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## **CREATION OF KIEV PLANT OF AUTOMATIC MACHINES IN 1933-1937**

### **ABSTRACT**

In the years 1928-1932, the Ukrainian SSR became a region whose industry became a priority for industrialization in accordance with the relevant plans of the federal government. However, the results of this process in Soviet Ukraine did not bring the expected results. Because of this factor, the role of Ukrainian industry in the union plan of industrialization has changed from avant-garde to ballast. One of the steps of the government of the USSR aimed at restoring the original idea was to creation of the plant automatic machines on the territory of the Ukrainian SSR. For the sake of his sake, he has done a great job in the saturation of the region and in the wilderness, and thus, the solution to part of the problem of the lack of manufacturing capacity of Ukrainian machinery manufacturing plants, which arose due to the failure to comply with the first five-year plan. Meanwhile, the further development of the industrialization of the USSR showed the need to organize the production of automatic machine tools in the entire Soviet country. As a result, the construction of a suitable plant in Kiev has been revised in the direction of enlargement. However, not only was the number of organizational mistakes made at the organization stage of the plant not eliminated, but new ones were made. As a result, the plant of automatic machine tools in Kiev was introduced into the planned production volume with almost three years delay. For this reason, before the beginning of World War II, the Soviet machine industry branch did not receive the required amount of appropriate equipment and remained dependent on this product range from the more industrialized countries in the world.

### Keywords:

industrialization, machine building, processing, automatic machine, plant, production, products.

## **Introduction**

Metal cutting automatic machines are used in mechanical engineering and large-scale mass production because in spite of a very high productivity they have a significant disadvantage – a long period of readjustment when changing the geometry and accuracy of the produced product. Consequently, the use of automatic machines in a cycle type of production, due to more frequent overregulation procedures, is inferior in absolute productivity to this result of semi-automatic machines. For historical studies using this regularity allows to determine when the economy of the studied country made the transition to the final stage of industrialization – that is a large-scale introduction of mass production type. Also the ability is obtained to provide ratings of the timeliness of the government measures taken to implement this transition and their compliance with the existing conditions. All these aspects can increase objectivity of both the results of research in the fields of history of economics and science and technology development, and implementation methods of changes in technological modes of mechanical engineering production, founded on the extrapolation of relevant historical knowledge.

No doubt, the regularity that determines the relevance of a particular level of automation of metal-cutting machine tools to the chosen type of production does not directly open up possibilities for the mentioned objectification. However, relying on it, with the help of climetry, historical comparisons and logics, we can make the necessary assumptions and check them by studying the relevant historical material. Thus, it is logical to assume that during the period of industrialization, the countries that claimed to have an independent role in geopolitics were simply obliged to develop their own production of automatic machine tools. Otherwise, their machine-building complexes in the transition to a mass type of production fell into the trap of import dependence, which in fact led to a significant increase in the factor of external influence on the course of industrialization of industry in the country and, accordingly, made it problematic to meet the geopolitical ambitions. Thus, the creation, for example, in the Soviet Union, machine tool plant can be considered not only as a result of the objective movement of scientific and technological progress, but also by the subjective desire of the government to get rid of dependence on the leading countries in the material and technical support of their own machine-building in the transition to mass production. Thus, the study of how this deprivation was developing gives the possibility to clarify assess scientific and technical potential of the USSR during the proceedings of industrialization before World War II and assisted to summa-

rize the experience of changes management in technological structure in terms of state directive management of the economy.

In historiography on the development of machine tools engineering in the Ukrainian and Soviet territory the only one research on the history of automatic machines production in Ukraine was found. This is a monograph by B. M. Blinov "Kievsky stankostroitelny" (Blinov, 1984), devoted to the 50th anniversary of the Kiev automatic machines plant (KAMP). However, in this study the process of creating an enterprise is studied through the prism of the cliché of the "labor feat of the Soviet people" by involving a wide range of biographical information of its employees who participated in the development of the plant, as well as the memoir material produced by that contingent. This approach allows us to highlight the role of a person in historical development of the country and formation of its scientific and technical potential. But, in our case, the organizational moments that accompanied the process of creating the KAMP are the greatest interest. Unfortunately those veterans of the enterprise whose memoir material is given in the mentioned monograph by B. M. Blinov did not have access to such information during this period. This information is not given in the work of "Kievsky stankostroitelny" which makes it invaluable for our study.

