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STATUTE, COMMENT ON COUNTERPLANNING PROCEDURES

Statute on Counterplanning Procedures

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 77 p 7

[Statute concerning the procedure for the elaboration, incentives and accounting for the fulfillment of counterplans of the enterprises (organizations) and associations in the Tenth Five-Year Plan published under the title "Counterplans for the Tenth Five-Year Plan"]

[Text] The USSR Gosplan, the USSR Goskomtrud [State Committee for Labor and Wages], the USSR TsSU [Central Statistical Administration] and the AUCCTU on 28 January 1977 approved the "Statute Concerning the Procedure for the Elaboration, Incentives and Accounting for the Fulfillment of Counterplans of the Enterprises (Organizations) and Associations in the Tenth Five-Year Plan." Below we are publishing the full text of this document.

The elaboration, incentives for and accounting of the fulfillment of counterplans of the enterprises (organizations) and associations in 1977-1980 should be carried out proceeding from the tasks posed by the 25th Party Congress and the October (1976) Plenum of the CPSU Central Committee in the area of further strengthening the economic might of the Soviet state, constantly raising national prosperity, improving the communist indoctrination of the workers, and consistently developing the socialist way of life.

The counterplans are an important form for the active involvement of the labor collectives and each worker in seeking out and most fully utilizing the internal reserves, and they are an expression of their desire to make a concrete contribution in the interests of society to achieving the set aims more rapidly than was planned and with fewer expenditures of all types of resources.

The main aim of the counterplans should be the fulfillment and overfulfillment of the quotas of the national economic plan for the Tenth Five-Year Plan under the slogan "work better, improve efficiency and quality."

Considering this, in elaborating the counterplans for 1977-1980, the enterprises (organizations) and associations must be guided by the following:

1. The counterplans are plans elaborated by the enterprises (organizations) and associations and approved by the superior organization and showing higher indicators in comparison with the quotas provided for the corresponding period (year) in the Tenth Five-Year Plan. The counterplans of the enterprises (organizations) and the associations take into account the personal and collective counterplans and the socialist pledges of the workers, as well as the socialist pledges and counterplans approved by the shops, sections, brigades and other subdivisions of the enterprises (organizations) and associations.

2. The counterplans are worked out on the basis of the better utilization of manpower, the broad introduction of technically based output standards, the greatest possible development of multiple machine operating and the combining of professions, the fuller use of the production capacity and equipment, the economic consumption of raw products, materials, fuel, and electric power allocated to the enterprises (organizations) and associations, and the involvement of above-standard stocks of material resources in circulation. The counterplans should be coordinated with the capabilities of material and technical supply considering the measures being carried out for additional savings of material resources.

The counterplans are worked out and approved for the production of products needed by the national economy in a range (assortment) corresponding to the demands of the consumers, as well as for the indicators which characterize the efficiency and quality of the work, that is: For a rise in the share of superior quality category product in the total production volume, a rise in labor productivity, a savings in material resources, a reduction in costs, an increase in profit, profitability and return on investment.

The enterprises (organizations) and associations for which additional quotas for product output have been set in the annual national economic plans worked out and approved counterplans, as a rule, for indicators which characterize production efficiency and the quality of their work.

The quotas for increasing the indicators envisaged in the five-year plan for the corresponding year and included in the counterplans of the enterprises (organizations) and associations, in the annual plans of 1978-1980 are set apart as a separate line (with a distribution of the quotas over the quarters).

3. The quotas of the counterplans for 1977 are accepted by the enterprises (organizations) and associations, in comparison with the quotas of the 1977 annual plan, as a component part of the Tenth Five-Year Plan.

The indicators of the counterplans of the enterprises (organizations) and associations for 1977 should be reviewed and approved by the USSR ministries (departments) and the Union republic councils of ministers, and not later than 1 March 1977 be turned over to the USSR Gosplan, the USSR TsSU, the USSR Gossnab and the AUCCTU.

The USSR ministries (departments) and the Union republic councils of ministers should coordinate the work of the enterprises in the area of elaborating and implementing the counterplans, and conduct systematic supervision of their fulfillment.

The product produced by the enterprises (organizations) and associations in 1977 as a result of fulfilling the counterplans is distributed in the procedure in effect for the product produced above the plan approved by the superior organization.

The funds for paying wages are to be issued in 1977 to the enterprises (organizations) and associations by the institutions of the USSR Gosbank in the established procedure, proceeding from the new wage fund approved by the superior organization and the fulfillment of the approved plan for the volume of product output according to the indicator accepted in issuing funds for wages.

4. The proposals of the enterprises (organizations) and associations on the accepting of counterplans for 1978-1980 are made by them as part of the draft annual plans submitted to the superior organizations.

The USSR ministries and departments and the Union republic councils of ministers examine the draft counterplans of the enterprises (organizations) and associations, they make the necessary corrections in them considering the needs of the national economy, the availability of material resources and a rise in production efficiency, and considering this incorporate them in the draft annual plans for the development of the appropriate sectors and the economy of the Union republics. Here the counterplans do not include the quotas of the annual plans which exceed the five-year plans for reasons not depending upon the activities of the enterprises (organizations) and associations.

In working out the summary national economic plans, the proposals of the USSR ministries and departments and the Union republic councils of ministers concerning the counterplans are considered as part of the draft annual plans submitted to the USSR Council of Ministers.

The enterprises (organizations) and associations can submit draft counterplans for a five-year plan as a whole (with a distribution of the quotas over the years).

5. In summing up the results of the socialist competition, an assessment of the activities of the enterprises (organizations) and associations is

made proceeding from the fulfillment of the five-year plan and the counterplans for the appropriate years.

6. The enterprises (organizations) and associations which fulfill the 1977 counterplans with higher indicators than the quotas envisaged for this year in the five-year plan, may make quarterly additional deductions into the material incentive fund at twice the established rates.

Here, the extra deductions into the material incentive fund for the overfulfillment of the approved 1977 plan at double the rates can, with the permission of the superior organizations, be made also with a certain underfulfillment of the approved counterplans for reasons which do not depend upon the enterprises (organizations) and associations.

With the overfulfillment of the quotas of the 1977 counterplan, the additional deductions into the incentive funds for the designated overfulfillment are made in the general procedure, that is, according to rates established in accord with the Basic Statute for the Formation and Expenditure of Incentive Funds for 1976-1980 as approved on 3 December 1976 by the USSR Goskomtrud, the USSR Ministry of Finances, the USSR Gosplan, and the AUCCTU. Here the rates are reduced by not less than 30 percent.

The additional deductions into the material incentive fund are made depending upon the fulfillment of the counterplans for each fund-forming indicator separately.

7. In approving for the enterprises (organizations) and associations counterplans for 1978-1980 with higher indicators than the quotas envisaged for the corresponding period in the five-year plan, at the same time the planned amounts of the material incentive fund and the fund for socio-cultural measures and housing construction are to be increased for them. The designated increase is made according to the established rates which have been doubled and within the limits provided in the counterplan for the additional profit above the quotas of the five-year plan for the appropriate year.

The enterprises (organizations) and associations for which counterplans are approved for an increase in the proportional amount of product having a higher quality category within the total production volume, for labor productivity and for other indicators, without a corresponding rise in profit, receive the increase in the incentive funds from the reserves of the ministry (department).

With the overfulfillment of a counterplan, the additional deductions into the incentive funds for the designated overfulfillment are made in the general procedure, that is, according to the rates set in accord with the Basic Statute for the Formation and Expenditure of Incentive Funds for 1976-1980 approved on 3 December 1976 by the USSR Goskomtrud, the USSR Ministry of Finances, the USSR Gosplan and the AUCCTU. Here the rates are reduced by not less than 30 percent.

With a certain underfulfillment of the counterplan, but the fulfillment of the quotas of the five-year plan for the corresponding year, the planned incentive funds (established considering the counterplan) for the designated underfulfillment are reduced by rates increased also by 2 fold.

The increase (reduction) in the material incentive fund is made for each fund-forming indicator separately.

8. In calculating the material incentive for the ministries (departments) as a whole, the increase of the designated fund within the limits of the counterplans of the enterprises (organizations) and associations is made according to rates increased by 2 fold. In 1978-1980, this increase is to be provided for in the plans using additional profit from the sale of product and reducing expenditures on its production above the quotas of the five-year plan for the corresponding period.

9. Bonuses to employees of the enterprises (organizations) and associations who overfulfill the counterplans are paid in increased amounts. The increase in the amount of bonuses is made from deductions into the material incentive fund in line with the approval and fulfillment of counterplans. For these purposes it is possible to use the balances of the material incentive fund and the money of the centralized material incentive funds of the ministries, departments, the all-Union and republic industrial associations.

With a certain underfulfillment of the counterplan but with the fulfillment of the quotas of the five-year plan, the bonuses are paid in reduced amounts.

The specific amounts of the increase (reduction) of the bonuses are determined for the leading employees of the enterprises (organizations) and associations by the superior organizations with the approval of the appropriate trade union body, and for the remaining employees, considering the degree of their participation in the elaboration and implementation of the counterplans, by the leaders of the enterprises (organizations) or the associations with the approval of the trade union committee.

10. The accounting for the fulfillment of the counterplans of the enterprises (organizations) and associations in 1977 is to be carried out according to the procedure provided in the Letter of the USSR Gosplan and USSR TsSU of 23 January 1976, No VL-4-D. The procedure for accounting for the fulfillment of the counterplans of the enterprises (organizations) and associations for 1978-1980 will be established by the USSR Gosplan and the USSR TsSU subsequently.

