Soviet people in the first post-war five-year plan. In addition, after the war, many new power plants were built and commissioned. The pre-war level of electricity production was more than doubled.

**By 1950, the GOELRO historic plan was overfulfilled 15 times!**

The great Lenin foresaw this time. Even at the dawn of electrification, when the Soviet Republic commissioned the first 12 thousand kilowatts of new capacity, Vladimir Ilyich wrote:

“12 thousand kilowatts is a very modest start. Perhaps a foreigner familiar with American, German or Swedish electrification will laugh at this. But he who laughs the last laughs well”. (*V. I. Lenin, Soch., Vol. 32, ed. 4, p. 470.*)

The electrification of cities and villages, industry and agriculture, which Vladimir Ilyich Lenin dreamed of, has reached an unprecedented peak. The greatest energy giants in the history of mankind are erected on the lands of our Fatherland. The lights of the Stalinist buildings proclaim to the whole world that the Soviet people are successfully moving to the heights of communism.

The successful implementation of the great plan for the electrification of the country, the Soviet people owed primarily to the brilliant successor of Leninist affairs, Joseph Vissarionovich Stalin, who tirelessly throughout the years directed the hydraulic engineering construction and personally followed the country's largest construction projects. Comrade

Stalin visited the Volkhov hydroelectric station, visited the construction of the Zemo-Avchal hydroelectric station in Georgia, talked with the builders of the hydroelectric power station on the Rion River, and invariably resolved all the complex issues that arose in connection with the construction and restoration of the Dnieper hydroelectric station. The current grandiose construction projects of communism are also being built according to the brilliant plans of the great leader of the Soviet people, Comrade Stalin.

Why has the Communist Party, from the first days of Soviet power, attached and attach so much importance to energy issues?

Developing the Leninist position that “communism is Soviet power plus the electrification of the whole country,” Comrade Stalin pointed out in 1928, “that Soviet power alone is not enough to advance towards communism, that Soviet government must electrify the country to advance towards communism, transferring the entire national economy to large-scale production.”

The Lenin-Stalin plan of electrification of the country considers the construction of power plants as the basis for the re-equipment on the basis of electricity of all sectors of the economy: industry, transport, agriculture. The basis of the Leninist-Stalinist theory of electrification is the country's socialist industrialization, the first priority development of heavy industry and mechanical engineering based on electricity.

The great Stalinist construction projects of communism, including the Stalingrad hydroelectric complex, are called upon to serve this great task.

On February 9, 1946, the great leader of the Soviet people, Comrade Stalin, in his historic speech at a meeting of voters of the Stalin constituency in Moscow, outlined a program for the

further movement of our country along the path to communism.

“... The party,” pointed out J.V. Stalin, “intends to organize a new powerful upswing in the national economy, which would enable us to raise the level of our industry, for example, three times as much as the pre-war level. We need to ensure that our industry can annually produce up to 50 million tons of pig iron, up to 60 million tons of steel, up to 500 million tons of coal, up to 60 million tons of oil. Only under this condition can it be considered that our Motherland will be guaranteed against any chance.” (J.V. Stalin, Soch., Vol. 11, p. 311.)

To ensure this level of production of the most important sectors of the national economy, it is necessary to annually produce at least 250 billion kilowatt-hours of electric energy. This is the only possible real path to a new enormous upsurge in the productive forces of socialist society.

In 1951, the generation of electricity in our country exceeded 100 billion kilowatt hours, and in 1952 it will increase to 117 billion kilowatt hours.

The directives of the 19th party congress on the fifth five-year plan outlined further growth prospects;

“In the field of electrification, to ensure high rates of increasing the capacity of power plants in order to more fully meet the growing needs of the national economy and household needs for electricity and increase the reserve in energy systems.

Over the five-year period, to increase the total capacity of power plants by approximately two times, and hydroelectric power plants by a factor of three, ensuring in the part of thermal power plants the expansion of existing enterprises, first of all.”

The Lenin-Stalin Party organized and led the struggle of the Soviet people for the further growth of our economy, for the comprehensive growth of the country's productive forces. A

great, invaluable role in this national struggle should be played by the great construction projects of the Stalin era—the construction projects of communism.

The great Stalingrad waterworks and other communist construction sites will mark with their birth a new stage in the development of the country's productive forces. Our socialist industry, as the leading branch of the national economy of the USSR, consumes a huge amount of electricity generated in the country. The electric energy that the Stalingrad and Kuibyshev hydroelectric power stations will give to the country will entail the creation of new industrial areas and the strengthening of the material and production base of the old areas... (J.V. Stalin, *Speeches at the Electoral Meetings of Voters of the Stalin Electoral District of Moscow, Gospolitizdat, 1951* pg. 22-23 )

One of the many examples of this is the fate of Kamyshin on the Volga. This small town in the old days was famous except for watermelons. And in the fifth five-year plan, on the instructions of Comrade Stalin, a gigantic textile mill will be created here. Based on cheap Stalingrad energy, located close to areas of cotton production and areas of consumption of finished products, it will produce about one million metres of high-quality fabrics per day, exceeding the productivity of any textile enterprise in the world.

In the future, Kamyshin reflected the fate of many Soviet cities surrounding the Stalingrad hydroelectric complex. The energy of Stalingrad will immeasurably increase the production of metal, machinery, building materials, plastics, dyes, artificial fertilizers, etc.

In new irrigation areas—in the Volga region, the Caspian Sea region, the Volga-Akhtuba floodplain, the Sarpinsky lowland—industry producing consumer goods will reach a huge scope. Dozens of enterprises of the light and food industries that process agricultural raw materials will appear

here: textile, leather, oil mill, sugar, distillery, starch and syrup, confectionery, etc.

The size of the country's production of metal and coal, machine tools, food and industrial products after the commissioning of the Stalingrad hydroelectric station, can be imagined if we take into account the productivity of 1 kilowatt-hour of electric energy.

**Using 1 kilowatt hour, you can do any of the following:**

*to extract from the mine and raise on the mountain 75 kilograms of coal;*

*weave 10 meters of chintz;*

*make 2 pairs of shoes;*

*bake 88 kilograms of bread;*

*cook and pack in packs of 42 kilograms of sugar.*

*To produce 1 ton of oil, 28 kilowatt hours are required;*

*for the production of one passenger car - 1,500-1,800 kilowatt hours;*

*for the production of one tractor - 5 thousand kilowatt-hours.*

And the great Stalingrad hydroelectric plant will annually produce about 10 billion kilowatt-hours of electric energy, of which almost 8 billion will go to the needs of industry. It is clear that such an abundance of energy will significantly increase the production of coal, oil, as well as the production of metal, machinery, machine tools and consumer goods for the people.

It is known that in the middle of the last century, aluminium was 10 times more expensive than silver. The cheapening of this light metal went along with the expansion of its production, which depended entirely on an increase in the production of electric energy. 20 thousand kilowatt hours are required to produce 1 ton of aluminium. And to produce 1 ton of magnesium (metal, even lighter) you need 50 thousand

kilowatt hours. The same applies to copper, zinc, high-strength alloys, widely used in all types of engineering.

Modern technological progress is closely connected with electrification. Electric energy is involved in the production of any type of industrial product. And the cheaper the energy, the lower the cost of production.

Meanwhile, it is known that hydroelectric power plants provide the cheapest energy. They do not consume either coal or peat; they do not need to load railways by transporting huge amounts of fuel. Hydro-stations use an inexhaustible source of energy—water flows of rivers. The electricity that the Stalingrad hydroelectric station will provide to the country will be several times cheaper than the energy received from the existing Stalingrad thermal power plant.

The Stalingrad hydroelectric facility will save the country a huge amount of coal, peat, oil, which would have to be burned in the furnaces of power plants. Saving coal will make up about one fourth of all pre-revolutionary coal mining in the Donbass. This is 7 thousand trains, which will be able to transport other goods necessary for the national economy. The Stalingrad hydroelectric station will play a large role in the electrification of transport. The length of the railways, which will be converted to electric traction, will increase several times.

Electrification of railways will increase their carrying capacity by 3 times, double the speed of trains, give huge fuel savings and significantly reduce the cost of transportation. It should also be noted that the energy of the Stalingrad hydroelectric station will contribute to a more rational distribution of productive forces.

According to the fifth five-year plan, the directives of the 19th party congress state: “To ensure the improvement of the geographical location of the construction of industrial enterprises in the new five-year plan, bearing in mind the

further approximation of industry to sources of raw materials and fuels in order to eliminate irrational and excessively long-distance transportation.”

New industrial enterprises based on the cheap energy of the Volga giant can be located in close proximity to raw material bases, which will greatly increase production and reduce the cost of production.

Finally, new waterways—new canals and reservoirs—will also be of great importance, which will also facilitate the transportation of raw materials and finished products to various regions of the country.

All this, taken together, makes it possible to conclude that the Stalingrad hydroelectric complex will not only significantly increase industrial output, but also significantly reduce its cost. The electric energy of the Stalingrad hydroelectric station will play a huge role in increasing labour productivity, which, in the words of V.I. Lenin, is, “in the last analysis, the most important, most important thing for the victory of the new social system” (V.I. Lenin, *Soch.*, t. 29, ed. 4, p. 394.)

Developing this Leninist idea, Comrade Stalin pointed out:

“Why did capitalism defeat and overcome feudalism? Because he created higher standards of labour productivity, he enabled society to receive incomparably more products than was the case under feudal orders. Because he made society richer. Why can socialism, the capitalist economic system, must and must triumph? Because it can give higher samples of labour, higher labour productivity than the capitalist system of economy. Because it can give society more products and can make society richer than the capitalist economic system.”

A complete technical re-equipment of our industry, which will be carried out on the basis of cheap electricity, will create the conditions for a new unprecedented increase in labour productivity.



It is estimated that only thirty people working at a normal pace can develop energy equal to the energy of an electric motor with a power of 1 kilowatt. The capacity of the Stalingrad hydroelectric station is at least 1,700 thousand kilowatts. Consequently, the electrical energy of Stalingrad will replace the physical work of over fifty million people.

Further electrification will greatly reduce the need for labour, free millions of workers from hard work and at the same time, contributing to the continuous growth of all social production with a predominant increase in the production of means of production, will accelerate the dark construction of communism.

The socialist industry, thanks to the use of cheap electric energy, which will be generated by new hydroelectric power stations, will begin to develop along the path of further increasing the production culture. The latest high-performance processing methods (Metals—electro-spark method, electric hardening, electro-erosion, electric welding, etc.) will be widely used at our factories. Mechanization and automation of production have been achieved on the basis of electrical energy even more widely. Many complex production operations will be fully mechanized and automated. All this will facilitate the work of Soviet people and cause a further rise in the cultural and technical level of the working class.

By the level of electrification of industry, the Soviet Union has already taken first place in Europe and has come close to the level of the United States. Over the years of the post-war Stalin five-year plan, our country has achieved great success in the field of complex mechanization and electro-automatics. (*J.V. Stalin, Questions of Leninism, ed. 11, p. 494*). 26 automatic lines and an automatic plant manufacturing parts for cars have been created.

After the Volga giants come into operation, the Soviet Union will take first place in the world in terms of industrial

electrification, leaving the United States of America behind. The Stalingrad hydroelectric station will help create dozens and hundreds of machine shops and machine factories, where a person will become a true commander of mechanisms.