### **Formation of the preferences of organization for automatic machines manufacture in the Ukrainian SSR in 1928-1932**

The development of the machine-building industry of the Ukrainian SSR in the plans of the federal government on the industrialization of the USSR industry in the Soviet Five Year Plan (1928-1932) was given the highest priority. After the collapse of tsarist Russia the Ukrainian territories along with the north-western and central of the European part of the RSFSR remained the most industrially developed regions of the former empire. So, in 1912 on the territory included in the Soviet Ukraine 19.8 of the gross national industrial product was made of the Russian Empire, in the Central economic region – 35.2 and in the Northwest – 11.1. At the end of 1920 this figure of SSR remained unchanged, but according to union industry, at the same time, the share of Ukrainian engineering in the Union one was 29, while the main source of energy was coal mining 71% (Нестеренко, 1966: 45). Consequently, at the beginning of large-scale industrialization in the Soviet Union from all its republics Ukraine was most prepared for the implementation of appropriate measures and needed the least resource costs for this. Focusing on the first stage of industrialization efforts in the USSR and «old» industrial area

Russia, the Soviet government hoped to use the increased industrial facilities as a base for the industrialization of other Soviet republics and regions of Siberia and the Far East.

Meanwhile due to a number of disadvantages, first of all, of organizational nature, the fulfillment of the Five Year Plan of the economy industrialization was failed, although in Soviet historiography it is considered that they were completed in full volume and ahead of time. The claims of Soviet historians are based on official government information that was pre-censored and only then made available to the public. In reality the official results of the fulfillment of the Five Year Plan were fabricated using certain administrative procedures. So, for example, the Kharkov tractor plant (KhTP) was actually launched in the planned time in 1931, but under the temporary scheme: with unfinished administrative buildings, housing and communal services and, most importantly, auxiliary workshops. (*История Харьковского тракторного завода*, 1960, 11) During 1932 the construction of this enterprise continued in parallel with the production of basic products, which led the plant to reach the design capacity only in the middle of 1933 (APRCh, ф. П-2, оп. 1, с. 116, арк. 133), that is, already in the Second Five Year Plan (1933-1937). Consequently, all its time before it was completely launched auxiliary production of KhTP, its functions were distributed among other enterprises of the city.

Kharkiv Turbine Generating Plant (KhTGP) was put into operation in accordance with the plan in the Second Five Year Plan, in 1933 (APRCh, ф. П-2, оп. 1, с. 116, арк. 133). Meanwhile, this fulfillment of the planned task concerned this enterprise as the independent industry organization that was established in May 1931 (Berlin, 1971, 23). However, before that the facilities of the constructed KhTGP were simply called Turbogenerator Plant (TP), the term of its completion according to the plan of the First Five Year Plan was at the end of 1931 (Berlin, 1971, 10). The TP along with other plants such as Mechanical Engineering, Apparatus and Insulating Material Plants was a member of the Kharkov Electromechanical Plant (KhEMP) structured by the trust principle (Annenkov, 2015, 3-20). At the beginning of 1931 when it was clear that building of TP would not be completed on time, it was taken from the structure KhEMP as a separate organization and named KhTGP. This allowed the following: firstly, to reduce the Five Year Plan of the KhEMP, which, of course, was completed ahead of schedule (APRCh, ф. П-2, оп. 1, с. 4, арк. 13); and secondly, to start a new planning process for the development of a new legal organization with the appropriate transfer of the date of putting into operation. Consequently, throughout the period of the delay, the Soviet Union Electric

Power Generating Complex was supplied by imported turbine generators of the intended class for production at the KhEMP.