Labor Leader on Counterplans

Moscow EKONOMICHESKAYA GAZETA in Russian No 8, Feb 77 p 7

[Interview with I. M. Vladychenko, secretary of the AUCCTU: "Counterplans During the Tenth Five-Year Plan"]

[Text] In No 7 of EKONOMICHESKAYA GAZETA, we published the "Statute Concerning the Procedure for the Elaboration, Incentives and Accounting for the Fulfillment of Counterplans of the Enterprises (Organizations) and Associations in the Tenth Five-Year Plan" approved by the USSR Gosplan, the USSR Goskomtrud, the USSR TsSU and the AUCCTU. Upon the request of the editors of the weekly, the AUCCTU Secretary I. M. Vladychenko comments on this document.

[Question] Please tell us, Ivan Maksimovich [Vladychenko] what is the significance of the document on counterplans?

[Answer] It generalizes the experience of organizing the socialist competition on the basis of counterplans, and gives recommendations, the consideration of which will help to further develop counterplanning during the Tenth Five-Year Plan.

Counterplanning has developed widely in our nation during the years of the Ninth Five-Year Plan. The initiators of the movement to set counterplans were the leading collectives of enterprises in Moscow and Ivanovskaya Oblast. Many of them have employed this effective form of competition during the entire Ninth Five-Year Plan.

As experience has shown, the counterplans successfully combine the process of planning and the competition, and previously these operated separately. The economic bodies worked out and approved the plans, and then the public organizations worked out a socialist competition for their fulfillment and overfulfillment. Such a practice led to a situation where certain managers endeavored to set reduced plans so as to overfulfill them more easily. The counterplanning has provided an opportunity to establish the internal production reserves in the plans at the very stage of their elaboration and thereby run the economy more rhythmically and more efficiently.

From the example of the workers of Moscow and Ivanovskaya Oblast, counterplanning has spread to the enterprises of all industrial sectors and in all economic regions. "The entire nation is following the remarkable initiative of the movement for setting counterplans," noted the General Secretary of the CPSU Central Committee, L. I. Brezhnev, at the 25th Party Congress.

The Decree of the October (1976) Plenum of the CPSU Central Committee urged: "To give particular attention to the setting and carrying out of

counterplans and increased socialist pledges by the production collectives. To focus the efforts of the soviet and economic bodies, the trade union and Komsomol organizations and the labor collectives on solving the problems of the greatest possible rise in the efficiency of social production and the quality of work in all elements of the national economy."

[Question] What new features will the published document introduce in the existing practices of counterplanning?

[Answer] In the first place, the counterplans during the Tenth Five-Year Plan will become a most important organizational form of the socialist competition for efficiency and quality and for successfully fulfilling the quotas of the Tenth Five-Year Plan. While previously the socialist pledges in a number of instances were aimed at achieving only quantitative indicators or at solving particular problems for individual economic indicators, at present it is a question of the necessity of developing a competition to fulfill a comprehensive program for raising production efficiency and work quality in each labor collective.

Secondly, while previously the elaboration of a counterplan often ended on the enterprise level (as a result of which, many unsolved questions arose related to providing material resources and marketing the product), at present the new statute establishes a single ordered system of counterplanning.

The statute has established the following procedure for the elaboration of counterplans. The counterplans of the enterprises (organizations) and associations take into account the personal and collective counterplans and the socialist pledges of the workers, as well as the socialist pledges and counterplans set by the shops, sections, brigades and other subdivisions of the enterprises (organizations) and associations. The quotas of the 1977 counterplans are set by the enterprises (organizations) and associations in comparison with the quotas of the annual plan for this year as a component part of the Tenth Five Year Plan.

The proposals of the enterprises (organizations) and associations on setting counterplans for 1977-1980 are made by them as part of the draft annual plans submitted to the superior organizations.

The ministries and departments and the Union republic councils of ministers are obliged to review these proposals and drafts promptly. Here chief attention should be given to raising production efficiency, although the drafts, naturally, should also be viewed from the standpoint of the needs of the national economy for additional products and the supply of production with additional resources for these products. Considering this, the necessary corrections can be made in the drafts. The accepted proposals are included in the draft annual plans of the corresponding sectors and economies of the Union republics.

The enterprises (organizations) and associations can submit draft counterplans for a five-year plan as a whole with a breakdown of the quotas for the years.

In working out the summary national economic plans, the proposals of the USSR ministries and departments and the Union republic councils of ministers concerning the counterplans are considered in the draft annual plans submitted to the USSR Council of Ministers.

Thus, counterplanning should permeate all levels of production from the work area to the ministerial plan.

[Question] What indicators and pledges should be included in the draft counterplans?

[Answer] First of all, it must be said that not all pledges are a counterplan. As is clearly stated in the document, the counterplans are plans elaborated by the enterprises (organizations) and associations and approved by a superior organization, and these plans contain higher indicators in comparison with the quotas envisaged for the corresponding period (year) in the Tenth Five-Year Plan.

It is essential to stress that the counterplans are worked out and approved for the production of only the products essential for the national economy, and in a range (assortment) corresponding to the needs of the consumers. The counterplans should also include indicators which characterize efficiency and quality of the work, that is: A rise in the share of product of the superior quality category in the total production volume, the growth of labor productivity, the saving in material resources, the reduction in costs, and the increase in profit, profitability and the return on investment.

In summing up the results of the socialist competition, the assessment of the activities of the enterprises (organizations) and associations is to be made proceeding from the fulfillment of the five-year plan and the counterplans for the corresponding years.

[Question] What new features have been made in material incentives for the counterplans?

[Answer] The new feature consists primarily in the fact that there has been a fundamental change in the procedure for material incentives to achieve results which exceed the state plan quotas. Previously, before the publication of this document, a large share of the enterprises did not have a sufficient incentive to set high pledges and include them in the counterplans. At the congresses of trade unions for employees of various national economic sectors, instances were given when the ministries and departments were slow in reviewing the proposals of the collectives for the counterplans. All of this had an effect where the number

of enterprises elaborating counterplans declined from 16,900 in 1975 to 13,700 in 1976.

On the pages of EKONOMICHESKAYA GAZETA and other publications, during recent years there has been a debate on incentives for the counterplans. The valid proposals of the participants in the debate have formed the basis of the new mechanism of economic incentives for counterplanning.

Previously, for the fulfillment of additional pledges, the enterprises could make additional deductions into the economic incentive funds at the established rates. There is a different situation now. With the fulfillment of the counterplans such additional deductions are made at rates which have been increased by 2 fold.

In 1977, the enterprises fulfilling the counterplans will make additional deductions into the material incentive fund on a quarterly basis. Here the additional deductions for the overfulfillment of the approved 1977 plan at doubled rates can, with the permission of the superior organizations, also be made with a certain underfulfillment of the accepted counterplans due to factors not depending upon the enterprises (organizations) and associations.

With the overfulfillment of the quotas of the 1977 counterplan, the additional deductions into the economic incentive fund are made in the general procedure, that is, according to the rates set in accord with the Basic Statute for the Formation and Expenditure of Incentive Funds for 1976-1980; here the rates are reduced by no less than 30 percent. The additional deductions into the material incentive fund are made depending upon the fulfillment of the counterplans for each fund-forming indicator separately.

With the setting of counterplans for 1978-1980 for the enterprises (organizations) and associations, at the same time they are to increase the planned amounts of the material incentive fund and the fund for socio-cultural measures and housing construction. This increase is to be made according to the established rates increased by 2 fold.

A special procedure is also established for encouraging production efficiency and product quality. If a measure to increase the proportional amount of product of the superior quality category in the total production volume or a measure to increase labor productivity and improve other indicators does not lead to a rise in profit, then the increase in the material incentive fund is made from the reserves of the ministry.

It must be stressed that counterplanning, and the new statute deals rather precisely with this, is aimed primarily at improving the efficiency and quality indicators, and at the successful fulfillment of the quotas of the Tenth Five-Year Plan. The change in the planning procedure and the broadening of the sphere of the counterplan--from the work area to the ministry--create scope for developing enterprise initiative in the socialist

competition for improving efficiency and quality. The new procedure is aimed at encouraging not any individual indicators of enterprise operations, but rather the end results of the work of the labor collectives.

The approved statute will put the socialist competition for raising production efficiency and work quality on a planned basis. At present, good objective conditions have been created so that each enterprise and each labor collective would assume high counterplans in honor of the 60th anniversary of the Great October Revolution, and would accelerate the elaboration of such plans for the entire Tenth Five-Year Plan.

Kirgiz Leader on Planning

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 77 p 5

[Article by A. S. Suyumbayev, chairman of the Kirgiz Council of Ministers: "Responsibility for the Plan"]

[Text] The workers of Kirgizia have received the Decree of the CPSU Central Committee "On the 60th Anniversary of the Great October Socialist Revolution" with enormous enthusiasm.

At present the republic economy is characterized by a high development level of material production and the nonproduction sphere. The profundity of these changes clearly affirms the thesis contained in the Decree of the CPSU Central Committee that "fundamental changes have occurred in the character, structure and location of the productive forces. During the years of Soviet power, the economic development level of all the Soviet republics has been evened out."

The workers of Kirgizia have achieved particularly outstanding successes under the leadership of the party during the decade since the celebrating of the 50th anniversary of Soviet power. Suffice it to say that during the two preceding five-year plans, from 1966 through 1975, the national income of the republic rose by 82 percent. Over this same period, the volume of industrial production rose by 2.8 fold.

All of this has made it possible to create a dependable basis for successfully solving the tasks posed by the 25th CPSU Congress.

During the Tenth Five-Year Plan, the workers of Kirgizia must attain new heights in raising the republic economy. National income should grow by 26.8 percent, and the volume of industrial production should increase by 37 percent. The average annual volume of gross agricultural product will rise by 13 percent in comparison with the Ninth Five-Year Plan.