An example of such an automated enterprise will be the Stalingrad Hydroelectric Power Station itself. The building of the hydroelectric power station, turbine halls, generators, locks, bridge crossings, spillway dams, step-down substations, transformer plants - all this complex economy will be serviced by a small number of specialists. In addition, their work will be facilitated by numerous control panels and automatic installations. In the event of the slightest malfunction, special devices will signal this. People will only control the work of smart mechanisms created by Soviet designers.

Under socialism, V. I. Lenin wrote, the “electrification” of all factories and railways will make working conditions more hygienic, save millions of workers from smoke, dust and dirt, accelerate the conversion of dirty, disgusting workshops into clean, bright, human-worthy laboratories. The electric lighting and electric heating of each house will save millions of “domestic slaves” from the need to kill three quarters of their lives in the stinking kitchen.” ( V. I. Lenin, *Soch.*, Vol. 19, ed. 4, p. 42.) This is a brilliant Leninist foresight successfully implemented in our country. The completion of the construction of the Stalingrad hydroelectric complex and other construction projects of communism will allow even greater use of electricity in the national economy.

The capital of our country will receive over 10 billion kilowatt-hours of energy per year from the Stalingrad and Kuibyshev hydroelectric plants. Meanwhile, Moscow now consumes more electricity than some European states (Holland, Denmark and others).

Millions of kilowatt hours will be received by other cities. Now, to satisfy the household needs of every city

dweller in our country, it takes 7 times more electricity than in pre-revolutionary Russia. In the next five years, electricity costs for the household needs of workers will increase by 3 times. The widest application will be found in electric refrigerators, vacuum cleaners, washing machines, electric fireplaces, stoves, etc. Radiation, television, and cinema of the country have achieved new successes. The degree of electrification of intra-city transport and railways will increase on the approaches to many large cities. All this, taken together, will lead to the fact that the air of our cities will be cleared of soot and smoke.

The energy of the Stalingrad hydroelectric complex and other construction projects of communism will contribute to the creation of communist working and living conditions of Soviet people. This applies not only to cities, but also to our collective farm village. Back in 1901, Vladimir Ilyich Lenin, foreseeing the future of electrification in the village, wrote:

“Electric energy is cheaper than steam power, it is distinguished by greater divisibility, it is much easier to transmit over very long distances, while the movement of the cars is more correct and calmer—it is much more convenient therefore to apply to threshing, and to tilling, and to milking, and to cutting feed cattle and so on.” (V.I. Lenin, Soch., Vol. 5, ed. 4, p. 126)

**Using 1 kilowatt hour of electrical energy in agriculture, you can perform any of the following jobs:**

*to plough on an electric tractor two and a half hundred square meters of land;*

*shear 15 sheep;*

*milk 45 cows;*

*bring 30 chickens in an incubator, etc.*

In our country, the energy supply of collective farms and state farms is growing steadily from year to year. In 1928, agriculture in the USSR received about 34 million kilowatt-

hours of electric energy. In 1937, this figure increased by almost 10 times and reached 330 million kilowatt hours. In 1947, despite the damage caused to agriculture during the war years, collective farms and state farms consumed 784 million kilowatt hours. The capacity of rural power stations alone almost tripled during the post-war five-year period compared with the pre-war period.

The great construction projects of communism will significantly increase the electrification of the socialist village. Suffice it to say that those areas to which the operation of the Stalingrad and Kuybyshev hydroelectric stations will extend will consume electricity 15 times more than all the agriculture of the USSR in the pre-war years.

The decree of the Council of Ministers of the USSR on the construction of the Stalingrad hydroelectric complex stated: "When developing projects, provide for the introduction of electricity in agriculture (electric ploughing, etc.), primarily on newly irrigated lands." This is one of the most important tasks of the fifth five-year plan in the field of agriculture. The main field work will be widely electrified—ploughing, harvesting bread, sorting and drying grain.

The Soviet Union ranks first in the world in the electrification of field cultivation. For a number of years, experiments on the use of electric tractors on collective farm fields have been widely conducted in the USSR. Since 1949, these wonderful machines appeared in the machine and tractor stations of the Sverdlovsk, Ryazan, and Kiev regions. They were used in a wide variety of work—virgin lands, ploughing, harrowing, sowing winter crops, rooting out stumps, etc.

Experience has shown the reliability and efficiency of electric tractors. In the future, in the USSR EMTS will be widely used—electric machine-tractor stations, in which, along with electric tractors, there will be electric combines and other powerful electric machines.

Dramatically improve working conditions in livestock. The productivity of Soviet livestock breeders will increase on the basis of electrification not less than 2 times. Livestock farms of collective farms and state farms will become mechanized enterprises where fodder harvesting, water supply and water heating, milking of cows and sheep shearing will be fully electrified.

Ancillary production of collective farms - mills, grinders, forges, locksmith workshops—will become the same mechanized enterprises.

The most widely used electric energy of the Stalingrad hydroelectric station in the irrigation of drylands. She will raise the Volga water on collective farm fields and gardens, in orchards and vineyards. The capacity of individual pumping stations on irrigation canals will reach 30-40 thousand kilowatts, which is about half the capacity of the Volkhov hydroelectric power station.

According to preliminary estimates, in the coverage area of the Stalingrad and Kuibyshev hydroelectric facilities, each hectare of irrigated land will consume about one and a half thousand kilowatt-hours of electricity, that is, 10 times more than a hectare of non-irrigated land.

It is also estimated that in the area of the Stalingrad hydroelectric station each collective farm will receive 1 kilowatt of electricity. The energy ratio of the able-bodied collective farmer will reach the energy ratio of the worker in a number of industries. Electricity will decorate the life of collective farmers. 15 percent of the energy that the collective farms receive will go to household needs.

Our Soviet Motherland is a country of great rivers. The possible capacity of large and small rivers of the USSR exceeds 345 million kilowatts. They are able to annually produce 3 thousand billion kilowatt-hours of electricity. This exceeds the hydropower resources of the United States of

America, Canada, France, Germany, Italy, Norway combined. There is no other people in the world who would have such wealth!

But the matter is not only in wealth, but also in who owns them. In the USSR, all natural wealth belongs to the people who use it to increase their well-being. During the years of Soviet power in the USSR, dozens of large hydroelectric power plants were built. In the current, fifth five-year plan, the broad construction of new energy giants is unfolding on the Volga, Dnieper, Kama, Amu-Darya, Kura, Irtysh, Angara and many other rivers of the USSR. In terms of the rate of increase in capacity of power plants and in the growth of electricity production, the Soviet Union 6 times surpassed the United States.

The United States is by no means offended by nature. This is the second country after the USSR in the world in terms of hydropower resources. The whole world knows Niagara Falls, which lies on the border between the United States and Canada. Niagara carries a lot of water: this is the only drain of the entire system of the Great Lakes of America, and the amount of water in them is almost half the entire fresh water of the globe.

Soviet people have to build on the Volga, near the walls of Stalingrad, a giant dam in order to raise water to a height of 26 meters, thus concentrate the energy of the river in one place and use it for the benefit of the people. There is no need to build dams on Niagara. Here, nature itself raised water to a height of 50 meters. Come and take advantage.

In 1901, the Americans “took advantage” of the gift of nature... Thousands of spectators gathered on the American and Canadian shores of the famous Niagara Falls. Excitement reigned terrible. People looked at Goat Island, at the terrifying abyss of foam and spray of Niagara, among which the “Cliffs of Centuries” water-crushing was occasionally exposed.

But at the top of the waterfall appeared a large oak barrel. The crowd howled. The barrel seemed to freeze for a moment over a terrible line, rushed down and disappeared into the water chaos.

And again the general roar of an excited idle crowd drowned for a moment the roar of Niagara Falls, when a barrel appeared in the middle of the stream. Spinning furiously, she approached the shore.

Anna Edison-Taymor, who was henceforth destined to be called the “Niagara Champion,” was removed from the barrel. Her arms and legs were broken. For life, the unfortunate woman remained a cripple. But overseas newspapers wrote that Anna Edison-Taymor achieved “American fame and fortune.”

The famous waterfall has witnessed such Yankee entertainment more than once. Once, an old Michigan ship was launched downstream. To the cheers of thousands of spectators, it fell over into the abyss and was swallowed up by Niagara.

“Only once!”

“An unprecedented sight of the XX century!”

“Sensation! Sensation! Sensation!”

“Only once!”

American newspapers and magazines are again full of noisy, touting advertisements. Again, wealthy loafers come from all over America—in trains, cars, planes—to Niagara Falls. This time, a steel barrel falls into the abyss—young Bobby Leach “took into account” the sad experience of his predecessors. With a broken leg and deep wounds, the “conqueror of the elements” is delivered to the hospital.

Apparently, a considerable income was brought by these wild entertainments to railway tycoons and aviation kings of America, hotel owners and soft drink dealers. But on the energy development of Niagara for the benefit of the American people, businessmen did not seriously think about it. For 50

years, only a quarter of the gift capacity of the famous waterfall has been used. Around the Niagara problem there is a frenzied squabble of competing capitalist monopolies and concerns, and on Niagara itself there are still several small power plants, similar to water mills.

In pursuit of maximum profits, the US monopolies not only do not seek to use the country's natural resources, but deliberately impede their development. For half a century, for example, a struggle has been going on around the construction of powerful waterworks on another American waterway—on the St. Lawrence River. Six presidents—from Wilson to Truman—have officially spoken out in defence of this project, the implementation of which could give the United States and Canada 13 billion kilowatt-hours of electricity.

In a special congressional letter dated June 5, 1941, Roosevelt declared: “I do not know of a single project of this nature that would be of greater importance for the future of our country... I hope that the approval of this project will not be long in coming.”

Made to wait! Contrary to the interests of the people, contrary to simple common sense, the construction of waterworks on the St. Lawrence River was disrupted this time. What are the reasons for this? Senator Aiken, the author of a bill approving the construction, said in the press that a thousand people were interfering with the construction. This bunch of imperialists is more interested in maximizing profits than in improving the lives of working people. This “thousand” is led by the all-powerful energy concern of the billionaire Morgan, who by all means seeks to prevent the construction of the St. Lawrence River, because it can lead to lower electricity costs and lower monopoly revenues. Decades after decades pass, and the construction, which is vital for the people, has not yet begun.



The capitalist system has long been a brake on the progressive development of society. Capitalism is fighting against everything new, advanced. He became the greatest obstacle to the development of technology. In countries subject to the dollar, coal and oil “kings” disrupt the construction of hydroelectric stations year after year, automobile and railway concerns keep projects of new shipping channels under wraps, bread and livestock breeding monopolies impede the development of irrigation and watering of deserts.

US imperialists do not use the energy of the largest waterway - the Mississippi. Vladimir Mayakovsky called it the “American Volga”, but unlike our great Volga, this river brings people only disasters. From its sources to the mouth there is not a single lock built, not a single dam. The right tributary of the Mississippi—Missouri—the longest river in the United States—is not used at all for shipping.

In summer, rivers become shallow, exposing numerous rapids and islands, but in the spring, the Mississippi and Missouri valleys are flooded almost every year by flood waters. But even in this case, the American government does not want to do anything. In the spring of 1952, another flood in the Missouri-Mississippi Valley reached enormous proportions. Even according to official, significantly understated data, 1 250 thousand acres (*Acre equal to 0.4 hectares.*) Of land, 50 cities, hundreds of villages and farms were flooded . 114 thousand people lost their homes.

Meanwhile, American engineers have long developed projects to conquer the brutal elements. It is required to build several dams, hydroelectric power stations, dams, and then floods will be eliminated, America’s industry will receive a huge amount of cheap electric energy, and agriculture will receive water for irrigation of dry lands.