The launch of the Kharkov Plant of Radial Drilling Machines (KhPRDM) was also planned for First Five Year Plan, but the funds for its construction were spent on the construction of KhTP. Therefore, in autumn of 1930 the construction of the KhPRDM was stopped completely, and the objects constructed at that time were suspended (APRCh, ф. П-69, оп. 1, сщп. 1, арк. 19). With startup KhTP the construction of the KhPRDM was renewed, but already in April of 1932 it became clear that the construction of the enterprise in the First Five Year Plan was impossible (APRCh, ф. П-69, оп. 1, сщп. 61, арк. 50.). Then, in summer of 1932 it was decided to replace the KhPRDM with the creation of a new enterprise specializing in the production of both radial-boring and grinding machines – the Kharkov Machine-Tool Engineering Works (KhVK) (APRCh, ф. П-69, оп. 1, сщп. 77, арк. 183). In accordance with the approved decision, the plan for the construction of the First Five Year Plan of the KhPRDM was abolished and replaced by a new one – the construction of the KhMTEK, but already in the Second Five Year Plan. Meanwhile, the need for machine tools, the production of which was foreseen at the KhPRDM, was not satisfied which led to the continuation of imports in this range of machines.

The above examples show that the First Five Year Plan in the Ukrainian SSR has not been fulfilled at all, and the government report on its pre-term execution is nothing more than a result of regulatory and procedural tricks aimed at bringing the benefits of the Soviet mode of management to the world and its own community. Thus, the implementation of the concept of regional industrialization in the USSR began to prolonged in time, and uncompleted capacity of Ukrainian engineering in the First Five Year Plan acquired the qualities of ballast as to plans for further expansion of industrialization measures in the republic, as well as plans for the creation of completely new industrial regions of the USSR. In 1932 the territorial structure of the economic management of the USSR was replaced by a branch one. Due to this, the management of the development of the industry of the Soviet Ukraine for the whole subsequent period was concentrated in the Union government and, but also the problems of overloading the existing industrial capacities of the Republican mechanical engineering industry and supporting with the metal cutting equipment of the additional built production areas in the conditions where the funds for this were not planned, they were also largely solved in Moscow.

It should be noted that at that time the Union government had sufficient experience in communicating with foreign partners, who built the majority of the largest and most important mechanical engineering enterprises in

the USSR. Wide use in foreign practice of automatic machine – tools was not left unnoticed by Soviet specialists, it was reflected in the decision to create a small plant of automatic machine – tools in the Ukrainian SSR designed to meet the needs of both local mechanical engineering and adjacent to Ukraine regions of the RSFSR in the most popular machines of this type. At the same time, the measures should be taken to make appropriate changes in production technologies at factories where future products should have been supplied. In this way it was supposed to make more productive overloaded industrial power, which automatically removed this overloading. In addition, according to the predicted group of automatic machines – tools, the possibility of decreasing import dependence was obtained, which allowed to reduce the costs for equipment in the additional built production areas (due to their uncompleted construction in the First Five Year Plan). Thus, at the beginning of 1933 in the Ukrainian SSR, the conditions were created for the creation of an enterprise for the production of automatic machine tools.

### **Preparation for foundation of automatic machines plant in Kiev in 1933-1934**

The design of the factory of automatic machine tools was started in Moscow, at the institute «Stankoinproekt» in autumn 1933 and it was completed in January 1934 (APRK, ф. P-1002, оп. 1, спп. 10, арк. 10). The initial cost of the plant was 72 million rubles (including the construction of the village for its employees), the productivity of the enterprise is 500 machine tools for a year, and its launch was scheduled on 15 July 1937 (APRK, ф. P-1002, оп. 1, спп. 10, арк. 10). The plant was supposed to produce copies of semi-automatic lathes, six-spindle "Byrd" and five-spindle "Goss de Lew" (APRK, ф. P-1002, оп. 1, спп. 3, арк. 32). But the construction of this enterprise was not included in the initial plans of industrialization and funds for this, respectively, were not planned. Therefore, the People's Commissariat of Heavy Industry (PCHI) of the USSR gave another task to the Moscow Institute "Promstroyproekt" to redesign the plant and investigate the rate of transformation capacity in its share of production programs of other companies. In other words, it was proposed to reduce the capacity of the auxiliary production at the projected plant, and the lack of the nomenclature of products that it was supposed to produce was offset by production at other enterprises of the PCHI of the USSR. As a result, in November 1934 according to comments, the new project was already estimated in 42 million rubles at the constant parameters of productivity and the term for putting it into operation (APRK, ф. P-1002, оп. 1, спп. 10, арк. 10).