On the Basis of Counterplans

From the very outset of the five-year plan, the Central Committee of the Kirgiz Communist Party and the Republic Council of Ministers have been directing the efforts of the ministries and departments and the planning bodies at providing the unconditional fulfillment and overfulfillment of the established quotas.

The elaboration of counterplans is an important form for the active involvement of the labor collectives and each employee in seeking out and most fully utilizing the internal reserves. The significance of these plans has been highly regarded in the Decree of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee "On the All-Union Socialist Competition for Raising Production Efficiency and Work Quality and for Successful Fulfillment of the Quotas of the Tenth Five-Year Plan."

The Republic Council of Ministers and the planning bodies are keeping the work of compiling the counterplans under special control. These plans are being worked out with the broad participation of the enterprise collectives, and they are being discussed at general meetings. Thus, a possibility has arisen for thoroughly establishing each point of the plan and for objectively assessing the feasibility of its fulfillment.

In turn, the republic ministries, departments, the Gosplan and the government are generalizing the counterplans approved by the enterprises and organizations, they are correcting them, in aiming the collectives at improving the indicators which characterize production efficiency and work quality, and at producing additional product which is in demand among the population. For example, the Council of Ministers, having thoroughly reviewed the question, proposed that the Republic Ministry of Food Industry and Ministry of Light Industry increase the output of certain types of articles which are in great demand.

The ministries and a majority of the enterprises which have accepted counterplans are successfully fulfilling them. In this regard, of great interest is the experience required at the Frunze Garment Mill 40 Let Oktyabrya. Here virtually every employee has a personal plan, the total of which comprises the plans of the brigades, shops and the enterprise as a whole. As a result, the mill counterplan significantly exceeds the state quota. Last year, the enterprise collective completed the annual plan for product sales ahead of time. About 14 percent of the product is produced with the state Quality Emblem.

The Kirgiz ore-metallurgical combine, the Frunze Experimental Repair Plant of the Republic Kirgiz Sel'khoztekhnika Association, and many other enterprises have acquired great experience in improving the organization of labor and in raising the technical level of production and the produced product. All of this has provided a significant success for the workers of the republic industry. In 1976, the production volume rose by 5 percent.

To Help, To Supervise, To Demand

The new demands upon the style of leadership assume specific aid to the enterprises in combination with great exactingness. However, at a number of ministries and departments, proper attention is not paid to further raising labor productivity, to the full mechanization and automation of production processes, and to the technical reequipping of operating enterprises.

Undoubtedly, the ministries and departments are criticized for such shortcomings, and this does produce results. But at times the ministries need help, and above all in solving certain republic-wide questions. In the aim of more thoroughly working through and fully studying these problems, in 1976, a Council for Aiding Scientific and Technical Progress was set up under the Central Committee of the Kirgiz Communist Party, and the council is headed by the First Secretary of the Central Committee of the Kirgiz Communist Party T. U. Usubaliyev. The council consists of 11 sections which cover all the basic sectors of the republic economy.

Upon the proposal of the Assistance Council, the Central Committee of the Kirgiz Communist Party and the Republic Council of Ministers have outlined specific measures to further improve the use of the achievements of scientific and technical progress in the national economy and to raise efficiency and quality. The ministries, departments and enterprises have been involved in elaborating these measures. At present, all the measures have been reduced to a single plan which encompasses all the sectors.

Work in implementing this plan is being carried out in all the departments. For example, here is how it is carried out in the Republic Ministry of Food Industry. The plan envisages that from the outlined measures in this sector labor productivity will increase by 22 percent during the 5 years, and from this 90 percent of the increase in the production volumes will be obtained. And by introducing new equipment, advanced production methods, the mechanization and automation of production processes, labor productivity will rise by 12.6 percent, and by 2.7 percent from NOT (scientific organization of labor] measures.

A combining of exactingness and help produces positive results in all instances. For example, for a long time the Kirgiz worsted combine, one of the major republic enterprises, did not meet its production quotas. At the outset, the Republic Ministry of Light Industry merely limited itself to affirming the existing situation and to demands that the shortcomings be rectified. Of course, measures were undertaken, but they were isolated.

The Council of Ministers and the ministry took a more thorough look at the economic activities of the combine. We helped the combine in obtaining engineers and technicians and in improving the professional skills of the workers. At the same time, the enterprise was reconstructed.

Around 700 units of production equipment were replaced, and other measures were carried out. At present, it still cannot be said that all the questions have been settled here, but the combine has gained confidence. The plans are being fulfilled for the basic technical and economic indicators, and product quality has improved.

In Critically Assessing the Achieved Level

The workers of Soviet Kirgizia have successfully completed the first year of the Tenth Five-Year Plan. In the republic the patriotic initiatives such as "The Workers' Guarantee for a Five-Year Plan of Quality," "From the High Quality of Work of Each Person to High Labor Efficiency of the Collective," and others aimed at raising labor productivity and reducing product costs have gained strength. Thousands of workers fulfilled the quotas of the first year of the Tenth Five-Year Plan ahead of time.

The successes are indisputable. But we critically assess the achieved level and we are focusing the attention of the ministries and departments on the unsolved problems and on the shortcomings. And there are many of them. Up to 15 percent of the enterprises has not met the product sales plan. At present, the Council of Ministers and the republic bodies are conducting a thorough analysis of the reasons for this situation, and are setting the task for the ministries to create conditions for the highly productive work of each collective.

The policy set by the party of the technical reequipping and reconstruction of existing enterprises points the way to this. During the Tenth Five-Year Plan, over 60 percent of the total volume of capital investments is to go for these purposes. But we are concerned by the fact that at many enterprises the return on investment has declined in recent years. One of the most important directions for improving the situation in this sphere is to achieve the introduction and complete operation of fixed productive capital at the designated date and ahead of time.

It is not secret that in certain ministries and departments, equipment is not installed on time, and it piles up in the warehouses. Recently, these questions were reviewed at a session of the Republic Council of Ministers. Sharp criticism was leveled against the leaders of enterprises in the ministries of the meat and dairy industry, agriculture, the food industry and communications.

The question of improving the quality of the produced product, particularly for consumer goods, has been sharply posed for the enterprises. Here the emphasis is to be put on introducing a comprehensive system of quality control.

However, in the Kirgiz national economy there still are problems the solution to which goes beyond the level of just the republic bodies.

One of them is the necessity of a more profound specialization of the enterprises within the limits of the Central Asian republics and Kazakhstan. At present, the enterprises of these republics, for example, produce the same type of footwear. At the Kirgiz footwear enterprises, we have specialized the production flow lines. We feel that the time has come to change over to the specialization of enterprises, and this should be done within the confines of the entire region. This applies not only to footwear production, but also to other types of products.

Furthermore, we are concerned by the fact that certain Union-level enterprises are not meeting the plan quotas. The ministries, instead of thoroughly examining the situation which has arisen and helping the collectives, are following the simplest path of reducing the established quotas for the enterprises. For example, in 1976, the sales plans were reduced for the Kirgizavtomash [Kirgiz Automotive Machinery] Plant, the Agricultural Machine Building Plant imeni Frunze, the Kirgiz Electric Motor Plant, and the Mayli-Say Electric Light Bulb Plant which are under the Union ministries. Such a practice reduces the responsibility of the collectives to fulfill the plan quotas.

The elimination of the designated shortcomings will help to improve the work and to successfully meet the quotas of the Tenth Five-Year Plan.

Having joined the nationwide competition to properly celebrate the 60th anniversary of the Great October Revolution, the workers of Kirgizia are making every effort to successfully fulfill the state quotas, the counterplans and the assumed pledges.

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ECONOMIC PROBLEMS OF SCIENTIFIC-TECHNICAL DEVELOPMENT

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Problems of Scientific Progress

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 1

[Article: "Economic Problems of Scientific-Technical Progress"]

[Text] An All-Union Scientific Practical Conference on the economic problems of accelerated scientific-technical progress was held in Moscow from 13-15 December. Organization of it was participated in by USSR Gosplan, the USSR Council of Ministers State Committee for Science and Technology, the USSR Academy of Sciences Institute of Economics, the USSR Academy of Sciences Scientific Council on Economic Problems of Scientific-Technical Progress, the USSR Council of Ministers State Committee for Invention and Discoveries, the USSR Council of Ministers State Committee for Standards, the USSR Council of Ministers State Committee for Prices, the editorial board of the CC CPSU weekly newspaper EKONOMICHESKAYA GAZETA. Participants in the conference comprehensively discussed the tasks stemming from the decisions of the 25th CPSU Congress and the October 1976 Plenum of the CC CPSU.

In his report to the 25th CPSU Congress, General Secretary of the CC CPSU Comrade L. I. Brezhnev emphasized that accelerating scientific-technical progress remains a task of high priority. During the Ninth Five-Year Plan remarkable successes were achieved in raising the scientific-technical potential; the scientific research front broadened, and many scientific-production associations and whole sectors reached advanced technical goals. Of great importance to the further development of the country's economy is the draft Master Program of Scientific-Technical Progress and its social-economic consequences for 1976 through 1990, drawn up at the direction of the CC CPSU and the government by the academic institutes in collaboration with ministries and departments.

Participants in the conference noted that as a result of implementation of the course of action aimed at raising the technical level of production, industrial enterprises in 1975 had 17,100 automatic production lines in operation--2.85 times more than in 1965--and 114,100 mechanized production lines versus 42,900 in 1965. Mechanization and automation of production and the adoption of advanced technological processes promoted increased labor productivity. In the Ninth Five-Year Plan 84 percent of the increase in industrial output came as a result of increased labor productivity.