However, spending 74 percent of the entire US budget in the fiscal year 1952/53 preparing a new war, the American

imperialists do not want to spend a single dollar on the construction of dams and dams in the Missouri-Mississippi Valley.

“Wherever you go,” wrote V. I. Lenin in the article “Civilized Barbarism,” “at every step you encounter tasks that humanity is fully able to solve immediately. Capitalism is in the way. He accumulated piles of wealth—and made people slaves of this wealth. He solved the most complicated issues of technology - and stalled the implementation of technical improvements because of the poverty and darkness of millions of people, because of the stupid stinginess of a handful of millionaires.” (V. I. Lenin, *Soch.*, Vol. 19, ed. 4, p. 349.)

But US imperialists do not always refuse to build large hydropower plants. There are two rivers in America—Tennessee and Columbia, which are very interested in the imperialists.

In 1916, when expensive work began on the Tennessee River, all American newspapers were buzzing that the goal of the construction was to “raise the living standards of the Tennessee population.” Construction was in full swing until the end of the First World War. Then, when the war ended, the construction was mothballed, and only during the second world war did it resume again. Why?

The answer soon became known. Power lines ran from the hydroelectric power station to the military factories, and later to the nuclear plant in Oakridge.

But what about the “standard of living”?

“We are forced to conclude,” replies the American engineer Haines in his book “Southern Horizons,” “that in reality the people only lost and did not win as a result of the Tennessee Valley administration. For a low-wage population, this is a tragedy. “

When the construction of the largest US hydroelectric power station, Grand Cooley, began on the Columbia River, all

American newspapers shouted that the main goal of the construction was to “irrigate 400 thousand hectares of fertile land.”

In fact, the construction of this hydroelectric power station was also carried out for military purposes. Lines of wire ran to the Hanford Nuclear Plant.

But what about the “irrigation of 400 thousand hectares”?

According to official figures, by the end of 1949, 10 peasant farms were created on this land. The mountain gave birth to a mouse.

The American imperialists do not care about irrigation of land, to raising the living standards of the people. Their slogan is: maximum profit. In pursuit of profits, they put all the country's natural wealth at the service of preparing a new world war.

They are hindered by capitalism. And 35 years ago, “civilized barbarism” ended in our country. On the ruins of Russian capitalism a new, socialist society was born. All the riches of nature, all the achievements of technology have been put in the Land of Soviets at the service of a free man who has forever rid himself of all exploitation, of all oppression. Under the conditions of socialism, the mighty talents of the Soviet people—a giant people, creator, creator—unfolded in full breadth. Therefore, we have become real and feasible tasks that are unthinkable in any capitalist country.

## 4. TRANSFORMATION OF NATURE

In order to get acquainted with all the buildings of the great building of communism—the Stalingrad hydroelectric station, it is not enough to visit the Volga shores. Distances at this unprecedented construction site are measured not in meters and not kilometres, but in hundreds of kilometres. In addition to dams and spillways, locks and dams that arise on the Volga near the city of Stalin, an extensive network of shipping, irrigation and watering canals, dozens of pumping stations, bridges, water intakes, water distributors, river ports, lighthouses, etc. will be built.

The natural and climatic conditions of the regions to which the action of the Stalingrad hydroelectric complex extends are very diverse.

Beyond the Volga immediately begins a strip of green meadows, curly fishing lines and water mirrors sparkling under the sun. There is a lot of water here—lakes, elders, backwaters, oval swamps overgrown with sedge, numerous channels flowing in all directions. Between them are grasslands, orchards and arable lands of collective farms. Rich land! Nature, as it were, shows man what the Volga lands can give in the presence of moisture. This is the famous Volga-Akhtuba floodplain.

But if we continue the journey to the east, then soon the cheerful landscapes will be replaced by the tiresomely boring monotony. It is rare to find here a lonely tree at the well. Grey, yellow, brown tones prevail. There are many ravines that covered the earth with their processes and small gullies. More and more often there are signs of another serious illness of the earth—whitish spots of salt marshes, rust creeping into the steppe grasses.

The farther east, the darker the picture. Dry lakes, bordered by a scree of salts, look in Belmami. Rare steppe streams have

dried up here. Their beds were overgrown with brown grass, and only a few stretches preserved muddy swamps. Often there are salty mud, the so-called “khaki”. To the previous tones one more is added, the prevailing one is white, whitish-grey. And then, in Western Kazakhstan, the kingdom of sand begins. Some of them are motionless, others are nomadic. The latter are constantly moving, driven by the wind, approaching the dwellings of people, and it seems that there is no force that can stop the onset of the desert.

Such is this plain scorched by the sun—the vast expanses of arid steppes. The same steppe stretches to the south along the largest depression on the earth, lying below sea level - the Caspian lowland, which on the approaches to the Caspian turns into a sandy semi-desert. If you look to the southwest, you will see a brown steppe cut by a chain of dry lakes. These are the Sarpinsky lowland and Sarpinsky lakes. A bleak picture awaits you even south of Sarpa—on the Black Lands and in the Nogai steppe. Black lands are called “black” not for the fat chernozems, but for the fact that even in winter there is almost no rain, the land remains uncovered with snow.

All these vast areas, differing in their geographical location, in soils, in vegetation and in the animal kingdom, have one thing in common—the lack of sufficient moisture. Precipitation here falls no more than 200-300 millimetres. And for the normal growth of bread you need at least 500 millimetres. The air temperature in the summer reaches 40-45 degrees. Hot winds break through here from the depths of Central Asia—dry winds. In the semi-deserts of Western Kazakhstan and the Caspian, there are also their own local hot winds. Statistics show that over the past 60 years, starting in 1891, the Volga steppes were struck 20 times by cruel dry winds.

A vivid description of this natural phenomenon was given by Alexey Tolstoy in his story “Logutka”:

“I remember clearly, although I was seven years old at the time the trouble began. Mother and father stood on the balcony and looked seriously at where steppe with rectangles of bread lay on the horizon with low mounds.

Behind the mounds in the east was a yellowish haze, not like smoke or dust,

Father said: “This is dust from Asia,” and I was scared. Every day since then, mother and father did not leave the balcony for a long time, and every day the haze approached, became thicker, closed the sky. It was difficult to breathe, and the sun, barely rising, was already hanging overhead, red, red-hot.

Grasses and crops quickly dried up, cracks appeared in the ground, running out water through the wells became bitter-salty, and salt appeared on the mounds.

Everything that I played with—trees, thickets of nettles and burdocks, puddles with tadpoles and a shady pond—everything was now drying up and burning.”

Before the October Revolution, drought in the Volga region often took on the character of a national economic catastrophe. The dry winds destroyed crops of bread and herbs. Cattle died. Peasant farms went bankrupt, people went hungry, dispersed to cities and grain-growing areas, and died. Drought and crop failures in the Volga began to be repeated more and more often. They covered these lands in 1901, and in 1905-1906, and in 1911-1912, and in 1917, and in 1921.

In Soviet times, these natural phenomena did not entail economic disasters, as before. Even in the first post-revolutionary years, drought was not already accompanied by mass deaths. At that time, the government opened canteens and nutritious villages in villages, distributed seeds on credit to the Volga peasants, and helped peasant farms to get back on their feet and get rid of the destructive effects of drought.

With the organization of collective farms and state farms, the agriculture of the Volga region became even better in resisting the dry winds. The correct crop rotation is being introduced on collective farm fields, snow retention is being carried out, sowing and crop care are carried out in a timely and high-quality manner. For these areas, Soviet breeders have bred new, drought-resistant varieties of bread. All this helped the collective farmers of the Volga region to fight for the harvest. But the drought, as a natural phenomenon, remained, the dry winds still affected the fields, reducing the yield and disrupting the normal economic life of the collective farms.

Reasonable, planned farming was disrupted by natural disasters. And from the first days of Soviet power, the Communist Party led the struggle of the Soviet people for power over nature, the struggle against the very causes that cause drought and shortfalls.

In 1924, when the dry winds again hit the Volga fields, Comrade Stalin wrote:

“We decided to use the aggravated readiness of the peasantry to do everything possible to insure themselves against future drought accidents... We are thinking of starting a business with the formation of the minimum necessary reclamation wedge in the Samara–Saratov–Tsaritsyn–Astrakhan–Stavropol zone.”

Comrade Stalin considered these works the beginning of a revolution in agriculture.

In 1934, in a report to the XVII Congress of the Party, Comrade Stalin emphasized the need to strengthen the fight against drought and pointed out specific ways to solve this problem—the introduction of grass crop rotation, planting new forests, and irrigation work.

On October 24, 1948, the grandiose Stalinist plan for the transformation of nature was announced, which provided for the creation of field protection strips on an area of 150 million

hectares, state forest strips along the banks of the Volga, the Urals, the Don and on the watersheds of the main waterways of the southeast of the European part of the USSR, systematic holding sands and ravines in the Northern Caspian region, on the Don and in the lower reaches of the Dnieper.

At the direction of Comrade Stalin, forest oak forests of industrial significance are laid in treeless Stalingrad, Rostov and Astrakhan regions. In the Stalingrad region, the area under the forest will increase after the completion of these works from 345 thousand hectares to 896 thousand hectares. Collective farms in the steppe regions will annually receive 5-10 cubic meters of household wood from each hectare of forest. ( I.V. Stalin, *Soch.*, Vol. 6, p. 275.)

In August 1950, at the initiative of Comrade Stalin, the Council of Ministers of the USSR adopted a resolution "On the transition to a new irrigation system in order to more fully use irrigated land and improve the mechanization of agricultural work." The new irrigation system, in which the old permanent irrigation canals (card irrigators) are replaced by temporary ones, is called upon to raise socialist agriculture to a new, higher level.

Decisions of the USSR Council of Ministers on the construction of the Stalingrad and Kuibyshev hydroelectric plants, published in the same 1950, are integral parts of the general plan for an attack on drought in the Volga and Caspian regions.

**The resolution on the construction of the Stalingrad hydroelectric station provides:**

*a) improvement of climatic conditions of the Caspian lowland, which is one of the major sources of dry winds in the Volga region;*

*b) the development of desert and semi-desert regions of the northern part of the Caspian lowland for the wide development of animal husbandry and agriculture in them;*



*c) irrigation of the southern regions of the Volga region for the development of intensive and sustainable agriculture in them;*

*d) irrigation and irrigation of the Sarpinskaya lowland, the Black lands and the Nogai steppe for the widespread development of animal husbandry and planting of forests of industrial importance and forests that protect against dry winds.*



Сталинградская (ныне - Волжская) гидроэлектростанция, утранбовка дна водосливной плотины. 1953-1955

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The Stalingrad waterworks is called upon to play a huge role in the struggle of Soviet people against the elements of nature. Therefore, its “construction site” stretched for hundreds of kilometres, covering both the arid steppes of the Volga region, and the wandering dunes of Western Kazakhstan, and anhydrous Black lands, and dead, lakes of the Sarpinskaya lowland. The directives of the XIX Party Congress on the fifth five-year plan read: “... to begin construction of irrigation and

watering systems in the area of the Stalingrad hydroelectric power station...”.

What will happen around the Stalingrad hydroelectric station simultaneously with its commissioning?

Above the dam, in the deep beam of the Siege, the Stalingrad main gravity canal will begin. It will pass through the Stalingrad and Astrakhan regions, through the lands of Western Kazakhstan up to the Ural River.

In length, this channel will be equal to the distance from Moscow to Leningrad, and in terms of water consumption, it will be 15 times greater than the Moscow river. Volga will give up to 400 cubic meters of water per second to the Volga-Ural canal. This is twice the flow rate of Don in summer. The width of the new waterway in the head is 100 meters (wider than the Moscow Canal), and the depth throughout it will allow shipping.