Meanwhile, in spring of 1934 the specific place of the future plant's location was not yet finally approved. The head of the State Planning Commission of the USSR, who at the same time was the First Deputy Chairman of the Council of People's Commissars of the USSR and Chairman of the Council of Labor and Defense of the USSR, V. I. Mezhlauk insisted on the creation of the projected company in Taganrog (CAPSPU, ф. 1, оп. 20, спр. 6472, арк. 68). It must be admitted that from an economic point of view, he had a certain right for such a decision, Taganrog was developed as an industrial center, with the resources of skilled labor power, equidistant from both the Ukrainian and Russian parts of Donbas – at that time the most dynamic region with the pace of industrial development. Consequently, the energy supply of the future plant could be carried out from the network of just-built district power stations of the Donbas, and the product market was in immediate proximity to this city and it was connected with it by a developed transport network. In addition, Taganrog is a port city that, if it is necessary, greatly facilitates logistics issues of the plant with import or raw material.

However, in the aforementioned economic and economic position, there were significant political and economic disadvantages. First, for the reasons outlined above, the plant should have been located in Ukraine but Taganrog in 1924 was withdrawn from the Ukrainian SSR and transferred to the RSFSR. Thus, the dislocation of the enterprise in the Russian city, whose products had to be oriented mainly to the Ukrainian consumer, laid the foundations for inter-republican disputes in advance when distributing its volumes. And that is not the fact that the problems would have found a quick solution and, most importantly, that those decisions would not have led to an imbalance in the planned territorial and sector distribution of means of production. Secondly, in 1934 the capital of Soviet Ukraine was transferred in Kyiv, but while the latter lost its value the industrial center, as previous years and a Republican and the Federal Government intensified rapidly developing industry in the capital city of the Ukrainian SSR – Kharkiv. Due to this, at the end of the 1920s more than 30% of the machine-building capacities of the republic were concentrated in Kharkiv (Bondarev, 1968, 6), which led to an increase in the proportion of the proletariat in the urban population. This factor was very important for the Soviet party leadership, since, according to the official ideology, the Soviet Union was considered «the state of the victorious proletariat» Thus, according to established political and ideological dogmas, both in the capital of the USSR and in the capitals of the Union republics, the working class had to dominate over the rest of the Soviet society, if not completely, but at least it would have had a sufficient proportion capable of providing absolute support to

«their» authorities. Guided by such an argument, the First Secretary of the Central Committee of the Communist Party (Bolsheviks) of Ukraine S. V. Kosior and First Secretary of the Kyiv Oblast Committee of the CP(B) of Ukraine P. P. Postyshev addressed directly to the Soviet leader Y. V. Stalin with the request to intervene in the situation and allow the location of the planned mill plant in Kyiv (CAPSPU, ф. 1, оп. 20, спр. 6472, арк. 68).

It should be noted that before contacting to J. V. Stalin S.V. Kosior and P. P. Postyshev got the support of one of the most trusted (especially in the «Ukrainian issues») of the Soviet leader – L. M. Kaganovich (CAPSPU, ф. 1, оп. 20, спр. 6472, арк. 47). With his help, they succeeded even before the final approval of the project of the plant to achieve the appointment of the director of his company – M. B. Grossman (APRK, ф. P-1002, оп. 1, спр. 1, арк. 212). In addition, before the approval of the project, the republican authorities on the outskirts of Kyiv, on the site of the Svyatoshinsky machine-tractor station, a land plot was allocated for the construction of the future enterprise, land alienation procedures were carried out, and the employment of the workers was started (Annenkova, 2018, 15-18). All these measures taken contrary to existing laws and regulations and elementary subordination, had no disciplinary consequences either for S. V. Kosior or for P. P. Postysheva. The indicated facts, as well as the presence of a clear vertical power in the period under investigation, with appropriate allocation of competences in decision-making, allow us to assume that the construction of the automatic machine-tools in Kiev was approved Y. V. Stalin. Only his agreement could have left unpunished the sovereignty of Ukrainian party leaders.