But much remains to be done to insure that scientific advances quickly become embodied in new types of goods, from sophisticated machines down to everything which relates to improved working conditions and living conditions for the workers.

The conference generalized the experience of scientific-technical progress administration accumulated in the Ministry of Electric Equipment Industry, the Ministry of Heavy and Transport Machine Building, and other sectors of industry, leading enterprises, and production associations.

Participants in the conference discussed the urgent tasks of the ministries and departments, scientific-research and design organizations, associations, and enterprises with respect to implementing the decisions of the 25th CPSU Congress in the field of accelerating scientific-technical progress.

The conference adopted elaborated recommendations aimed at improving the economic mechanism of control over scientific-technical progress in the national economy.

Increasing Production Effectiveness

Moscow EKONOMICHESKAYA GAZETA in Russian.No 2, Jan 1977 insert pp 1-2

[Article: "Basis for Increasing Production Effectiveness"]

[Text] In his introduction, USSR Gosplan Deputy Chairman A. V. Bachurin emphasized that during the Ninth Five-Year Plan and the beginning of the Tenth Five-Year Plan important measures were implemented to improve control of industrial production and scientific-technical progress. In accordance with the decree of the CC CPSU and the USSR Council of Ministers "Some Measures Aimed at Further Improving the Control of Industry," adopted in 1973, the process of concentration and specialization of production was broadly expanded. At present, industry has more than 3,000 production associations in operation, which together account for about 40 percent of all industrial output.

With the creation of large production and scientific-production associations the rates of product renovation have been stepped up. During the Ninth Five-Year Plan about 7,500 different items of machinery, equipment, apparatus, instruments, and other goods of obsolete design were taken out of production versus 2,500 items during the Eighth Five-Year Plan.

But the tasks formulated by the 25th CPSU Congress require the elaboration of measures aimed at further improving the effectiveness of scientific research, at reducing the amount of time necessary to put new equipment into series production. Substantial improvements are needed in the present system of planning of scientific-technical progress.

At the present time there is a definite gap between fundamental research, also the corresponding sections of the plan of scientific and technological development being formulated at the GKNT [State Committee for Science and Technology] level, and practical applications, the introduction and adoption of new equipment--that is, the subsequent component parts of the plan of scientific-technical progress.

As was mentioned at the conference, these two links in the single chain of control of scientific-technical progress are still to some extent isolated because they do not have a common technological, organizational, and economic line of control. And yet scientific-technical progress today involves more than just fundamental research and the development and introduction of new equipment: it involves primarily saturating the national economy with a system of machines, because radical changes in the growth rates of labor productivity are impossible to achieve on the basis of adopting individual applications.

Meanwhile, as is well known, the state plans of scientific and technological development have until recently frequently included problems of by no means highest priority. The procedure of financing scientific-technical research not only failed to exclude but, one might say, stimulated the scientific-research institutes and design bureaus to undertake petty themes.

One of the urgent problems involved in accelerating the rate of scientific-technical progress is the task of exercising closer coordinating between scientific and technological plans and the goals and tasks of economic development at the present stage, especially improved effectiveness of social production. This will undoubtedly be facilitated by the development of the program-goal-directed method of planning of science and technology.

Of extremely great importance to the goal of stepping up the rates of scientific-technical progress today is the task of improving the planning of new techniques and technology directly in the production associations and the enterprises. In this connection, it seems advisable to stipulate a number of new indicators in the section of the plan dealing with new technology for production associations and enterprises. These may include targets on starting up the production of new kinds of goods and the adoption of new and advanced standards, technological processes, and means of mechanization and automation. In addition, there is also the urgent necessity of introducing an indicator specifying the national-economy effect of new technology, reflecting the overall amount of savings of current and one-time outlays both for the producers and the consumers of new technology.

It goes without saying that these indicators will "work" only if the plan of the production associations is to a much greater extent oriented toward problems of scientific-technical improvements in production overall. The section of such an integrated plan--a section formulating the tasks of application of scientific-technical advances--must occupy a prominent place in the plans of production associations and enterprises. Such a section must specify all the scientific-technical measures involved in retooling and improving production, raising the technical level of the goods produced, and effectively improving the end national-economy results, as stipulated at the 25th CPSU Congress.

In formulating such plans, enterprises must find integrated solutions to organizational, financial, and supply problems, so that the plans are backed up by the necessary resources, so that conservation of these resources can be effected.

It is also essential to exercise proper economic and administrative control in order to insure that the measures planned with respect to the new technology are carried out on a high level and yield a substantial benefit to the national economy.

Such an approach, in particular, is also dictated by the fact that our economy has come to a new stage of development, in which the task of economizing on live labor is becoming more urgent. In connection with this it is necessary to implement a system of organizational-economic, scientific-technical, planning, administrative, and other essential measures involved in insuring the rational utilization of labor resources. With this aim in sight it is necessary to resolve the tasks of improving the effectiveness of capital investments, economizing on material resources, increasing the production of new goods, and reducing its prime cost and improving the quality--all of the elements which in the aggregate characterize effectiveness of social production.

It is essential to achieve labor savings in each section, to do everything necessary to avoid cases in which a shortage of manpower develops or the problem of worker cadre turnover becomes more acute due to inadequate efforts to boost labor productivity. For this reason, when formulating plans for accelerated scientific-technical progress, it is essential to proceed on the basis that the technical policy must be aimed at improving labor conditions for workers and conserving labor expenditures; the policy must be aimed at replacing manual labor with mechanized and automated labor.

National-Economy Effect

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert pp 2-3

[Article by L. M. Gatovskiy, chairman of the USSR Academy of Sciences Scientific Council on Economic Problems of Scientific-Technical Progress, corresponding member of Academy of Sciences: "Guideline--The Effect on the National Economy"]

[Text] Solution to the economic problems of accelerating scientific-technical progress constitute an indispensable aspect of the course of action aimed

at effectiveness and quality, at achieving high end results in the national economy.

This requires substantial strengthening of the integration of the economic mechanism of control of scientific-technical progress through the systematic application of the program-goal method in planning and a transition from control over individual technical measures to the broad-scale dissemination of master programs of technical development, converting them to the basic link in the system of plans. In this way, two interconnected tasks are resolved.

First of all, this involves orienting plans, incentives, standardization, product certification, and all economic levers toward the end national-economy results, toward which all intermediate stages are directed. Secondly, it involves insuring the organic unity of all links in the cycle: research--technical solutions--production of new equipment--application (end result), the integration of science and production.

In place of the separately existing programs encompassing research and technical applications, and programs of technical measures aimed at series production of new goods, it is essential to gradually convert on all levels of administration to unified programs of scientific-technical progress, including all links of the scientific-production cycle. It is necessary, further, based on positive experience, to undertake the formulation of integrated programs of technical retooling of production on the basis of the latest equipment and technology and machinery systems.

Unified plans of scientific-technical progress must constitute basic, key sections of overall economic plans on each level of administration and serve as the basis for all other sections of these plans. Special emphasis must be placed on the formulation, in every industrial ministry, of plans of technical development of the sector (subsector), including the dynamics of the structure of production, the products list, and technical-economic normatives.

Substantial changes are also needed in the technical industrial financial plans, into which a complex of indicators must be introduced specifying the development, introduction, adoption, and dissemination of new equipment and technology, the outlays and their normatives required for this are indicated, also the national-economy effect.

In our opinion, conditions are now adequately ripe to convert all industry to a system of top-to-bottom planning, financing, and incentives, using the proven order-schedule method and a unified fund of scientific and technological development throughout the entire chain of links in the scientific-production cycle--from research down through the mass distribution of new technology with account taken of the specifics of the sectors. It is also advisable to convert to certification of technical solutions.

The basis of this organic connection between science and production, serving to accelerate scientific-technical progress; is the unity and correlatability of planning-evaluative indicators for all links of the scientific-production cycle. This involves technical-economic and composite economic qualitative indicators given volume-quantitative expression. In the scientific-design (pre-production) stage it involves project indicators which then are realized in the production stage. The final goal here is to have greater amounts of goods and services of better structure and assortment and high quality in accordance with the growing requirements of society; on the basis of extensive distribution of highly effective new technology. The increased quantity of goods goes hand in hand with improved qualities, based on high quality and expanded scale of distribution of new technology. The final goal is to achieve from the new technology the maximum national-economy effect in each interval of time.

Thus, the course of action aimed at bringing qualitative indicators to the forefront--technical-economic and national-economy effect indicators--entails definite positive advances in orienting plans, work evaluations, incentive, and economic levers toward substantially accelerating scientific-technical progress and considerably raising its contribution to the effectiveness of social production.

In this connection, it is very important to speed up the ratification of the new draft standard procedure for determining the economic effectiveness of the utilization of new equipment in the national economy. The draft procedure is distinguished by the necessary integration and, for this reason, is of great practical importance. The procedure is designed for more than just selecting the best variants in new technology--effectiveness indicators are reflected in plans, norms, and normatives. Primary accounting serves as the basis for determining the actual effect; this serves as a more reliable base for stimulating the scientific-production cycle on all levels. The procedure will constitute an important instrument for linking the end result of the national-economy effect to cost-accounting activity, and relating science, which develops the equipment yielding a higher national-economy effect, to production and the cost-accounting-based motivation of enterprises, associations, and sectors to achieve this national-economy effect. It is important that indicators of the national-economy effect, which reflect the aggregate savings of current capital outlays and outlays reduced at annual terms figured with respect to the given useful result, be correlatable and at bottom unitary not only in planning, designing, and accounting, but also in price formation, product certification, and standardization.