A new “handmade river” is being created in the steppes and semi-deserts of the Volga region, as the large, high-water river, as Radishchev called the canals. It will supply water to the arid regions of Prikopia not only in summer but also in winter. According to the calculations of Soviet scientists, in the most severe winters, water in the canal will freely flow under the ice.

On the Volga-Ural canal, dozens of hydraulic structures will be built—the head water intake and a shipping lock, water distributors, storm pipelines, pumping stations, railway and highway bridges, ferry crossings, new marinas, etc.

The Stalingrad main canal will branch into hundreds and thousands of irrigation canals and carry its water to the desert steppes, to the pastures of collective farms and state farms, to hayfields, arable lands and new forest strips.

The main canal will pass through the areas of developed livestock. In Soviet times, rich collective farms grew here, owning huge flocks of sheep, schools of horses, herds of cattle,

and camels. In the Furmanovsky district, lying approximately in the middle of the highway, the number of livestock has increased 4 times over the past 10 years. However, further development of animal husbandry is limited by a lack of water. The Bolshoi Uzen River flowing through this area in the summertime dries to the bottom. Other steppe rivers crossed by the canal route are equally poor in water—Maly Uzen, Kushum, Bagyrday, Ashe-Sai. Every time people have to dig wells for watering livestock, because each of them has enough water for only one flock of sheep. The next day, the sands tighten the hole, turn it into a dry funnel, and you have to dig more and more wells.

Water in these areas is strongly saline. One year there was no spring spill at Bolshoi Uzen, and the residents of Furmanovo had to extract drinking water, passing it through special “digging”—sand filters.

Cattle in such cases are driven away to distant pastures. Due to the lack of moisture in these areas, it is difficult to organize large highly productive livestock farms. In summer, cattle presses against rare fresh water bodies located in the lowlands and knocks out all the grasslands where it was possible to store food for the winter. And in the winter, almost all collective farms drive cattle hundreds of kilometres away, in effect switching to livestock breeding.

Massive cattle driving does not allow collective farms to erect capital livestock buildings. Not to build livestock yards, stone cowsheds and calves in distant pastures where livestock spend one and a half to two months a year! And on their land, even such a large collective farm as Kok-Terek, of the Furmanovsky district, which owns 200 thousand hectares, cannot feed 50 thousand cattle in other years and is forced to drive it 600 kilometres into the Urals.

“There will be water—there will be food!”—the collective farmers say here.

About 6 million hectares of land are irrigated south of the Stalingrad main canal, between the Volga and Ural rivers. The channel will transform this vast edge. On the basis of flooding and wide electrification, highly productive livestock farming will be created. Giant farms will give the country millions of pounds of cheap meat, oil, wool, leather and other livestock products.

North of the Stalingrad main canal, a new area of irrigated agriculture will arise. Self-flowing water supply is no longer possible here; powerful pumping stations driven by the energy of the Stalingrad hydroelectric station will drive it from the Stalingrad Sea to the collective farm fields. Wheat crops, orchards, vineyards, melons, plantations of valuable industrial crops will arise on the site of the waterless steppes of the Volga region.

1 million 500 thousand hectares of dry land of the Volga and Volga-Akhtuba floodplains will be irrigated on the basis of the energy of the Stalingrad hydroelectric station!

The Volga-Akhtuba floodplain is one of the greatest and most fertile river valleys in the world. For centuries, it has been enriched by the sludge besieged here. A flowering green oasis stretches the Volga-Akhtuba among the semi-desert spaces of the Caspian lowland. In low-lying meadows flooded with spring, sedge, reeds, reeds, cereals, and forbs are rampant. Floodplain groves stretch from north to south - willow, poplar, oak in some places.

The climate of the Volga-Akhtuba floodplain also favours agriculture. There is a lot of sunshine and warmth, short mild winters. In the irrigated areas of the Volga-Akhtuba, collective farmers harvest record crops of wheat, rice, soy, vegetables, and cotton. Even in dry years, 20-30 centners of cotton per hectare are removed from irrigated fields.

However, there are still few irrigated areas on the lands of the Volga-Akhtuba. The fact is that in the spring and early

summer, during the most violent development of various crops, the Volga floods the floodplain. A network of sleeves, old channels, swamps, lakes, backwaters, elders merges into a continuous body of water. Spring water, filling the fields, does not give the farmer timely sowing. And in the second half of June, when the water drops, a severe drought begins. The scorching sun immediately burns young vegetation that has not yet matured.

On the Volga-Akhtuba, in addition to creating an irrigation system, it was also necessary to build solid 15-metre dams around the fields to save crops from the spring flood. That is why people managed to create in the floodplain only individual foci of agriculture, small irrigated and deboned areas.

Since ancient times, the Russian people fought for the development of the Volga-Akhtuba floodplain. In the middle of the last century, agriculture began to develop here, at the beginning of the 20th century—gardening and horticulture. People had to conquer every patch of land in fierce battles with nature. In 1905, there were 2,690 hectares of gardens in Volgo-Akhtuba. By the beginning of World War I, this area increased to 7,782 hectares. New, broader prospects for the development of the Volga-Akhtuba opened only in Soviet times. Work unfolded over a vast stretch from Stalingrad to the Caspian Sea. Soviet power provided the collective farms with powerful tracked tractors, scrapers, bulldozers. In recent years, the area reclaimed from the Volga was estimated at tens of thousands of hectares. In the summer of 1948, over 800 pumping stations operated here, lifting water to the deboned fields.

The great Stalingrad waterworks will solve the centuries-old problem of floodplain development. The dam will block both the Volga and Akhtuba, block part of the spring waters in the Stalingrad Sea and thus reduce the flood below the

dam. Flooding of the floodplain will not be so powerful and long.

The construction of the Akhtuba dam completely cuts off from the Volga, but below the dam passes the 6-kilometre Volga-Akhtuba canal, which will return the Volga water to Akhtuba. The Stalingrad hydroelectric plant will provide energy for powerful pumps to drive them to collective farm fields after the fall of spring waters.

The entire Volga-Akhtuba floodplain will become a blooming garden. Only those orchards that appear on irrigated lands within the Stalingrad region will produce about 3 million pounds of fruit per year. Peaches, apples, quinces, pears, apricots, plums, cherries, strawberries, raspberries, grapes, peanuts, sesame, cotton, rice, kender, kenaf, southern hemp—the most heat-loving plants can ripen here during the summer.

The western part of the Caspian lowland, waterless steppes and semi-deserts lying to the west of the Volga, will also become a blooming land. The Decree of the Council of Ministers of the USSR provides for the construction of “canals and irrigation systems for irrigation and irrigation of the Sarpinskaya Lowland, Black Lands and the Nogai Steppe with a total area of about five million five hundred thousand hectares”.

The Sarpinskaya lowland is a uniform plain cut from north to south by half-dried dead lakes. Scientists consider these lakes—Sarpu, Tsatsu, Bar Mantsak, Pryshab, Hanatu—the remnants of the ancient channel of the Volga, which many thousands of years ago flowed along the Sar, - the Pinsk lowland. Then the great river, changing direction, went east, leaving behind the current semi-desert. In its climate and landscape, the Sarpinskaya lowland resembles the land intersected by the Volga-Urals route, but with the only difference that wells can not be dug everywhere here—groundwater lies at great depths and is very saline.

Black lands lie south of the Sarpinsky lowland. This is the most waterless part of the Western Caspian. And here the groundwater is highly saline, and the artesian deep waters are unsuitable for drinking. Numerous lakes located in the southern part of the Black Lands have dried and salted. Despite the unfavourable climatic conditions, the Black Lands are famous as very valuable pastures with a good combination of grasses. Cattle find pasture here throughout the year. Recently, over a million heads of cattle winter in the Black Lands. Sheep is driven from distant places—from the Astrakhan and Stalingrad steppes, from the Rostov region and the Stavropol Territory, from the Dagestan ASSR and even the Georgian SSR.

The Nogai steppes, located south of the Black lands, between the rivers Kuma and Terek, are also a livestock area. But this region is much poorer than neighbouring ones. Over the past 50 years there has been only enough rainfall here once. The vegetation in the Nogai steppes is sparse, almost the entire steppe is a flat sandy solonchak semi-desert.

Dry years in the Caspian Sea often follow one after another, and then even sparse steppe grasses burn out. So it was with the best black-land pastures, which for 4 years in a row (from 1946 to 1949) were burned out by the sun. Drought prevents people from creating insurance reserves of feed, and this is a necessary condition for the normal development of animal husbandry. In winter, the temperature here sometimes reaches 30 degrees below zero, and violent snowstorms interrupt cattle grazing. Then it is necessary to harvest hay.

The Stalingrad waterworks will revive this rich region. Powerful pumps drive the Volga water through the Sarpinsky main canal into the dry Sarpy lakes.

From these new reservoirs, irrigation canals will lead water to the Black lands and the Nogai steppe. Dozens of smaller channels will move away from them and in turn will branch out into thousands of irrigators. A large irrigation system fed by the waters of the Terek stretches from the south towards the Volga waters.

Sarpinskaya lowland, Black lands and Nogai steppe will become the land of highly productive animal husbandry. Pasture spaces in all directions will be cut by wide, deep-water channels. On the best lands, centres of agriculture will be created. Many southern crops, including cotton, will produce good crops here. Estuary irrigation will also appear, which will give livestock farms excellent flood meadows. The practice of experienced collective farmers shows that perennial grasses here produce over 100 centners of hay per hectare on irrigated lands, that is, 20-25 times more than from non-irrigated plots.

With the advent of water, the winter feedless diet will end. Agricultural conditions will change. Millions of valuable merino sheep, hundreds of thousands of cattle of Astrakhan breed will graze in the western part of the Caspian lowland. The Stalingrad Sea and the network of irrigation canals will play a large role in the further development of collective farms and state farms of the Stalingrad region. Sown areas under cereals and industrial crops will increase significantly, their productivity will increase. According to the fifth five-year plan, the directives of the 19th Party Congress stipulate an increase in the yield of grain crops in the Volga Region to 14-15 centners, and "on irrigated lands - up to 25-28 centners per hectare.

"Recently we made an approximate calculation of what the Stalingrad hydroelectric power station will give us," wrote Y. Belunin, chairman of the Molotov collective farm, Leninsky district, Stalingrad region. The gravity-fed Volga-Ural canal



will cut our fields. Irrigation canals from the fields will go from it, and then we will irrigate 4,585 hectares of crops instead of 55 hectares at present. We will water 390 hectares of vegetable crops only. On average, each hectare will give 600 centners of vegetables, and this will bring us a lot of income. In 1956, we will have 120 hectares of gardens. Harvest from each hectare during irrigation will be 500 quintals of fruit.

More than 2,700 hectares of grain will also be irrigated. On average, from each hectare, regardless of climatic conditions, we get 30-35 centners of grain.

The collective farm will have 1,300 hectares of feed crops. In addition, we will take 600 hectares under the testes of perennial grasses. On average, each hectare will bring 7 centners of seeds.

Livestock farming will greatly increase with irrigated agriculture. We will have 1,800 cattle, including 600 cows. Sheep will be 12 thousand heads. Sheared wool will reach 10 kilograms per sheep. Income from pig breeding, poultry farming, beekeeping will increase ...

All this is not a dream, but a short-sighted reality... Five years later, collective farmers near their farm, located far from the Volga, will see the water of a gravity irrigation canal.”