In any case, the preparation for the construction Kyiv Plant of Automatic Machines started in summer 1934 by the enterprise workers themselves through the budget of local authorities. V. I. Mezhlauk did not forgive such «agility» to the party leadership of Ukraine, and using the post of the Head of the State Planning Committee of the USSR, delayed the start of financing of the development of Kyiv Automatic Machines Engineering Plant in various ways, four times forcing the capital construction department (CCD) of the Main Department of Machine Tool Engineering Industry (MDMTEI) People's Commissariat of Heavy Industry (PCHI) of the USSR to change the amount of budgeting for the first year construction (APRK, ф. P-1002, оп. 1, спр. 1, арк. 212). However, it should be noted that there was an important formal reason for this – the lack of an approved budget for a project to create an enterprise. However, a few days before the session of the Technical Council, which included the approval of the final draft of KAMP, the State Planning Committee of the USSR unblocked the issue of



financing plant construction. But this happened only one day before the end of the third quarter of 1934, and the leadership of the KAMP was unable to use the entire quarterly share of the annual budget, the rest of which was reversed only at the end of 1934 (APRK, ф. P-1002, оп. 1, спп. 1, арк. 212).

Consequently, because of the listed faults, the management of the enterprise was able to organize full-scale measures for the construction of the plant only when winter cold already came. Add to that the process of doing construction and installation work was done on the project development without reference to the location, the fact that the start of the active phase of development KAMP in early 1935 was no surprise to either Ukrainian or party and union economic leadership.

### **Building up of KZVA in 1935-1936**

In spite of the fact that all the fundamental moments in the creation of the factory of machine-tools in Kyiv seemed to have been resolved in 1934, it was not easy to organize a coherent construction of the plant in 1935. Thus, if the practice of conducting general construction work by the employees of the enterprise itself during the investigated period was rather widespread, then carrying out special mounting works at a factory of allied subordination by the forces of contractors not subordinated to the relevant Union Commissariat, it was extremely rare. And at KAMP such works were carried out, mostly, by contractors, subordinated to either Kyiv or republican economic-construction structures. Despite stable funding and timely calculations, the schedule of work performed by these organizations was quite chaotic, we can assume situational rather than the planned use of local contractors for the construction of the plant. At the end, this led to a failure to complete the annual plan of installation work in the amount of 30% (APRK, ф. P-1002, оп. 1, спп. 6, арк. 1). However, in 1935, the director of the plant, M. B. Grossman, thanks to an increase compared to the original annual plan of the volume of works carried out by the workers of the plant for civil works, managed to create conditions for the deployment of preparation for the organization of the process of production.

Already in the mid 1935 at KAMP the rooms were ready to hold designing and project – technological preparation of production, and at the building of the old machine and tractor stations a pilot plant was equipped (APRK, ф. P-1002, оп. 1, спп. 6, арк. 3). This year it allowed to start work on the development of semiautomatic type «Byrd» and non-screwdriver semiautomatic version of «Goss de Lew» (APRK, ф. P-1002, оп. 1, спп. 3, арк. 32). Thus, in 1935 the achieved state of development of the KAMP allowed

the liquidation of the existing problems in the execution of the plan of installation works in 1936, the commissioning of the plant in late 1936 – in the beginning of 1937, and in the distribution of the specified incompleteness between 1936 and in 1937, the time for the KAMP to be delivered to exploitation was not so difficult to finish as the originally set limits. This order of affairs with construction of the plant allowed the republican government to achieve from PCHI of the USSR consent to the transfer of M. B. Grossman from the post of director of Kiev Machine Building Plant to the post of director of the stagnating plant «Lenin's Smithy» in Kiev too.