Planning of the national-economy effect due to new technology on all levels will be of great practical importance and will serve as a vital guideline in economic activity.

Of great importance to the integration of control over scientific-technical progress is the task of insuring a shared system of indicators of scientific-technical progress from top to bottom. This system, with the characteristic features of every link of control, is becoming increasingly specific and expanded, from the state plan down through the technical industrial financial plan. Implementation of this top-to-bottom principle of indicators will make it possible to substantially accelerate the development and adoption of new and effective technology.

A vital factor in raising the success rate of integrated control over scientific-technical progress is the introduction of a system of prospective continuous planning and forecasting of such control, in which long range plans are appropriately extended, constituting a fundamental basis for the subsequent formulation of five-year plans.

Planning's more extensive encompassing of the sphere of scientific-technical progress must be combined with the development of initiative and strengthened material and morale incentives.

A vital role in this must be played by the orientation of systems of incentive, prices, and credit, appropriate to this goal, toward instituting a direct dependency between their formation and utilization and the level of effectiveness and quality achieved on the basis of scientific-technical progress. It is especially important to systematically conduct special planning of indicators of production and its economic results for the period of introduction and adoption of new equipment, also the norming of outlays and timetables of this period, compensation for essential high outlays, neutralization of declining economic results and the resulting losses of the incentive funds.

It is necessary to increase the role of markups on the wholesale price for products of top category, and to apply reductions on the price (paid to the manufacturer) immediately after a given product is classified as second category quality. At first such a markdown should be rather small, and then rise at faster rates. The effectiveness of markups and markdowns will be strengthened if they are stipulated in the economic results rather than in the plan. Increasing the role played by the price is of great importance in stimulating technical progress. Savings on outlays due to the application of invariable prices will not impair volume indicators. They should lead not to losses of incentive funds but rather to their increase. The economic mechanism should eliminate the possibilities, which hamper technical progress, of receiving high evaluations and incentives due to inflated prices and the use of costly materials and "expensive" assortments, and so on, which are damaging to the national economy. In particular, in our opinion, it is advisable to convert to the indicator of normative net output, to factorial calculations of profits and other indicators to be reflected in evaluations and incentives. Full evaluation of resources and expansion of payments for them (by deductions from profits) will promote vital interest in the new technology.

In accordance with the postulates of the 25th CPSU Congress, the Academy of Sciences Scientific Council on Economic Problems of Scientific-Technical Progress is collaborating with other scientific institutions and practical workers on all of these problems. In particular, problems of developing forms of integrating science and production are being worked out, also ways to improve integrated programs and the system of planning-evaluation indicators, criteria, and methods of measuring the social-economic effectiveness of new technology, securing economic advantages for manufacturers and consumers alike from the very moment it goes into production and use.

Experience of Organizing the Control of Scientific-Technical Progress

Development in Electrical Equipment Industry

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 4

[Article by Yu. A. Nikitin, deputy minister of electrical equipment industry: "On a Sector-Wide Scale"]

[Text] Considerable experience has been accumulated since the time, eight years ago, when the electrical equipment industry completed the conversion to the new system of control of scientific-technical progress. The unified plan of development of science and technology being formulated and implemented now on a sector-wide scale includes intercorrelated programs designed to resolve basic scientific-technical problems, develop new kinds of equipment and put them into production, and improve technology.

We are using top-to-bottom continuous planning, starting with scientific-research and survey work and ending with the series production of new technology designed to meet the national economy's needs. In this way, this system encompasses the entire "science-production" cycle. Control of the scientific-research, planning-design, technological, experimental-research, and production links is structured on the order-schedule method. It is this method which secures top-to-bottom continuous planning. The order schedule stipulates specific timetables and specific implementors at all stages--the theme of the research, technical applications, the introduction of new technology and equipment, the expansion of contacts with clients, and so on. Moreover, the end result is the guideline throughout.

The system of control of scientific-technical progress adopted by the Ministry of Electrical Equipment Industry is characterized by integration. The plan constitutes the basis of linear specialization in the field of science and technology in all the organizations of our ministry. In practice, it works like this. Every product group is assigned to the appropriate head organization. Throughout the sector 44 base and head institutes are operative.

For clarity let me cite the following example. As is well known, in recent times our country has stepped up the electrification of agricultural production. During the Tenth Five-Year Plan the electrical equipment industry must deliver to agriculture electric engines, cable products, low-voltage equipment, and other items in amounts several times larger than during the Eighth Five-Year Plan. Moreover, specific and special requirements are being imposed on many types of such products. Research and other efforts are concentrated in a single head organization.

Such complexes are also operative in a number of other vital trends of scientific-technical progress: blast-protection electrical equipment, and equipment for ferrous metallurgy, petroleum, medicine, and so on. Fundamental research is also conducted on the same principle.

I am discussing these organizational questions because they are being underappreciated in many cases. Only the integrated approach, only the intercoordination of economic levers, standardization, and organizational and other factors can resolve the problem of speeding up the rate of scientific-technical progress.

We have not only created a network of head and base scientific organizations but have also proceeded along the way toward transferring a considerable portion of our scientific-technical potential to the sphere of production activity. About 70 percent of the scientific-organizations at present are incorporated in the production and scientific-production associations.

In order to impart effective strength to the system of control of scientific-technical progress, the procedure of financing was radically restructured. A unified fund of scientific and technological development was set up in the sector. It is formed through plant deductions from profits. As a rule, funds from this fund are wholly allocated to the head outfit, and this entity covers not only its own expenditures but also finances its co-implementors.

The complex of financial-economic measures has not been restricted to the creation of a unified scientific and technological development fund. I refer to incentives for the development of new goods. As is well known, it is possible to design and manufacture a new top-grade item but one which is so costly and uneconomical that it does not yield any benefit when used in the national economy. For this reason, the presently operative system of incentives for all work in the field of technical progress is oriented, first of all, toward reducing the prime costs of the goods produced. In this case, the source of incentives is the material incentive fund, into which additional deductions are made in the amount of 15 percent of the actual reduction in prime cost achieved. Secondly, the system is oriented toward increasing the national-economy effect for the consumer of the goods. In this case the incentives come from deductions from incentive supplements. These deductions are made, in particular, only if the product has passed interdepartmental tests and the client confirms the effect achieved.

Heavy and Transport Machine Building

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 5

[Article by N. G. Grigor'yev, deputy chief of the technical administration, Ministry of Heavy and Transport Machine Building: "Urgent Necessity"]

[Text] In the Ministry of Heavy and Transport Machine Building, 27 scientific-research, planning-design, and planning-technological organizations are operating under the new conditions of planning, financing, and economic incentive. This system encompasses all production associations and enterprises of the sector; it has made it possible to substantially improve the organization of operational planning involving new technology. Clients now have increased responsibility for compliance with agreements and the economics substantiation of orders. Changes have been made in the procedure of financing scientific-research work and design applications.

The source of funds is the unified scientific and technological development fund. Its size and the volume of work of the institutes are placed in direct dependency on the growth rates of industrial production and the results of the enterprises' economic activity. Economic incentives to organizations and enterprises for the development and production startup of new equipment are related directly to the economic effect achieved in the national economy through its use.

During the Ninth Five-Year Plan the amount of outlays for research and development carried out from the unified fund in the institutes and organizations of the Ministry of Heavy and Transport Machine Building rose by 25 percent. The economic effectiveness due to the national-economy use of machinery and equipment produced by the sector in 1971 through 1975 is estimated at two billion rubles.

In this way, the new system is having a positive effect on the sector's scientific-technical progress. At the same time, however, accumulated experience indicates several shortcomings in it.

As is well known, heavy and transport machine building was one of the first sectors to convert to the new system. The temporary procedure for the formation and use of economic incentive funds that was established then for the enterprises and organizations has now become considerably outmoded. An analysis of the sector's operations during the period just passed shows that the present system does not insure adequate economic motivation on the part of manufacturing enterprises to replace the production of old goods with new goods of higher quality. As yet the development of especially complex and highly-effective machinery and equipment is not being adequately stimulated because of the limitation of the overall amount of deductions into economic incentive funds to a total of not more than 200,000 rubles for one theme. Thus, the urgent necessity of improving the new system is becoming clearly apparent.

Agricultural Machine Building

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 5

[Article by V. G. Polyanskiy, chief of the planning-economic administration of the Ministry of Tractor and Agricultural Machinery Building: "Toward a High End Result"]

[Text] At the October 1976 Plenum of the CC CPSU, serious criticism was directed at the Ministry of Tractor and Agricultural Machine Building, which is continuing to turn out tractors and machinery of obsolete design. Comrade L. I. Bezhnev noted that the end result must also determine our approach to the mechanization of agriculture. The quality of tractors, machines, and equipment must be brought to the forefront, also integrated delivery of them.

Practical conclusions are being drawn from these indications. The structure of the tractors and agricultural machinery planned for production in the current five-year plan has been revised; efforts are being stepped up to improve their technical level and quality. Plans of scientific and technological development are acquiring more goal-directedness. Targets for the resolution of scientific-technical problems in the field of tractor and agricultural machine building are being more closely coordinated with the economic effectiveness of the new equipment.

In the current five-year plan improvements are being made in the integrated system of control of scientific-technical progress. The essence of these measures involves orienting all links in administration toward more completely meeting the national economy's needs for the sector's products, toward achieving the highest possible end results and the utilization of intensive methods of conducting business.

Our planning specifies indicators which are making it possible to evaluate the effectiveness of production in regard to meeting the demand for the products in terms of volume, structure, and quality from the standpoint not only of the manufacture but also the national economy--that is, consideration is made of the benefits accruing to the consumer as well.