In simple calculations of the Stalingrad collective farmers, in their business outlines for the development of their social production, the wonderful tomorrow of agriculture in the districts is revealed, where great transformative work has begun.

In total, about 13 million hectares of steppes and semi-deserts will be irrigated and irrigated in the Volga and the Caspian.

The construction of a network of new irrigation canals is only part of the grandiose Stalinist plan for transforming nature. Along the shores of all new reservoirs and highways, green forest barriers will rise. Forestry specialists designing

these forest belts provide for artificial irrigation of forest plantings. Under this condition, on good soils in 10 years poplar reached 15 meters in height. And to carry out useful service, block the path to the dry winds and stop the wandering sands, new forests will begin in 3-4 years.

In his brilliant work “The economic problems of socialism in the USSR” Joseph Stalin points out that “people, having known the laws of nature, taking them into account and relying on them, skilfully applying and using them, can limit their scope, give the destructive forces of nature a different direction, to turn the destructive forces of nature to the benefit of society.”\*

In the light of the instructions of the great leader of the Soviet people, the task of transforming the climate becomes real and feasible. The Stalingrad hydroelectric complex is involved in the creation of a new hydrographic network on Soviet soil, including new ponds and reservoirs, new canals, a huge number of small irrigators, and finally, new reservoirs - the seas. All these water mirrors, evaporating a huge amount of water, will significantly increase air humidity and lower the temperature in the hot summer. The temperature will rise in winter.

Changing land cover of 13 million hectares will also have a huge impact on climate improvement. Vegetation will fix the sands, destroy local foci of dry winds, soften the surface climate, increase air humidity in the vast expanses of our homeland.

As a result of the construction of the Stalingrad hydroelectric complex, collective farms and state farms in the surrounding areas will significantly increase field yields and livestock productivity, will provide an additional large amount of agricultural products and raw materials for light industry,

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necessary for the Soviet people to transition to communism. (J.V. Stalin, *Economic Problems of Socialism in the USSR*, State Political Publishing House, 1952, p. 4.)

## 5. MIGHTY SOVIET TECHNOLOGY

The term for the commissioning of the Stalingrad hydroelectric power station, the Volga-Ural trunk canal, irrigation and irrigation systems in the Northern Caspian Sea, on the Sarpinskaya Lowland, on the Black Lands, in the Nogai Steppe and on the Volga-Akhtuba floodplain is 1956.

Such rates of construction are possible only in the country of victorious socialism and are completely inaccessible to the capitalist world.

The largest hydroelectric station in the United States of America, Boulder Dam, which has been under construction for more than 20 years, has the following scope of work: concrete—3,060 thousand cubic meters, land—4,600 thousand cubic meters. No complicated mathematical calculations are required to understand that at the American pace, our Stalingrad Hydroelectric Power Station (concrete - 5 million cubic meters, land - 120 million cubic meters) would have been built for more than 100 years.

Another example. The Panama Canal in America, 81.6 kilometres long, was built for 33 years. And the Stalingrad main canal from the Volga to the Urals with a length of 600 kilometres will be built in 5 years. Comparing the scale of work on the two canals (the total amount of excavation work on the Panama Canal amounted to 212 million cubic meters, and on the Volga-Ural Channel it will be 310 million cubic meters), we conclude that at the “Panama” pace, the Stalingrad main canal would not be commissioned before the year 2000.

The canal on the Isthmus of Panama grew by an average of 2.4 kilometres per year. Suez Canal—16.6 kilometres. The average annual canal construction rate on the Volga-Ural Railway will reach 120 kilometres.

How can one achieve such an unprecedented pace?

This question is not new in our country. The struggle for the pace began in the first days of October, from the very moment when for the first time in history a man freed from exploitation rose, working not for the capitalists, but for himself, for his society. This new man was imbued with that labour enthusiasm, that will to work, perseverance that are not available to the worker in capitalist society.

“... Our system,” said Comrade Stalin. “The Soviet system gives us such opportunities for fast advancement that no bourgeois country can dream of.” (J.V. Stalin, Soch., Vol. 13, p. 34.)

Based on the socialist competition unfolding in the country, the pace of our progress is growing from year to year. And, perhaps, this steady process of building up the pace in the history of our hydraulic engineering construction is especially clearly visible.

The Volkhov hydroelectric station, the first-born of the GOELRO, began to be built during the civil war. It was put into operation after 8 years.

The more sophisticated Svir hydropower plant was built in 7 years. “Svirskaya state district power station,” S.M. Kirov wrote on this occasion, “is a vivid confirmation of the great Stalinist words that there are no fortresses that the Bolsheviks could not take.”

The Dnieper Hydroelectric Station named after V.I. Lenin - the largest hydroelectric power station in Europe - was built for 5 years.

And the same deadline has been set for the construction of the Stalingrad hydroelectric complex, which is being built under incomparably more complex geological conditions and whose capacity is equal to several Dnieper Hydroelectric Plants.

The socialist system gives full play to the development of the creative abilities of the vast masses of working people, to

the development of the country's productive forces, gives space to technical progress, facilitates human labour, makes it ever more productive.

For its time, the construction of the Dnieper was provided with a significant number of mechanisms. The level of energy per worker, not counting steam engines, reached 1.5 kilowatts. And in the construction of the great Volga hydroelectric facilities, this level will increase to 3 kilowatts per worker and will be equal to the electrical equipment of the most advanced industrial enterprises.

The head of Stalingrad-hydrostroy F. Loginov, who worked as a foreman on Dneprostroy during the first five years, compared the conditions of mechanization at these two construction sites.

On the Dnieper, he said, we had quarter-cube steam excavators such as “Deman”, “Marion” and “Lussak” - the names, as you see, do not sound like ours. And now, on the Volga, we have excavators: cube, one and a half cube, three and fourteen cube. For us, an excavator with a bucket with a capacity of eighteen cubic meters is being built for us, a giant with a bucket of twenty-four cubic meters is being designed. And the names of these machines—“Uralets”, “Barricadets”, “Voronezh”, “Kramatorsky”, “Izhora”—caress the hearing of a Russian person.

The high pace of the great construction projects of communism became possible because our domestic industry equipped builders with high-performance machines, which allowed 99.5 percent to mechanize earthworks and 100 percent to prepare and lay concrete. Current construction projects are not conceived without new powerful equipment. The builders of the Stalingrad hydroelectric complex always remember Comrade Stalin's instruction that “... the mechanization of labour processes is... a decisive force, without which it is

impossible to maintain either our pace or the new scale of production.” (I.V. Stalin, Soch., T. 13, p. . 54.)

The implementation of grandiose construction in a short time became possible also because the weapons of the great offensive—excavators, dredgers, scrapers, bulldozers—fell into the caring and skilful hands of the workers of the Stalin era, Stakhanovites, production innovators who perfectly mastered the technology. ”Technology, led by people who have mastered technology,” says Comrade Stalin, “can and should produce miracles.”

Soviet people who have mastered the technology perfectly overlap the design capacity of machines and mechanisms.

At the construction of the Volga-Don Shipping Canal named after V.I. Lenin, the names of the six communists of the crew of the walking excavator ES-14/65 were widely known. They showed a high class of work on this machine. The party group rallied the entire team, and as a result of a common struggle in seconds, for shortening the production cycle, for speeding up the boom, the crew reached 242 thousand cubic meters of land per month—21 percent higher than the design norm. The successes of the workers and craftsmen who worked at the Big Walking amazed even the creators of this machine.

There are thousands of similar examples at the construction sites of communism. Every day, newspapers and radio bring news of new victories. Investing all their skills, all the energy and the will to win in the construction projects of communism, the builders skilfully and completely use the excellent equipment that the country handed them.

Thus, new, unprecedented rates are born at the great Stalinist construction sites.

“To think that mechanization can be dispensed with at our pace of work and the scale of production,” comrade Stalin pointed out, “means to hope that the sea can be scooped up

with a spoon” (*J.V. Stalin, Questions of Leninism, ed. 11, p. 490*)*J.V. Stalin, Soch., Vol. 13, p. 77.*)

This idea of the great leader was fully confirmed at the great construction sites of communism. Dozens of years would be required to “scoop out” the pit for the Stalingrad hydroelectric station and to carry out other earthwork, the volume of which amounts to tens of millions of cubic meters, if the builders did not have powerful domestic equipment. The main work on the construction of the Stalingrad hydroelectric complex will be completed by the team of builders during the fifth five-year plan. And one of the conditions for fulfilling the fifth five-year plan, according to the directives of the XIX Party Congress, is to increase labour productivity in construction by 55 percent based on the introduction of advanced technology, improving the organization of labour and raising the cultural and technical level of workers.

The 1952 work plan by the builders of the Stalingrad hydroelectric station is being successfully implemented. The work plan for the future has already been developed in detail by design engineers. Now it seems possible to look into tomorrow of the construction site, to follow step by step its entire course, starting from the first day and ending with the commissioning of the waterworks.

How will the Volga, the largest and most watery river in Europe, be blocked off? From the high right bank to the sandy island about one and a half kilometres. Behind the island there is a small Volga canal, further—Lesnoy island, overgrown with forest, and finally, Akhtuba. All this space must be crossed by a dam.

The main channel of the Volga between the right bank and Peschaniy Island remains in its natural state for all 5 years of construction. The Volga will continue to carry its waters past Stalingrad to the Caspian Sea. For one year shipping on the great river will not stop. This is achieved by the fact that all the



main structures of the hydroelectric complex are built by builders to the left of the Volga channel, in a dry place, on the islands of Peschanoy and Lesnoy.

It should be noted that these islands are not always dry. In the flood Volga floods the sandy island. So, if you do not protect the pit from spring water, then the river will flood the island, bring it in sand, destroy everything that was created with great difficulty. To protect themselves from spring flooding, builders will fence off the river with high earthen ramparts - lintels, which will be poured from sand taken out of the pit. Thus, powerful dredgers will do two things at the same time: they will dig a pit and surround it with earthen ramparts.

According to the calculations of design engineers, 20 dredgers with a capacity of 300 cubic meters per hour or 12 dredgers with a capacity of 500 cubic meters per hour were supposed to work at a construction site. But it is technically impossible to achieve parallel operation of such a number of units on one structure, within the same foundation pit - they will interfere with each other.

Then the designers of the Stalingrad hydroelectric station turned to hydraulic engineers for help, and a group of specialists, headed by B. M. Shkundin, developed the world's most powerful dredging projectile with a capacity of 1 thousand cubic meters of soil per hour. This wonderful machine, the creators of which were awarded the Stalin Prize, is able to raise the soil to a height of 80 meters and push it to the side for 4 kilometres.

The machine, created by Soviet designers, solved the problem of earthwork at the Volga hydroelectric facilities. With the help of hydro-mechanization, 80 percent of the work will be completed at the foundation pit of the Stalingrad hydroelectric station; the remaining 20 percent will remain with excavators, bulldozers and scrapers. Manual labour will be completely crowded out.

The flotilla of sucker shells will be replaced by detachments of powerful excavators. 25 ton Minsk dump trucks will be transporting soil outside the pit. The creation of this machine is a great victory for Soviet designers. The diameter of the wheel of the dump truck exceeds the height of the Moskvich passenger car. For two trips, a Minsk truck takes out cargo of three two-axle railway cars.

After the excavators dig the pit to the desired depth, and the giant dump trucks take out all the soil, powerful scrapers will come to the bottom of the pit. They will clean the pit. Existing six-cubic scrapers per shift take up to 500 cubic meters of soil. A machine served by one scraper replaces the labour of 60 diggers and 60 wagons. At the Stalingrad hydroelectric station, more powerful ten-cubic scrapers will work.