In the care of M. B. Grossman, the duties of the Director of the KAMP were assigned to the chief engineer for the construction of I. N. Laychter (Annenkova, 2018, 15-18). However, already in December 1935, the situation around the foundation of the plant abruptly changed. Against the backdrop of a sharp deterioration of the international situation in Europe and in the world, which caused the militarization of industrial complexes of states, the government of the Soviet Union finally realized the need for an accelerated transition to a mass production of all Soviet machine-building. Proceeding from this, the Union Government adopts a decision to expand the construction of the KAMP with an appropriate increase in the number of its workers to 1,500 people and an additional organization of production on it: in 1936 single – spindle turntables of the type «Kaiser», five-spindle turning machines of the type «Ward» and four-spindle turning semiautomatic devices of type «New Britten» (APRK, ф. P-1002, оп. 1, спп. 6, арк. 11); in 1937 – boring machines such as "Cleveland", single-spindle screw-type automatic revolving "Index" and "Pittler" (APRK, ф. P-1002, оп. 1, спп. 6, арк. 4, 9). As we can see, the model range of machines, the release of which was planned at KAMP in the new plans of the government concerning this plant, increased fourfold compared to the original with the increase in the share of machine-tools, the production of which, regardless of the name of the enterprise, was not considered obligatory in that time. In addition, the new production program of KAMP provided for a threefold increase in production volumes – up to 1,500 machines per year, while the priority was to adjust the production of light automatic machines, then the secondary ones, and in the third place – heavy ones (respectively, mechanical workshops №№ 1, 2, (APRK, ф. P-1002, оп. 1, спп. 10, арк. 9).

The given rollback in the planned task for the development of types of products was due to the exacerbation of the problem in providing Soviet machine-building precisely machine-tools. However, at the moment of reviewing the priority of setting up production of machine series, two heavy semiautomatic devices (such as “Byrd” and “Goss de Lew”) and no automat-

ic machines were already manufactured at KAMP, since this was not originally intended. Consequently, the need for the development of new technology has again come to the fore; therefore, in the beginning of 1936, the director of the KAMP was appointed by M. Babich, who was specifically sent from Moscow for this purpose specialist in the organization of machine tool production. Besides it, at KAMP for the organization of the design office of the Main Department of Machine Tool Engineering Industry of USSR a German designer F. Pollack was sent (APRK, ф. P-1002, оп. 1, спп. 10, арк. 47). But the rest of the designers who worked at the plant in an amount of more than 30 people were mostly recent (1935) graduates of Kyiv Industrial Institute and had absolutely no experience in the design of metal-cutting equipment. Therefore, the development of the model of a machine-maker «Ward» was immediately postponed indefinitely, as too complicated in designing machine for the existing team of designers. Also, at a later stage, the development of a semi-automatic device such as «New Brighton» was postponed, but due to the fact that the object was not copied at the factory. On the stage sketching and design work on machine tools such as «Pittler», as the inexperienced team of designers did not have time to carry out appropriate work on the development of more popular machines such as “Index”, “Kaiser” and “Cleveland”.

Thus, based on the current situation in the design, during 1936 r. Adopted a decision on such an order queue start KAMP: the 1st stage – the production of automatic machines of the «Index», «Kaiser» and «Cleveland» – the end of 1936; the 2nd stage – the production of heavy semiautomatic machines such as «Byrd» and «Goss de Lew» – the beginning of 1937; the 3rd stage – from small-scale production of “New Britten” type machines and, possibly, the type of «Pittler» or another model in the mid-1937. Meanwhile, according to the original plan, putting into operation in 1936, the mechanized assembly shop was to be subjected to it – it was the one where it was supposed to manufacture heavy machines, which, according to the new plan, went away to the second turn. At the beginning of 1936, the degree of readiness of this workshop was about 50%, so in light of the new requirements, it was necessary to re-design for the production of small machines, which compromised the launch of the first stage of the plant in due time. The situation was complicated by the fact that despite the wide involvement from the middle of 1936 to the installation work of departmental institutions and organizations, general construction work continued to be carried out by the workers of the factory itself (APRK, ф. P-1002, оп. 1, спп. 10, арк. 63–64), which also did not contribute to accelerating construction. As a result, by the end of this year, the degree of

readiness of the machine-assembly shop, already as shop number 1, could only be achieved by 62.5% (APRK, ф. P-1002, оп. 1, спп. 10, арк. 2).

Due to the low degree of readiness of shop number 1, the release of the first two machines of the Kaiser type, was carried out in December 1936 by the experimental workshop (APRK, ф. P-1002, оп. 1, спп. 8, арк. 22). Currently it did not allow AM M. Babich to achieve from PCHI of the USSR fixing the start of the first stage of the plant, at least on a temporary circuit. However, the very fact of the launch of the production of light automata at the KAMP (despite the release of only one of three planned models) as a positive signal for the task of mastering the production of this group of machines was included in the asset of the director of the enterprise.