Views of a Machine Tool Enterprise

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 6

[Article by O.A. Korolev, director of the Moscow Krasnyy Proletariy Plant: "From the Standpoint of National-Economy Effectiveness"]

[Text] As was mentioned at the 25th CPSU Congress, the unified technical policy orients our industry toward the accelerated development of technology, embodying the latest discoveries and inventions and yielding high

economic effect. An important role in providing the national economy with modern machine tool equipment is assigned to the Krasnyy Proletariy Plant. About 30 percent of the lathe work in the country is performed using machine tools from our enterprise.

A specific characteristic of Krasnyy Proletariy is that we have our own design bureau; we make all the machine tools using its blueprints. Some 90 percent of the machine tools we produce bear the state Emblem of Quality. In the overall volume of production the share of goods of top quality category by the beginning of 1977 reached 70 percent. Under such conditions, problems of improving economic incentives for scientific-technical progress and the production of top quality category goods apply to our collective in the most direct way. Thanks to the production of machine tools which in terms of their technical level match the best Soviet and foreign models, the plant's incentive funds are being formed in larger amounts every year than the plan calls for.

Nevertheless, from our point of view, there is a serious defect in the existing procedure of economic incentives for scientific-technical progress. It is that the plan of scientific-technical progress emerges not as basic but as supplementary. The fact is that all incentive funds are figured on the basis of the implementation of the state plan of production output.

It is our belief that it is necessary to motivate enterprises to fulfill the scientific-technical progress plan in an economically stronger way. The basic criterion for evaluating the economic activity of a plant should be its national-economy effectiveness. What effect does the enterprise's product yield in the national economy? That is the main thing. Increased national-economy effectiveness depends primarily on improving the design of machinery and equipment, on implementing technical-organizational measures in the plants; this will lead to reduced product prime cost.

In our opinion, introducing the indicator of national-economy effectiveness into the existing system of planning does not afford any special difficulties. If the increase in national-economy effect due to its output is planned annually for the plant, this will compel the plant's personnel to develop new equipment and put it into production more quickly. It will become possible to evaluate the contribution made by every machine building enterprise from the standpoint of the national-economy effect, to determine whether the enterprise is successfully developing the production of equipment which yields the greatest benefit to the economy.

And now, concerning the procedure itself for determining the national-economy effectiveness of new equipment. In our opinion, the procedure includes inaccuracies and ought to be improved. This is also true of the procedure for the handling of books and reporting on the actual effect gained from the new equipment. We plant workers must know precisely what share of the national-economy effectiveness achieved will be put at the disposal of the enterprise and will go into the economic incentive funds.

The next question concerns the rational utilization of the funds contributed. It is important for these funds to promote the acceleration of scientific-technical progress. We are now confronted with a situation in which the plant has "earned" an additional production development fund but it is very difficult in practice to spend the money to acquire machinery, equipment, and instruments. Up to now no solution has been found for the problem of acquiring equipment through the production development fund that has been set up. Plant service personnel are obliged to prepare and submit numerous documents in order to substantiate every expenditure and to prove that the funds will be used properly. In this we are seeing an example of petty stewardship that still survives.

Now a few words about the organization of the adjustment, operation, and repair of new equipment on the part of the consumers. Karsnyy Proletariy is turning out machine tools designed for digital program control. The Ministry of Instrument Making, Automation Equipment, and Control Systems has set up its own specialized organizations; it is they who start up the these machine tools for the client enterprises and charge then for it. But suppose a machine tool stops. Then we generally get an "explication of relationships": who is responsible--the plant or the specialized organization of the Ministry?

We believe that the new equipment must be adjusted and, when necessary, repaired by the manufacturing enterprise that has to guarantee its normal operation.

Standardization in the Tenth Five-Year Plan

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 7

[Article by V. V. Tkachenko, first deputy chairman of USSR State Committee for Standards: "Standards and New Technology"]

[Text] The state standardization plan for the Tenth Five-Year Plan stipulates a number of major targets with respect to raising the indicators of the technical level and quality of goods on the basis of standardization. Implementation of this plan will constitute a practical realization of the tasks assigned by the 25th CPSU Congress, with respect to more complete satisfaction of the national economy's and public's need for high-quality goods.

According to expert estimates, in the course of fulfilling the Tenth Five-Year Plan the implementation of measures in the field of standardization should make it possible to save 750,000 tons of ferrous and 35,000 tons of nonferrous metals, 13 million tons of solid fuel and 25 million tons of liquid fuel, also to boost productivity in metal working by 15 percent and increase the freight turnover of transport media by an average of three to five percent. In addition, plans call for raising the level of

standardization of machine building products; this will lay the groundwork for deepening and broadening intra-sector and inter-sector specialization. For example, by the end of the five-year plan the level of standardization should be raised as follows: up to 50 percent in rolling equipment, up to 56 percent in mainline diesel locomotives, up to 85 percent in freight cars, up to 80 percent in excavators, and up to 50 percent in farm tractors.

A most important characteristic of the present stage of development of standardization is the conversion from the formulation of individual standards to programs of integrated standardization.

In formulating the program of integrated standardization, efforts must be made to secure closer coordination between plans of standardization and other sections of the national economy and sector development plans; efforts must be focused on achieving continuity of standardization plans and NIR [Scientific Research Work] and OKR [Experimental Design Work] plans, and the adoption of standards must be provided with the necessary resources.

The state standardization plan for 1976 through 1980 calls for formulating about 170 programs of integrated standardization of industrial and agricultural products.

During the current five-year plan, schedules call for revising and updating all standards and technical conditions on goods, work, and services approved in 1966 through 1972, also those normative-technical documents whose level does not match current requirements.

In 1977 and 1978, USSR ministries and departments will have to insure the adoption of integrated systems of product quality control, taking account of the experience of the leading enterprises of L'vovskaya Oblast, approved by the CC CPSU.

Program-Goal Planning in the Gas Industry

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 7

[Article by A. V. Aleksandrov, general director of the All-Union Scientific Production Association for Gas Industry Automation: "On the Basis of Program-Goal Planning"]

[Text] One of the most important conditions for accelerating scientific-technical progress is conversion of the sectors to the system of top-to-bottom planning of the entire "research-production" cycle. In doing so, as the experience of the gas industry demonstrates, substantial results can be achieved through the use of the program-goal method of planning and administration.

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Goal programs coordinated with the production associations are being approved by the Ministry of Gas Industry. Further work is being done on formulating a directive network schedule covering the "research-production" cycle. Every program contains a calculation of material-monetary resources and a calculation of economic effectiveness coordinated with the client, including indicators of increased labor productivity, output-capital ratio, and so on.

This kind of program is becoming the basis for the formation of a unified collective of implementors capable of carrying out the entire full range of work. In our practice, such collectives have become known as integrated creative crews.

The following data testify to the high effectiveness of their work. During the Ninth Five-Year Plan the duration of the "research-production" cycle was reduced by almost two times. At the same time, the output of modern means of automation and electronic equipment increased by several times. The rate of integrated automation of gas production facilities rose by five times, compressor stations by three times, and remote control mechanization of main gas pipelines by two times.

The rapid rates are being retained in the Tenth Five-Year Plan as well. The state plan for the adoption of new automation equipment in the gas industry was substantially overfulfilled in 1976. In all, plans call for implementing 11 vital integrated sector programs during the current five-year plan.

The Factor of Prices

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 8

[Article by A. A. Koshuta, deputy chairman of the USSR State Committee on Prices: "Prices and Technical Progress"]

[Text] One of the most vital ways to stimulate scientific-technical progress is to improve wholesale prices. During the Ninth Five-Year Plan the country managed to systematically reduce the level of wholesale prices on machine building products, and a course of action was adopted aimed at strengthening the role played by wholesale prices in stimulating the acceleration of technical progress. Just during the Ninth Five-Year Plan, wholesale prices were reduced by an overall total of more than 14 billion rubles.

The Basic Directions ratified by the 25th CPSU Congress indicate the necessity, when fixing wholesale prices for new items, especially machinery and equipment, of stipulating the reduction of wholesale price levels per unit of useful effect.

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With implementation of the course of action aimed at reducing prices per unit of useful effect on new products the task arises of improving the methodology of evaluating enterprise activity. At present wholesale prices on new kinds of goods are determined on the basis of incorporating only a portion of the national-economy effect. The merging as invariable for the planning of rates of increase in the volume of production output, labor productivity, and other indicators, they are not always suitable for enterprises when converting to the output of new equipment to replace old. This results from the fact that comparability of indicators with respect to old versus new equipment is not maintained.

For purposes of further improving the mechanism of price formation it would be advisable to conduct an experiment, for example in the electrical equipment industry, using a ceiling price on new goods in the capacity of invariable prices for the planning of volumes of commercial output, labor productivity, and output-capital ratio.

Moreover, for those types of products on which material-intensiveness has been reduced by replacing costly materials with cheaper ones, in the capacity of invariable prices it is advisable to use existing prices on goods previously put into production but manufactured from more costly and scarce materials. Implementation of these proposals will make it possible to refine the mechanism of accounting and planning new equipment in evaluating the economic activity of enterprises in connection with the conversion from the production of old equipment to new equipment.

In accordance with the existing procedure, the manufacturer is motivated to see to it that the higher outlays necessary to put new equipment into production originally are incorporated into the sales price, because they are not compensated completely from the science and technology development fund. Yet they cannot be incorporated into the product sales price, because at the initial stage the new equipment will not be economically effective for the national economy as a whole or for individual consumers. It is necessary to set up a system of compensation for initial outlays--a system which will fully compensate the producer for the increased outlays of the first period of introduction of new equipment, also temporary losses of profits and sales volumes sustained by industrial enterprises when converting to the production of the new equipment.