Then the planning work and the levelling of the slopes will begin. And here you will not need manual labour. Bulldozers will descend to the bottom of the pit. Each of these machines is able to clean and level about 6 hectares in an hour, it will replace the work of 300 diggers. The layout of the slopes will be carried out by multi-bucket excavators.

The availability of high-performance equipment will allow builders to start concrete work already in 1953. The most critical construction phase will begin. Concrete will be laid on the levelled and cleaned bottom of the pit.

Soviet builders 20 years ago on Dneprostroy set a world record for the speed of concrete laying. The average daily laying of concrete was 5 thousand cubic meters.

Today, at the construction of the Tsimlyansk hydroelectric complex, this record was surpassed; in the fall of 1951, daily concrete laying reached 8 thousand cubic meters.

At Stalingrad-hydrostroy 1953—the most intense year of construction - the daily concrete laying will reach 15 thousand

cubic meters. Such high productivity is ensured by the fact that concrete work will be fully mechanized.

The extraction of building materials—gravel, stone, gravel, sand—is carried out on fully mechanized quarries. The stone is mined in an explosive way, after which three-cube excavators load it onto 25-ton dump trucks.

Building materials will be delivered to Stalingrad by water: stone and gravel—from the Volga-Don and Lada; high-strength gravel—from Armavir by rail to Rostov, and further along the Volga-Don route; sand—from the right bank of the Volga via a cableway; cement—from Novorossiysk and Volsky plants—with water. For loading and unloading operations, floating 50-ton cranes are specially designed. Tipping wagons are used on railways; Unloading a whole train of such cars takes several minutes.

Concrete for the Stalingrad hydroelectric station will be prepared by 2 automatic machines of high productivity.

Concrete plants will be installed in the immediate vicinity of the construction site of the Stalingrad hydroelectric station. All operations, starting with loading crushed stone, sand, stone, cement and ending with the weight dosage and delivery of ready-made concrete, at the plants are not only mechanized, but also automated. At the concrete plant—this huge building the height of an 8-storey building—only 30 people work: 12 operators, 9 electricians, 9 locksmiths. The staff counts the time in seconds: loading a concrete mixer—30 seconds, mixing—120 seconds, delivery of finished concrete—30 seconds. At each hour, the plant prepares up to 1,000 cubic metres of high-quality concrete.

Concrete is delivered to the construction site either in three-cube tubs mounted on motor vehicles or railway platforms, or through long pipes of concrete pumps. There, concrete is laid in moulds made up of standard formwork

panels, which are delivered in a finished form from the woodworking plant of the construction site.

By rail from the rebar delivered to the dam and heavy arm-farm. Packages and grids of fittings are installed by powerful gantry cranes. After the steel backbone of the structure is welded, concrete is laid. Its seal is made by packet high-frequency electric vibrators. And after a day or two, it turns out strong reinforced concrete.

Simultaneously with the laying of concrete on the alignment of the Stalingrad dam, work will be carried out on the territory of the Sarpinsky lowland, the Volga-Akhtuba floodplain, the Black Lands and the Nogai steppe.

Particularly difficult conditions are taking shape in the construction of the 600-km Volga-Ural trunk canal. The route passes through a waterless area, where there are neither large settlements, nor railways and highways. This makes builders boldly, innovatively solve the problem of building the Volga-Urals.

“The usual organization of work on the Stalingrad main canal is not applicable,” says A. Chemin, chief engineer of the Stalingrad hydroelectric power station project.—It was decided to do all the work in a continuous way. Large mechanized columns will move through the steppes and semi-deserts, leaving ready-made sections of the canal with roads, villages, power lines.”

The first 140 kilometres of the channel, where you have to make wide and deep excavations, will be covered by walking excavators with a bucket capacity of 14 or more cubic metres. The length of the arrows of the giants is 65–70 meters, which allows them to discard the excavated soil “for removal”, that is, beyond the dumps of the foundation pit. This will significantly speed up and reduce the cost of work, since no machines are needed to transport millions of tons of land.

14-cc walking excavators were tested on the Volga-Don and Tsimlyansk hydroelectric facilities. On the Stalingrad main canal their annual productivity will increase significantly. Twelve excavators, replacing the labour of 80 thousand diggers, will make all the excavations in the first, most difficult section of the canal.

Further, the excavation will be small, and the scrapers will cope with the work. Scrapers with a bucket capacity of 10 and 15 cubic meters will come to the Volga-Ural. The daily output of a 15 cc scraper with a cart range of 400-500 meters will be 1,200-1,300 cubic meters. In order to bring the channel route to the Ural River, at least 500 of these machines will be required.

Meanwhile, a crucial period of work will begin at the dam site. Every day, tens of thousands of tons of various cargoes will be delivered to the construction site. You can't get enough storage for such an amount of metal, stone, gravel, cement - all these goods will go directly from the rails from the water to production.

The rhythm, clarity, coordination of the work of the entire multi-thousandth team will decide the success of the case.

By the end of 1955, the concreting of the dam, the hydroelectric power station building and all shipping structures —locks, breakwaters, and moorings — should end. Builders will remove powerful mechanisms from the pit, dismantle and take out the concrete plant. By rail, laid along the crest of the dam, trains loaded with parts of powerful turbines and generators will begin to approach the building of the hydroelectric station.

The installation of turbines and generators will be fully mechanized: heavy parts and components will lift powerful twin portal cranes with a total lifting capacity of up to 900 tons. The great construction projects of communism are pushing domestic technology forward, forcing our machine builders to solve problems that no one has yet faced. Existing gantry

cranes with a lifting capacity of up to 150 tons would not allow the installation of giant turbines and generators of the Stalingrad hydroelectric station. And then, by order of the Stalingraders, the designers of our country designed portal cranes with a lifting capacity of 450 tons. With the help of these giants, builders will begin to assemble hydroelectric power units.

In the winter of 1955, the turn will reach the great river. Its channel will be blocked by an earthen dam. The Volga will linger for a moment in front of this wall and turn into a new channel indicated to it by Soviet people—through a concrete dam and hydroelectric station. By the spring of 1956, when the shipping devices were fully ready, the Volga ships would sail through the locks.

From the spring of 1956—the last year of construction—the Stalingrad Sea will begin to be filled with water. And at the dam site at this time, work will continue. Builders will lay the last thousands of cubic meters of concrete on the crest of the spillway, wash the earthen dam to the design level, and complete the installation of the last units at the hydroelectric power station.

And then, from the very moment when the excess of the reservoir level over the lower reach is 10 metres, the Volga waters at the walls of the hero-city of Stalingrad will begin to work for communism.



## 6. "BIG VOLGA"

"—And now—the Volga-mother river, you are my brother! It is huge in width, deep, light and flowing... as if it were flowing into your chest, if it flowed from your chest—it's even impossible to understand how good it is when there is a wide, watery path in front of you, grounded by the sun!.. Volga embraces the heart kind affection, as if he were telling you: "Live, dear brother, do not touch! What is there?"

These soulful words about the Volga belong to the great Russian writer Alexei Maximovich-Gorky. There is no other river in the world that the people would love so much as the Russian people love their Volga. "Mother Volga," "Volga the nurse," they say in our country, emphasizing with these warm words the special significance of the great river in the life of the people.

The length of the entire Volga waterway with tributaries is 82,743 kilometres. The area of land cut through by these blue roads is larger than the area of Germany, England, France, taken together. A quarter of the population of the Soviet Union lives in the Volga basin.

In the areas along which the Volga passes with tributaries, about half of the country's total industrial output is produced. The Volga basin is the land of untold wealth.

Forests on the Upper Volga, Kama, Vetlug, Unzhe, Kostroma, Vyatka stretch for thousands of kilometres. The Volga region is one of the granaries of the country; Volga durum wheat is famous all over the world for its delicate aroma and taste. In the Middle Volga in Soviet times, a gigantic region of the oil industry appeared—"Second Baku", oil shale and Saratov gas are extracted. Kalinin became a major centre of the textile industry. Large automobile factories grew in Gorky and Yaroslavl, the famous paper mill in Balakhna, first-class machine-building plants in Kuibyshev and Saratov, and



tractor and metallurgical plants in Stalingrad. In the north, the Ural metallurgy giants adjoin the Volga basin. In the centre, near the lakes of Elton and Baskunchak, there are well-known salt developments. In the south, in Astrakhan, is the centre of the fishing industry, which processed 20 percent of the all-Union catch before the war.

And so, all these various cargoes—metal, oil, salt, wood, bread, paper, fish, cars—are taken by the indefatigable toiler Volga and carried, transported for thousands of kilometres, connecting regions of the country separated by vast distances.

It has long been known that water transport is more economical than land. Transportation of goods by water is 5-6 times cheaper than by rail. Fuel consumption is significantly reduced, 12 times less metal is required, the maintenance of the track is cheaper. One Volga tug with a capacity of 1,700 horsepower is capable of pulling barges with a load of up to 20 thousand tons. And in order to transport the same cargo by rail, it would take ten trains and the same number of locomotives of the FD series with a capacity of 1,700 horsepower each.

The Volga waterway is of great economic importance for our country. Before the Great Patriotic War, the Volga cargo turnover exceeded the cargo turnover of all the rivers of Tsarist Russia combined. In the post-war years, its cargo turnover increased by 2.4 times compared with the pre-war period.

At the initiative of the Communist Party, Comrade Stalin, the Soviet people set about fulfilling an unprecedented task in history: to turn the Volga into a chain of interconnected seas and reservoirs, to make it navigable throughout.

Under the conditions of a socialist system, free from the shackles of private property, where production relations are brought into line with the nature of productive forces, it became possible to carry out this titanic task, which in the language of engineers and scientists is called the Great Volga scheme.

It is necessary to get acquainted with the problem of the Big Volga in more detail in order to understand the place and significance of the Stalingrad hydroelectric station in the system of general transformations. The Stalingrad hydroelectric complex is an integral part of the Big Volga.

The great Russian river, carrying a huge amount of water, is not navigable all the way and not at all seasons. It is estimated that the Volga carries an average of 8 thousand cubic meters of water per second, but the trouble is that this is only a theoretical calculation showing the average water stand per year. If we follow the flow of water by months, it turns out that during the spring spill, the Volga spends up to 60 thousand cubic meters of water per second, and then catastrophically becomes shallow. In the summer, shipping on the Upper Volga (from Kalinin to Rybinsk) completely stopped, and below it was hampered by a huge number of islands, braids, shallows and rifts.

Beginning in 1901, people tried to deepen the Volga river bed, carrying out expensive excavation work. But the sand that excavators took out in one place, a mighty river washed in another. The Volga cargo turnover was also limited by the fact that in the south it was closed by the inland Caspian Sea, and in the north it did not have access to the Arctic Ocean.

The main objective of the Stalinist plan of the “Great Volga” is a radical reconstruction of the great transport route of the country.

The old Volga in many places had shallow depths — from 1.5 to 2.3 meters. This greatly impeded the movement of heavy vessels, deeply seated in the water. The river flow rate was from 0.6 to 1.5 meters per second. This also impeded the development of shipping, hindered the movement of ships up, from south to north. The Volga way was too winding, and therefore long. It was necessary to raise the water level and straighten the path, reduce the speed of the river and bring the

Volga water to the capital of our Motherland, Moscow, making it a port of five seas.