### **Start of the plant in 1937**

From the very beginning of 1937, construction works in the shop number 1 became much more active, which allowed in February of this year to place in this building a portion of equipment designed for the production of small machine tools and to carry out a certain amount of work on it. In this way, the director of the KAMP, M. M. Babich managed to get an argument for the party leadership in favor of implementing in this particular area plans for the industrialization of the state – the establishment, albeit with a slight delay, production at the facilities of the first stage of the plant machine tools type – “Index”, “Kaiser” and “Cleveland”. In addition, in February 1937 in the experimental workshop of the enterprise, the production of semi-automatic machines of the type “Byrd” and “Goss de Lew” was mastered, due to which, nominally, the program for the development of machine tools release was included in the planned schedule. These events allowed the party leadership of the country to proclaim the start KAMP on 22 February 1937, although in fact, that time there was only re - state enterprises as such under construction (Blinov, 1984, 1). However, the numerous failures of the Soviet leadership in the field of industrialization translated the question of the launch of the KAMP in the political plane, which made this date and enshrined in Soviet historiography. Meanwhile, there is no legal document, according to which KAMP was put into operation in 1937 even in the temporary scheme. Only in July of 1938 after final approval of the budget of the first stage of the plant 50 236.6 thousand Karbovanets, considering incompleteness of the construction of all objects, it was recognized as working under a temporary scheme (APRK, ф. P-1002, оп. 1, спп. 16, арк. 27). Consequently, we can assume that from this time the plant itself has acquired the status of working under the temporary scheme.

In addition to adjusting production machines mentioned above, under the direction of M. M. Babich in spring 1937 the development work at the facilities of mechanical-repair shop machines issue of the «New Brighten» was started. Thus, the plan to master the production of all approved models of machine tools by the summer of 1937 was essentially implemented and M. M. Babich, having delegated his duties to the new director – P. I. Zhbakov, along with a team of other specialists went back to Moscow (APRK, ф. P-1002, оп. 1, спп. 10, арк. 1). However, the development of machine tools did not yet mean the development of a production program for the release of this equipment, and the capacity to implement this program at KAMP was absent. Government impromptu with changes in production, the priority of mastering the range of products and the order of supplying the factory with components did not get adequate financial support. The construction of the first stage of the company has grown by only 7% (APRK, ф. P-1002, оп. 1, спп. 20, арк. 23), with the fact that, due to a change in the priorities in the specialization of KAMP and an increase in the production program, the volume of construction increased by almost 30%. Thus, the initially foreseeable provision of a large casting plant was not to be carried out from other machine tool enterprises, due to which the local foundry was constructed temporarily and designed for small castings (APRK, ф. P-1002, оп. 1, спп. 10, арк. 85). The construction of the capital foundry for the production of the same assortment of castings had to take place after KAMP mastered the production program as a whole. However, factories in their Five year plans have made casting for KAMP under the machines of the types «Byrd» and «Goss de Lew», but in fact in the first place they demanded casting under the machines of type «Index», «Kaiser» and «Cleveland». Certainly, that the factory-subcontractors could not manage to quickly adjust their production programs for serial production of casting. Consequently, it is necessary for the KAMP to be cast in a piece by piece and on a residual principle, because of which: a) a priori at the plant could not establish mass production of light machine tools in 1937 b) the company had to redesign and rebuild a new more powerful casting shop. In addition, as already mentioned above, the re-design and processing also undergone the assembly plant, which also claimed additional costs.