Moreover, it is becoming exceptionally important to adopt in practice economically substantiated limit prices and project prime cost in the issuance of technical targets for the projecting (designing) of new products. Obviously, special attention must be focused on improving the methodology and procedures of determining them so that the level of limit prices will insure a real national-economy effect for new products, and the project prime cost will serve as a guideline in establishing economically substantiated plan outlays for goods production.

Various Speakers Comment

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 8

[Article: "From the Pages of the Transcript"]

[Text] USSR Gosplan Deputy Division Chief V. Ivanchenko focused special attention on problems of improving the planning of the adoption of scientific and technological advances in production. He emphasized that it is important for each sector to set up an economic mechanism which can not only compensate for outlays relating to the development and adoption of new technology but also provide economic motivation to ministries and production associations to accelerate technical progress.

USSR State Committee for Standards VNIIS [All-Union Scientific Research Institute of Standardization] Director A. Glichev commented on the necessity of formulating measures serving to continuously raise the quality of goods. Doctor of Economic Sciences A. Vilenskiy focused his remarks on problems of determining the effectiveness of new equipment, taking account of the social results.

Perm' State University imeni Gor'kiy Docent Ye. Sapiro discussed the problem of improving the mechanism of planning scientific-technical progress in production associations and their subdivisions. The speaker remarked on the necessity of more closely coordinating the system of incentives on these levels of production with the actually achieved economic effect of the activity.

Agropribor [Scientific Production Association for Agricultural Implements] Division Manager E. Murtazin commented on problems of evaluating the effectiveness of scientific-technical progress in agricultural production.

Problems relating to material and informational support in the preparation for production of new equipment were the subjects of a talk given by Voronezh Polytechnical Institute Docent O. Turovets.

Leningrad Polytechnical Institute Professor K. Velikanov focused his remarks on problems of more extensively employing scientists of VUZs to work out problems of scientific-technical progress. He remarked that this substantial group of scientists is not being used with adequate effectiveness in the interests of accelerating scientific-technical progress because of certain shortcomings in the planning-organizational mechanism and the lack of an experimental base and resource support.

NIITavtoprom [Scientific Research Institute of the Technology of the Automotive Industry] Division Manager L. Tsimmerman reported on the experience of the formation and utilization of a fund for the financing and economic stimulation of technical progress in enterprises of the automotive industry.

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A procedure for evaluating the effectiveness of outlays on new equipment, worked out by the Ukrainian SSR Gosplan, was the subject of a talk given by the republic's planning commission division chief V. Shevchenko. He remarked that calculations made on the basis of this procedure have made it possible to evaluate the effect of scientific-technical progress on increased labor productivity in all sectors of Ukrainian industry.

Electrical Equipment Industry Views

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 4

[Remarks by N. V. Likhova, deputy director of Informelektro]

[Text] At the present stage of development of scientific-technical progress, which is characterized by the vast scale and complexity of technical applications, it is very important to insure a unified approach to the implementation of integrated programs. For this purpose, special procedures have been created in the system of the Ministry of Electrical Equipment Industry. Programs have been set up on their basis dealing with 19 especially important directions in scientific-technical progress. Each integrated program specifies resource and cadre requirements, the calculation of outlays and effectiveness of new equipment, also sources of incentive.

But it must be kept in mind that no single program is being implemented within the framework of our ministry alone. In connection with this, particular difficulties are encountered. For example, whereas the program of the development of engines or generators is especially vital for our ministry, for other ministries whose enterprises are coimplementors other programs not connected with ours are more vital. This contradiction must be eliminated by setting up inter-sector programs.

New Equipment Certification Supported

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 4

[Remarks by I. Ya. Morozov, division chief of the USSR Council of Ministers State Committee for Inventions and Discoveries]

[Text] A characteristic feature of our time is the increasingly strong dependency between product quality and indicators of the technical level of production or the level of technology. For this reason, we support the proposal concerning the advisability of introducing certification of new equipment solutions. Naturally, such certification is an extremely labor-intensive and extraordinarily critical matter. Labor-intensive because it is not enough to compare the parameters of a developed product or technological process with the corresponding parameters of the best analogues now in industrial production. And yet comparison must also be made with what is still in the project and design bureaus.

Accounting, Reporting Procedures Needed

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 5

[Remarks by D. F. Il'yenkov, division chief of USSR Central Statistical Administration]

[Text] There is a real necessity of formulating instructions and procedures on how to maintain accounting and reporting on the actual economic effect achieved due to new equipment. In order to see to it that economic indicators characterizing technical progress are as reliable as possible and most accurately reflect the state of affairs, it is essential to improve the procedural base.

Coordination of Research, Production

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 5

[Remarks by Ukrainian Academy of Sciences Academician S. M. Yampol'skiy]

[Text] Our country has already accumulated some positive experience in the resolution of organizational tasks involved in scientific control, promoting the acceleration of scientific-technical progress. This refers to the creation of major academic scientific-production associations which incorporate academic institutes, design bureaus, experimental operations, and an experimental plant. In this way, conditions are created for the integrated resolution of fundamental and survey research, applied and design applications, experimental research, and the production of goods in small series for later transfer of the products to industrial enterprises for series production. Such associations have been set up in the Ukraine on the basis of the Institute of Electric Welding imeni Ye. O. Paton, the Institute of Problems of Materials Science, and a number of others.

A second and no less effective form is practice of carrying out integrated scientific research implemented jointly by academic institutes and production and scientific-production associations. Such research is conducted on the basis of a unified program and precisely coordinated plans which define the tasks of the institutes and enterprises. The experience of some complexes shows that the duration of the cycle can be reduced by three to four times.

It would seem useful to organize the formulation of special postulates concerning the implementation of integrated joint research using the resources of academic institutes, production associations, and scientific-production associations.

Shortcomings in Planning, Incentives

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 6

[Remarks by V. A. Pokrovskiy, subdivision chief, State Committee on Science and Technology]

[Text] In our opinion, for purposes of increasing the responsibility of the researchers and designers and stimulating them to speed up the completion of their work it is advisable to introduce in scientific institutions the practice of paying for fully completed and client-accepted results instead of making payments in advance and by stages. The procedure of allocating working capital should also be revised accordingly.

One of the main reasons for the low quality of technical documentation and determination of all essential parameters of a new technological process or a new kind of product, as experience shows, is the absence of checking, or inadequate checking and testing of processes on experimental and test stands, in testing stations.

In many cases this leads to considerable losses of time spent in introducing new technology into production, to enormous outlays of funds and to losses of production capacity. And the reason is that at present half of the scientific institutions do not have an experimental testing base. This situation can only be explained as due to insufficient appreciation of their role in accelerating technical progress.

Changes are needed in the system of planning and incentives for experimental facilities, because at present there is a paradoxical situation in which workers in such facilities are provided material incentives primarily for turning out series goods; this runs at cross purposes against the development and adoption of new equipment. Experimental and testing enterprises and experimental facilities should be utilized to check and thoroughly test new technological processes of manufacturing experimental models of new items. It is necessary to avoid imposing series production on them. It is essential to introduce a system of planning and economic incentive for the work of experimental enterprises and shops which will proceed on the basis of the main task with respect to implementing the target schedules for checking and thoroughly testing new technological processes and manufacturing experimental models of materials and items, rather than on the basis of production volume.

Economic Experimentation

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 7

[Remarks by D. S. L'vov, doctor of economic sciences (USSR Academy of Sciences TsEMI)]

[Text] At present, some sectors are conducting many economic experiments to stimulate improved product quality and speed up scientific-technical progress.

At present, the TsEMI [Central Economic-Mathematical Institute] has worked out a system of models of what is known as machine experimentation. It makes it possible with considerable accuracy to evaluate the possible results which the national economy will receive from the implementation of one particular variant of economic experiment or another. The essence of machine experimentation is that an optimal system of cost-accounting incentive is set up on the basis of economic-mathematical models. The main criterion in such a system is seen to be the indicator of maximum national-economy effect. This indicator reflects all the basic factors of production.

The use experience of such models confirms the advisability of making more extensive use of them in evaluating proposals aimed at improving planning and the economic mechanism.

Scientific-Technical Centers Advocated

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 7

[Remarks by K. I. Taksir, doctor of economic sciences (USSR Academy of Sciences Institute of Economics)]

[Text] The accelerated adoption of new equipment makes it necessary on the basic and middle levels to institute the administration of powerful scientific-technical centers. In large production associations they can be formed by combining research, experimental, and other scientific-technical units.

Scientific-technical centers of production associations must spearhead efforts aimed at insuring the continuity of the "research--production" cycle, improving the quality, reliability, and longevity of the goods produced by the association. Evaluation of the work done by the scientific-technical centers must be done on the basis of the technical level of production and the economic effectiveness of the adoption of new equipment.

Underutilization of New Equipment

Moscow EKONOMICHESKAYA GAZETA in Russian No 2, Jan 1977 insert p 7

[Remarks by A. E. Ishmukhomedov, senior scientists, Uzbek SSR Academy of Sciences Institute of Economics]

[Text] Research conducted by the Uzbek SSR Academy of Sciences Institute of Economics shows that new equipment is not being utilized effectively

in some enterprises. In particular, integrated-mechanized and automated production lines are sometimes being used at the rate of less than 50 percent of their projected capacity. This is observed in cases where complex machinery is installed in sections involved with individual and small-series production. For this reason, it is essential to provide thorough economic substantiation of the adoption of new equipment during the formulation of plans for the retooling of existing enterprises.