That was a great task. The XVII Congress of the Communist Party (Bolsheviks) adopted on the report of Comrade Stalin the following decision:

“A giant construction of artificial waterways—channels: the White Sea-Baltic canal with a length of 227 km (the first phase in the first year of the second five-year plan), Moscow-Volga canal with a length of 127 km, Volga-Don canal with a length of 100 km, should be carried out on water transport reconstruction of the Mariinsky and Moskvoretskaya water systems, which, together with a large amount of hydraulic works on the existing waterways (through the Dnieper, lock of the Sozh River, reconstruction of the Middle Volga) will mainly provide for the reconstruction of Utey and the creation of a single water system of the European part of the USSR, linking the White, Baltic, Black and Caspian Seas.”

We are happy witnesses to the realization of all these great designs. Under the wise guidance of the great leader Comrade Stalin, the Soviet people reconstructed the country's waterways, turned the old Volga into the Great Volga.

The White Sea-Baltic Canal, the construction of which began in 1931, was the first link in the implementation of the Big Volga plan. Comrade Stalin himself determined his route, indicating the starting and ending points. The White Sea-Baltic Canal named after I.V. Stalin connected the Gulf of Finland with the White Sea.

The reconstructed Mariinsky system connected the Volga by the deep sea with the Baltic. Thus, the two seas, connected with the third - the Caspian, entered the Great Volga system.

Construction continued. In 1932, construction began on the deep-water shipping channel Moscow-Volga. Comrade Stalin resolved the most difficult issues associated with this construction site, he examined in detail maps, drawings, mock-

ups, plans, architectural design projects, pushed engineers to solutions that most correctly, economically lead to the intended goal.

Comrade Stalin visited the construction of the canal three times, and each of his visits caused a huge rise in the construction site. In 1937, the Moscow Canal came into operation. Today it is difficult to imagine the Moscow River, disconnected from the Volga, and the capital - without the Volga water. Suffice it to say that Moscow today consumes more than 100 million buckets of Volga water daily — two Moscow rivers.

The channel connected Moscow with the Upper Volga, which by that time was also transformed. In 1937, the construction of the Ivankovo dam and Ivankovskaya hydroelectric station was completed. The first large reservoir on the Volga with a capacity of more than one billion cubic meters was created, which the people called the “Moscow Sea”. The river’s waters were lifted 18 metres, and disappeared, went deep to the bottom all the shallows and rifts to the city of Kalinin.

The next stage of construction of the “Big Volga” was outlined near the city of Yaroslavl. Preparatory work has already begun there, when a group of hydraulic engineers contacted Stalin with a letter proving the advantage of another, Rybinsk option. It was difficult to create a large reservoir near Yaroslavl, and if a dam was built at Rybinsk, a huge, young Sheksna depression would be filled with water. The reservoir increased and, consequently, the capacity of the hydroelectric station increased.

Comrade Stalin, having read the letter, supported innovative engineers. His laconic resolution: “I am for”, decided the fate of the Rybinsk (now Shcherbakovsky) hydroelectric complex.

To connect the Rybinsk Reservoir with the Moscow Canal on the Volga near Uglich, another intermediate dam was put in place and the Uglich hydroelectric complex was constructed. It was commissioned in 1939. And the construction of the next stage of the “Great Volga” was completed during the years of World War II. Concrete laying at the Shcherbakovskaya hydroelectric station continued on the harsh days of 1941, when the Nazis stood at the walls of Moscow. The powerful Shcherbakovskaya hydroelectric station gave the first current to the capital in the autumn of 1941.

So the reconstruction of half of the Volga ended. The Uglich reservoir was relatively small, but the Rybinsk reservoir was more than 14 times larger than the Moscow Sea. It is deeper than the Sea of Azov. This is the largest man-made artificial reservoir in Europe and Asia. And gradually releasing water from its huge reservoir, it is possible to maintain the depth necessary for navigation up to Gorky.

For nearly 1,300 kilometres, the Volga runoff was subordinate to human will.

Now, in full growth, the need arose to unite the Volga and the Don through the construction of the Volga-Don Canal.

The construction of the Volga-Don Shipping Canal was begun before the war, and, according to preliminary estimates of economists, by 1947 its cargo turnover should have reached 20 million tons. The war interrupted construction. However, even on the most intense days of fighting, at the direction of Comrade Stalin, design work continued and major technical solutions were prepared.

“Even in the most terrible periods of the war, JV Stalin paid great attention to the Volgo-Don project, going into all its details,” says S. Ya. Zhuk, head of the Hydroproject, Hero of Socialist Labour.—According to the instructions of Comrade Stalin, the canal route, the location of the hydroelectric facilities, the height of the water level in the reservoirs, the

dimensions of locks, irrigation areas, the distribution of energy between consumers and many other project baselines were established.

J.V. Stalin also went into detail in all matters of work when the construction of the canal began. The degree of mechanization of work was established, industry assignments for the manufacture of construction equipment, machinery, and mechanisms were given. Comrade Stalin routinely monitored the progress of work, and we, the builders, regularly reported to the government how the implementation of the approved plans was proceeding. “

In 1943, in the places of recent bloody battles—at Kalach, Karpovka, Krivoy Muzgi, Krasnoarmeysk—detachments of prospectors appeared. In 1948, the compilation of a new project of the Volga-Don Canal was completed, in the same year a construction project began to boil between the Volga and the Don, and in December 1950, “given the successful turnaround of construction work and the high equipment level of Volgodon, building powerful excavators, construction machinery and vehicles, allowing to fully mechanize excavation and concrete work, the Council of Ministers of the Union of SSR decided:

1. To reduce by 2 years the previously established deadline for the Volga-Don waterway...”

May 31, 1952 there was a great event in the history of the Russian river—the Volga waters connected with the waters of the Don. And on July 10, 1952, the Council of Ministers of the USSR, having examined the report of the Volgo-Don builders and the conclusion of the government commission for the acceptance of canal facilities, established that “the Government’s task to build and commission the Volga-Don shipping canal, Tsimlyansk hydroelectric power station and first stage irrigation facilities 100 thousand hectares of dry land in the Rostov Region were completed on time.”

In just four years, Soviet people created one of the greatest complex hydraulic structures of our era—the Volga-Don Shipping Canal named after V.I. Lenin. Volga-Don is not only a 101 kilometres navigable canal connecting two great Russian rivers. The Volga-Don route connected tens of thousands of kilometres of navigable rivers of the Volga and North-West basins with thousands of kilometres of navigable rivers of the Don and Dnieper basins. The government's decree "On the opening of the Volga-Don shipping canal" states that "the completion of the construction of the Volga-Don shipping canal, undertaken in accordance with the decisions of the Council of Ministers of the USSR and the Central Committee of the All-Union Communist Party of Bolsheviks, ensured the connection of Bely.

On Sunday July 27, 1952, all Soviet people joyfully celebrated the inauguration of the Volga-Don Shipping Canal named after V.I. Lenin. From this day, the regular movement of passenger and cargo ships from Moscow to Rostov, from Stalingrad to Rostov, from Kalach to Stalingrad began.

Together with the Volga-Don Navigation Canal named after V.I. Lenin and the Tsimlyansk Hydroelectric Power Station, the Volgo-Don complex includes large irrigation facilities—the Donskoy main canal 190 km long, large distribution channels 568 km long, large tunnels through which underground will pass the whole river, an extensive irrigation and irrigation network, powerful pumping stations.

In its resolution, the USSR Council of Ministers also noted that "the construction of the Tsimlyansk hydroelectric complex with the largest reservoir and hydroelectric power station, as well as the head section of the Don main canal, the Lower Don and Azov distribution channels, ensures in 1952 the first stage irrigation of 100 thousand hectares of dry land in the Rostov Region and provides further irrigation of 650 thousand and irrigation of 2 million hectares of land in arid and semi-desert

regions of Rostov in a timely manner “and the Stalingrad regions based on the use of water resources of the Don River and cheap electricity.”

But this does not end with the implementation of the Stalinist plan of the Great Volga.

Now, as you know, the construction of the fourth Volga hydroelectric complex is in full swing. It is being built near the city of Gorky. The length of the Gorky Dam is 11 kilometres. To get an idea of the scale of this construction, it is enough to recall that the Volga at Gorky carries the same amount of water as the Dnieper at the Dnieper. The Gorky hydropower plant will generate more than 1 billion kilowatt-hours of electricity per year. It will provide energy to industry and agriculture in the surrounding areas. The Gorky reservoir, spilling a huge distance in depth and breadth, will transform the entire middle course of the river. The city of Kineshma will become a deep-sea port.

The directives of the 19th party congress on the fifth five-year development plan of the USSR stipulate the construction of a large hydroelectric power station near the city of Cheboksary, which will be an integral part of the Big Volga scheme.

The next step of the Big Volga is the Kuybyshevsky waterworks, which will come into operation a year earlier than Stalingrad in 1955. In terms of the volume of work, the Kuybyshevsky waterworks will significantly surpass Stalingrad. Only earthwork is to be completed one and a half times more than at the Stalingrad hydroelectric station, concrete work per million cubic meters more. The capacity of the Kuibyshev hydroelectric station is 2.1 million kilowatts, that is, approximately 400 thousand kilowatts more than the Stalingrad hydroelectric power station.

The Kuybyshevsky waterworks will improve shipping not only on the Volga, but also on the Kama. The waters of the



Kuibyshev Sea will spill over Kama over 300 kilometres. And higher on this largest Volga tributary, it is planned to build the Votkinsk hydroelectric power station and the Molotov hydroelectric station is already under construction, which will create a reservoir 5 times the size of the Moscow Sea. In terms of capacity, the Molotovskaya Hydroelectric Power Station will only slightly yield to the Dnieper Hydroelectric Power Station.

The great Kuybyshevsky waterworks will provide navigable depths in the lower reaches of the Volga, up to Volsk itself. And there the waters of the Stalingrad Sea will already spill.

According to the initial indications of the Big Volga, its next stage was planned at Kamyshin. Before the war, surveys were carried out there, and in the Volga guidebook you could read:

“Below Kamyshin, three kilometres away, tourists will see the place of the projected construction of the Kamyshin hydroelectric complex. Here on the right bank there is a kind of inscription “WEIR” made of logs. This inscription is clearly visible from the ships.”

After the victorious end of World War II, significant changes were made to the Great Volga Scheme. On the initiative of Comrade Stalin, the last Volga waterworks was decided to be transferred to Stalingrad.

This gave great advantages in comparison with the former, reed option. The dam near Kamyshin created a huge reservoir, to the bottom of which part of Saratov, the whole city of Engels, and many other settlements could go. The Stalingrad Sea, however, will not cause such flooding—all cities lying north of Stalingrad will be fully preserved. The Stalingrad option opens up huge, incomparable with the previous prospects for field irrigation. Finally, the location of the

hydroelectric complex near a large industrial centre, such as Stalingrad, facilitates construction.

We saw what complicated preparatory work Stalingrad-hydrostroy had to do before the start of the main construction. But at the disposal of the Stalingrad builders there are two railways, a powerful energy base and, finally, large plants that help the team of hydro-builders in everything. In Kamyshin, a small town, there is none of this. There, before the start of construction, it would have been necessary to build an auxiliary power station with a capacity equal to Svirges.

The decision to build a hydroelectric complex in Stalingrad made it possible to make the great construction site more economical and significantly reduce the construction time.

The Stalingrad waterworks will radically transform the Lower Volga. Hundreds of various transport structures will be built north of Stalingrad, which in 5 years will be on the shore of the Stalingrad Sea—lighthouses, ports of refuge for the sludge of ships during storms and storms, and others. The deep-sea ports will be Kamyshin, Dubovka, Bykovo, Volsk. The city of Saratov will be on the shore of a large reservoir, the width of which in this place will reach more than 10 kilometres. The problem of the approach of the Volga ships directly to the marinas of the Saratov plants will be solved.