In addition to the above, one can add that in the middle of 1937, due to the use of a very inefficient method of general construction works, overcharges for the construction of KAMP accounted for about 12% of the originally planned amount (APRK, ф. P-1002, оп. 1, спп. 16, арк. 27). That is, the government additional funding for building the plant did not stop even the already overrun. Also note that since the beginning of 1936 construction

work was not financed enough. So, in the aggregate of all the above factors, one can come to the conclusion that a priori impossibility of launching the KAMP in 1937, which became clear to the Union Government in autumn of that year. Therefore, in October 1937 in the position of a director P. J. Zhabakov was changed by A. I. Shevchenko (APRK, ф. P-1002, оп. 1, спп. 11, арк. 1), sent from Moscow to improve the situation at the enterprise. The latter succeeded in 1938 to obtain a review by the People's Commissariat engineering USSR in funding construction KAMP that was raised against the original also three times, but only since 1939. In 1937 the company managed to fulfill the plan of production machines all 11.7% (APRK, ф. P-1002, оп. 1, спп. 9, арк. 1). But despite the obvious mistakes made when creating KAMP by the very party and economic management, the guilty for the failure of the start of the single at the time factory of automatic machines in the Soviet Union were considered the creative members of republican government – M. B. Grossman, J. N. Layhtera and P. I. Zhabakov (they were executed respectively: November 03, 1937, November 22, 1937, August 28, 1938). However, in any case, the plan to saturate the Soviet industry with the required number of machine tools before the Second World War failed, which led to the continued dependence of state machine building in this product range on the more industrialized countries of the world.

### **Conclusions**

In summary it can be concluded that the party and economic leadership of the Soviet Union at the time of the decision to create KZVA in 1933 had lack of a clear understanding the necessity of its own production of automatic machines. It can be stated from government intrigue around the issue of determining the locations of the enterprise, which led to delays its foundation and little productivity and limited product range of the initially projected plant priori were not able to provide the relevant needs of the entire Soviet industry at least in any appreciable degree. In addition, the absolute absence of specialists capable of developing such equipment in the Ukrainian SSR and in the USSR, even to replicate the foreign samples of this equipment, clearly reflect the inadequate correspondence of the scientific and technological potential of the USSR (at least – its scientific component) to the pace and scale of industrialization of the country. All these factors give rise to doubts as planned manner of industrialization of the Soviet industry and suggest a spontaneous decision at the end of 1920 on full-scale industrialization of the USSR. In general, it was the basis of all the following mistakes in its development, in particular, in the not so successful process of creation of Kiev Automatic Machines Plant.

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## **STWORZENIE FABRYKI WARSZTATÓW-AUTOMATÓW W KIJOWIE W LATACH 1933–1937**

### **STRESZCZENIE**

W latach 1928-1932 Ukraińska SRR stała się regionem, którego przemysł zaznał priorytetową industrializację zgodnie z odpowiednimi planami rządu związkowego. Jednak wyniki tego procesu na Ukrainie Radzieckiej nie przyniosły oczekiwanych rezultatów. Przez ten czynnik rola ukraińskiego przemysłu w związkowym planie uprzemysłowienia zmieniła się od awangardy do balastu. Jednym z kroków rządu ZSRR mającego na celu przywrócenie pierwotnej idei było stworzenie na terytorium Ukraińskiej SRR fabryki warsztatów-automatów. Przy pomocy tego wydarzenia oczekiwano nasycenia przemysłu regionalnego sprzętem o wysokiej wydajności, a tym samym rozwiązania części problemu braku zdolności wytwórczych zakładów budowy maszyn ukraińskich, który powstał z powodu niespełnienia pierwszego pięcioletniego planu. Tymczasem dalszy rozwój industrializacji ZSRR pokazał potrzebę zorganizowania produkcji automatycznych obrabiarek w skali całego kraju radzieckiego. W rezultacie rozpoczęta budowa odpowiedniej fabryki w Kijowie została zrewidowana w stronę powiększenia. Jednak przy tym nie tylko nie był zlikwidowany szereg omyłek organizacyjnych popełnionych na etapie organizacji zakładu, ale zostały dokonane nowe. W wyniku tego fabryka obrabiarek automatycznych w Kijowie została wprowadzona do planowanej wielkości produkcji z niemal trzyletnim opóźnieniem. Z tego powodu, przed rozpoczęciem II wojny światowej radziecka gałąź przemysłu maszynowego nie otrzymała wymaganej ilości odpowiedniego sprzętu i pozostała zależna od tego asortymentu produktów od bardziej uprzemysłowionych krajów świata.

#### Słowa kluczowe:

industrializacja, przemysł maszynowy, obrabiarki, warsztaty-automaty, fabryka, wyrób, produkty.