Many small rivers flowing into the Volga will become deep and suitable for navigation at a considerable distance.

Big changes will occur in the fisheries of the Volga. In all capitalist countries, hydro-technical construction on rivers brings great damage to fish wealth. In the USA, for example, the construction of hydraulic structures led to the destruction of fish in many large rivers.

The situation is completely different in the USSR. A complex fish elevator has been built on the Tsimlyansk dam, which, raising the Black Sea stellate sturgeon by 25 metres, passes it up the river for throwing eggs on spawning grounds.

On the Volga and Volga-Akhtuba floodplains, powerful hatcheries will be built to maintain the stock of famous Volga sturgeons and starlet to maintain a stock of commercial fish.

Already, over 150 million fry are released into the Volga delta. In the future, this figure will increase many times over. As a result, the number of valuable fish in the Stalingrad and Kuibyshev seas will increase significantly.

Stalingrad hydroelectric station, passing a huge amount of water through the turbines, will make it possible to maintain the depth necessary for shipping on the Lower Volga during the whole summer. The largest vessels of the lake type will be able to sail with full load along the great Russian river from its headwaters to the mouth.

So the reconstruction of the main waterway of the country will end.

The new Volga will be much deeper than the old, the speed of its current will decrease several times, the waterway will be much reduced. Vessels will be able to walk on deep reservoirs, as on lakes, in a straight line - from the pier to the pier. The Big Volga will take first place in the world in terms of its basin, exceeding by 25 percent the Amazon basin, which is still considered the largest on earth.

In the south, as it were, a continuation of the Volga highway will be the Main Turkmen Canal. This canal, starting in the desert at Cape Tahia-Tash, will extend the country's blue roads by more than a thousand kilometres. The project does not provide for the discharge of Amu Darya waters into the Caspian Sea, but the Volga ships will be able to enter the canal from the Caspian through special locks. They will bring wood, cars, bread to Central Asia, and cotton, fruits, and animal products will go towards the water. The main Turkmen canal will connect the Volga with the Aral Sea, and Moscow will become a port of six seas.

With the launch of the Volga-Don, the Dnieper basin is now connected with the Big Volga system. Through the Black Sea, the Volga courts opened the way along the Danube to the countries of people's democracy.

Among the main transport tasks of the fifth five-year plan, the directives of the XIX Party Congress provide for the further development of shipping in the Volga basin:

“To complete the reconstruction of the Volga-Baltic waterway, to increase the navigable depths on the river. Kame and create a single deep-sea transport system in the European part of the USSR.”

At the centre of this grandiose system of blue roads will be the capital of our Motherland, Moscow, which will be the greatest river port in the world. Ships from the most remote areas of the Soviet Union will sail to the walls of the Kremlin.

The Big Volga will even more closely unite the numerous regions and industrial centres of the USSR into a single economic whole, and accelerate the development of productive forces in the Volga region, the Caspian region, Central Asia and the south.

At the heart of the brilliant Stalinist plan of the Great Volga lies the principle of widespread, integrated use of natural resources. In addition to transport tasks, the Great Volga scheme is designed to solve the problems of increasing the power supply of our Motherland, the problems of irrigation and watering of millions of hectares of land, and improving the climate of vast spaces.

If we consider the “Great Volga” in the complex, then even more magnificent prospects will open before us.

Energy... The Old Volga quietly, steadily declining from a height of 100 metres above sea level at Rybinsk to 27 meters below sea level at Astrakhan. And there were no bubbling waterfalls and mountain rapids on the Volga. But in a calm fall of the water stream from a height of 127 meters, a tremendous

amount of energy lurked. The Soviet people take this energy into their own hands, creating a cascade of artificial dam waterfalls on the Volga. With the launch of the Kuibyshev and Stalingrad hydropower plants, the energy resources of the great Volga will be used from Kalinin to Stalingrad by almost 80 percent.

The energy of the Big Volga will replace the work of more than 100 million people. The gigantic flow of electric energy can be imagined as an army of more than 100 million strong, indefatigable, trouble-free workers who will work day and night in factories, factories, mines and railways, on the fields of collective farms and state farms, strengthening the power of our socialist power, increasing the well-being of the peoples of the Soviet Union.

The Big Volga opens up enormous prospects for the transformation of the earth. It will provide water for irrigation and irrigation of about 14 million hectares of steppes and semi-deserts. The waters of the Don, Dnieper and Amu-Darya more than doubled the area of irrigated and irrigated areas of the USSR.

“The expansion of irrigated and irrigated areas,” L.P. Beria says, “will make it possible to additionally produce 3 million tons of raw cotton per year, which is more than one third of the average annual cotton production in the USA, half a billion pounds of wheat, 30 million pounds of rice and 6 million tons of sugar beets. The number of cattle in these areas will increase by 2 million heads and sheep by 9 million.”

With these figures it is interesting to compare the results of other calculations, which are now occupied by the “learned” men of countries subject to the dollar. The American William Vogt in his work “The Path to Salvation” calculated that by 1955, in Europe, not counting the USSR, the population would increase by 10 percent, which means, in his opinion, “instead of 370 million empty stomachs that need to be filled with three

once a day, there will be 407 million empty stomachs in Europe.” In other words, by the time the great construction projects were completed in the USSR, according to the calculations of Vogt, mass starvation would begin in the capitalist countries of Western Europe.

This “scientist” cannibal sees the “path to salvation” in reducing the birth rate, in new wars, in the extermination of millions of people.

Resurrecting Malthus’s long-overtaken misanthropic theory about the “limited” natural resources of the planet, supposedly insufficient to feed a continuously growing population, American science dealers Harper and Pearson even made a “scientific” calculation of how many people need to be destroyed on the globe. The maximum permissible population, according to their calculations, is 900 million people, that is, almost three times less than the actual population on earth.

The Wall Street scholars are echoed by their English comrade, the fascist Lord Russell, who “clarifies” which nations should be destroyed to “save civilization,” that is, capitalism. (*L.P. Beria, 34th anniversary of the Great October Socialist Revolution, State Political Publishing House, 1951, p. 14.*)

The scientific lord turns his eyes to the East, calling for the extermination of the population of eastern countries.

Such is the “theory” of bloody imperialism. The American journal *Saturday Evening Post* wrote that William Vogt’s book should be considered “the forerunner of President Truman’s bold new program to help the backward peoples of the world.”

The peoples of many capitalist countries experience all the “charms” of American “help” on their own humps.

Every field of science touched by the greedy hands of the imperialists begins to serve war and the mass extermination of people. And human progress is likened to them, in the words of K. Marx, “to that disgusting pagan idol who did not want to

drink nectar other than from the skull of the slain.” (*K. Marx and F. Engels, Selected Works, Vol. I, State Political Publishing House, 1948, p. 316.*)

Their agricultural technology?—Colorado potato beetle; microbes that destroy crops of wheat, rice and other crops.

Their biological science?—Her highest achievement is rats and spiders, scorpions and fleas infected with cholera, encephalitis, and plague.

Their hydraulic engineering construction?—American generals mined the rock of Lorelei sung by Heinrich Heine on the Rhine; they want to flood the flowering valley of the river, turn it into a desert, make it an arena of military operations.

Their energy?—With the beginning of the US aggressive war against the Democratic People's Republic of Korea, the load of American power plants began to increase steadily. The whole world knows that the Tennessee, Bonneville and other major US energy systems serve mainly powerful nuclear plants.

The American and British imperialists are afraid of peace. They are furiously preparing for war, mobilizing all reserves and raw materials for it, suppressing the national liberation movement in Malaya, Burma, Egypt, Vietnam, reviving armed hordes of Nazis and samurai—preparing a new monstrous crime against humanity.

The peoples of the world do not want war and are fighting by all means against its preparation. The ongoing conferences of peace advocates have shown the inexorable will of the peoples to defend the cause of peace to the end.

“As for the Soviet Union,” says Comrade Stalin, “its interests are inseparable from the cause of world peace” (*J.V. Stalin, Speech at the XIX Party Congress, State Political Publishing House, 1952, p. 8.*)

The insurmountable obstacle to the war is our great homeland—the invincible stronghold of world peace. The delegate of Stalingrad at the Third All-Union Conference of Peace Supporters A.P. Uskov, a former Stalingrad warrior, and now the commander of a large walking excavator, Hero of Socialist Labour said:

“We, peaceful people, engaged in peaceful work and planning their peaceful work for many years to come...

Our enemies are sophisticated in vicious slander against the Soviet Union, against our peaceful construction. But there is a popular saying: a lie—a short century. Millions of people all over the world see who are the real builders of the world, and who, under the veil of false speeches and diplomatic tricks, is preparing a new bloody war for the peoples.

The Stalinist building of communism is our national pride, it is also an expression of the might of our state, its innumerable reserves, its strength. Let too zealous warriors from the North Atlantic block remember this.

We, Stalingraders, tell them: do not forget about Stalingrad, do not forget the lessons of history!”

The Soviet Union does not want war, but at the same time vigilantly follows the machinations of the imperialists. The Soviet people are building new factories, plants, power plants, irrigation and shipping canals, transforming nature in the vast territory of the country, thereby strengthening the power of our country, demonstrating the indestructible power of the Soviet state.

The Stalinist construction projects of communism are vivid evidence of the consistent peace-loving policies of the Soviet Union. Seeing in our great construction projects the guarantee of world peace, the working masses of all countries support the USSR and are waging an increasingly decisive struggle against the instigators of war. Our successes on the front of peaceful construction increase the strength of the peace supporters,



strengthen their inexorable will to defend peace and international security.

Our communist construction has become a model for the countries of Europe and Asia, which have risen under the banner of socialism. Following the example of the Soviet Union and with its disinterested fraternal assistance, the struggle for the transformation of nature began in the countries of people's democracy. Under construction: Danube Canal—Black Sea in Romania; a dam, a reservoir and three hydroelectric power stations on the Iskar River in Bulgaria; Selita Hydroelectric Power Station in Albania; the Western Bug is being reconstructed from Brest to the confluence with the Vistula River in Poland; the rivers Bolshaya and Malaya Bokkau will fill a huge reservoir in the German Democratic Republic; extensive irrigation work is underway on the Huaihe and Yellow River in the People's Republic of China; In all these republics, afforestation stands are being created.

The Soviet people, led by the Communist Party, the great Stalin, are successfully implementing the magnificent program of transforming nature. And the day is not far off when the Stalingrad hydroelectric complex and other communist construction projects will produce billions of kilowatt-hours of electric energy, irrigate millions of hectares of dry land. This will further strengthen the power of our Motherland, increase the wealth and glory of the peoples of the Soviet Union, confidently moving towards communism.

## Honoured Guests of Stalin, now Volga HPP:





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University of California, Berkeley, CA 94720-1987  
E-mail: [chris@cs.berkeley.edu](mailto:chris@cs.berkeley.edu)

[illegible]

Massachusetts Clearingway Division  
Infrastructure Coordination  
Fax 617/321

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**O**ne of the most important factors in the success of a business is the quality of its customer service. This is especially true in the case of a company that is competing in a highly competitive market. In order to attract and retain customers, a company must provide excellent customer service. This can be achieved by training employees to be friendly, helpful, and knowledgeable. Additionally, a company should have a clear policy regarding customer service and should ensure that all employees are aware of and follow this policy. Finally, a company should regularly solicit feedback from its customers and use this feedback to improve its customer service.