Plans for the technical retooling of enterprises should also specify the targets having to do with the integrated utilization of natural resources, reduced specific norms of water consumption, and norms governing emissions of matter which pollutes the environment.

Proportion of Growth of Industrial Output Due to Increased Labor Productivity (percent)

1966-1970	73
1971-1975	84
1976-1980 (plan)	90

Number of Scientific Workers (as of end of year; thousands)

1965	664.6
1970	927.7
1975	1223.4

New Types of Goods Put Into Production (thousands of named items)

1966-1970	8.4
1971-1975	16.5
1976-1980 (plan)	20.0

Number of Integrated-Mechanized and Automated Facilities

	Sections, shops, operations	Enterprises
1965	22,386	1,906
1975	66,229	5,383

6854
CSO: 1820

ECONOMIC PROBLEMS OF SCIENTIFIC-TECHNICAL DEVELOPMENT CITED

Scientific Management at Elektrosignal Plant

Moscow EKONOMICHESKAYA GAZETA in Russian No 51, Dec 76 p 10

[Article by N. Potapov, director of the Voronezh Elektrosignal Plant:
"Scientific and Technical Progress: How Should It Be Controlled at an
Enterprise?"]

[Text] Nikolay Aleksandrovich Potapov began working at the Voronezh Elektrosignal Plant in 1950 after completing his studies at a broadcasting tekhnikum. Remaining on the job, he took correspondence courses and graduated from the All-Union Correspondence Politechnical Institute in 1955. He has worked as a technician, a design engineer, a shop chief, head of the design bureau and chief engineer at the plant.

Since 1968, N. A. Potapov has been the director of the enterprise. In 1976 he was awarded the Order of Lenin.

The process of mastering the production of new equipment consists of several stages: the development, manufacture and testing of experimental models, the preparation of the production process and the beginning of series-production. The length of each stage depends largely on the way in which scientific and technical progress is managed, including the way it is managed on the enterprise level.

The workers of the Voronezh Elektrosignal Plant have accumulated a certain amount of experience in this matter, which I would like to share with the readers of EKONOMICHESKAYA GAZETA.

First of all, I will speak of the preparations for the production of new items at the enterprise. Any administrator or specialist knows that this period is an extremely intense one in the activities of a collective. Many problems of a technical, organizational and economic nature arise. They

must be solved within an extremely limited period of time. This is why there is an objective need for skillful management of the entire complex of work involved in preparations for the production of a new item.

Administrative Links

A precise administrative structure for managing the mastery of new production has been worked out and is being applied at our plant. It represents an administrative system on three levels: the highest link, the middle link and the primary link, that is, the level of the manufacturing shop.

The highest link is headed by the chief engineer of the plant. Because of his position on the staff, he is responsible for the development of new equipment. This link includes the supervisor of the design bureau, the deputy director of the plant on production matters, the chief technologist and the head of the technical control division. These employees assign workers to draw up the plans to prepare for the production of new items, examine and approve drafts of these plans and supervise their implementation on the basis of a specific group of indicators.

The administrative links on the middle level are constructed on the basis of the work processes and types of products involved. On this level schedules are drawn up for preparations for the production of new items and the observance of these schedules is carefully supervised. The supervisors of work on individual items make up the primary administrative link. They directly supervise all work connected with the mastery of new production processes, receive management orders on their level, implement these orders and compile summary records on the course of the work for the higher administrative links.

The employees making up these various administrative links must still perform their usual functions as well. Representing their offices and subdivisions in each administrative link, they do their best to make use of the potential of these subdivisions in the resolution of problems connected with the mastery of new production processes. Naturally, each administrative link is granted all of the necessary rights to solve problems arising during the process of mastering new production processes.

One of the most important aspects of the preparation stage for the production of new equipment is the creation of an informational system to permit timely and qualified decision-making. This kind of informational system has been established at the plant. A roster of operational documents to be submitted by supervisors and officials on all levels concerned in the mastery of the production of new items has been established.

Therefore, the structure for the management of the process of developing and mastering new production at our plant has not required any additional personnel subdivisions or increased expenditures on staff maintenance.

Special Programs Are Needed

Continuous production growth and the frequent renewal of items give rise to a constant increase in operational volumes and administrative decisions to be made during the time when new types of products are being developed. In many cases, it is now necessary to work out comprehensive programs of research, technical, organizational, economic and production operations for the purpose of choosing the optimal variant, developing the latest items more rapidly and organizing their highly efficient production.

For example, the Elektrosignal Plant is to begin the production of color television sets. By 1979, we must develop and master the mass-production of color television sets designed on the basis of microelectronic elements.

This will require a great deal of complex work. In the first place, research must be conducted for the purpose of choosing the best designing principles. In the second place, the technical part of the program must be worked out; this will include design, technology, etc. After this, decisions must be made on such matters as the construction of production facilities, the provision of these facilities with the latest equipment, the organization of cooperation within the enterprise as well as branch and interbranch cooperation, the training of personnel, etc. Finally, there are various economic problems.

As we can see, this program is of a comprehensive nature. It is intended to take approximately 5 years. And its efficiency will largely depend on the way in which all stages of the work will contribute to a single final result--the development of a mass-produced, inexpensive and reliable color television set.

Naturally, this problem can only be effectively solved through purposeful management of the operational program. But this will involve great difficulties. The fact is that the science of management still devotes greater attention to the problems connected with the development of comprehensive programs on the level of industrial branches and unjustifiably ignores the problems connected with the development of programs on the level of the enterprise or association. Besides this, the enterprise does not have any specialists working on improvements in management, including the management of scientific and technical progress. The standard staff roster only provides for the establishment of an NOT [scientific organization of labor] laboratory, even in the case of the largest plants in the branch. But, after all, several enterprises and production associations have an urgent need for NOT divisions staffed with specialists in management.

In satisfying the demands of individual consumers for new types of products, the enterprise usually has to resort to the partial reorganization of the production unit for the manufacture of these items. This kind of "patchy" reorganization is costly and does not produce the desired results. In our opinion, comprehensive operational programs for the development and mastery of new types of production constitute one way of making a transition from this

partial resolution of problems (the satisfaction of the demands of individual consumers, the partial remodeling of the enterprise, etc.) to the creation of a system of machines and assemblies satisfying the demands of all consumers in the national economy and to the comprehensive remodeling of an enterprise.

On the Basis of Progressive Designs

The acceleration of technical progress requires that administrators on all levels and specialists constantly be inculcated with a feeling for the new and that their attention be focused on the immediate incorporation of scientific achievements and progressive experience.

For this purpose, we are making extensive use of so-called progressive designs at the plant. In particular, this is apparent in the continuous improvements (which are far ahead of current demands) in the enterprise's technological design inventory as a basis for accelerating the "research--mass-production" process and accomplishing the highly efficient incorporation of new equipment.

At the present time, scientific and technical progress in electronics is characterized by the rapid introduction of standardization principles, not only in the case of design elements, but also in the case of elements of the technology and organizational decision-making. As a result, it is now becoming possible to organize multiproduct assembly conveyors to make efficient use of multipurpose technological divisions (such as universal die lines, divisions of machine tools with programmed control and automatic units for programmed stamping). It is becoming possible to develop and master the production of new items with the use of uniform designs and technological plans.

Practice has shown that, during the process of developing and incorporating new production models, designers should not rely on the base design, as has been the case in the past, but should make use of the enterprise's organizational and technological design inventory.

Working on the basis of progressive designs makes it possible to develop commodities of the latest design and highly efficient production processes for the manufacture of industrial commodities. And the main thing is that this reduces the entire cycle of development and mastery, which, in itself, aids in raising the technological level of production and increasing its national economic effectiveness. For example, the new series of national economic broadcasting stations (12 different ones) was worked out at the plant within 1 year. The replacement of the old series of stations was completed within 3 months. And, during the year when this new production process was being mastered, the output of stations did not decrease, but actually increased by 50 percent.

The development and improvement of technological designs according to plan has permitted the extensive use of standard technological processes for the manufacture of all items produced in small lots. The universal part of the production preparations takes up to 60 percent of the entire process. And

this, in turn, also affects the quality of new items and the amount of time required to develop and master their production. For example, the last seven television sets produced by the plant were awarded the Mark of Quality within a year and a half after they began to be mass-produced.

The management of processes for the development of new equipment represents an important aspect of the administrative activities of enterprise administrators on all levels.

Conference on Scientific Production Methods

Moscow EKONOMICHESKAYA GAZETA in Russian No 52, Dec 76 p 14

[Article by A. Kovalev and N. Kozlov (Voronezh): "From Research to Mass-Production"]

[Text] An applied science conference on problems connected with the accelerated incorporation of scientific research and design into production was held in Voronezh. It was organized by the Voronezh CPSU Obkom, the VSNTD [All-Union Council of Scientific and Technical Societies], USSR Gosplan, GKNT [The State Committee of the USSR Council of Ministers for Science and Technology], the USSR Academy of Sciences, the editors of EKONOMICHESKAYA GAZETA, the USSR Ministry of Higher and Secondary Specialized Education, the Ministry of the Machine Tool and Tool Building Industry, the Voronozhskaya Oblast NTO [Scientific and Technical Society] Council and the Polytechnical Institute.

The conference was held for the purpose of examining problems connected with the more rapid introduction of scientific research and design into production.

In his introductory speech, A. G. Shumeyko, secretary of the Voronozhskaya Party Obkom, pointed out the significance of the objective of accelerating scientific and technical progress, which was mentioned by L. I. Brezhnev in his report to the 25th CPSU Congress, and discussed the experience of the leading enterprises in Voronozhskaya Oblast.

Those attending the conference were most interested in the analysis of the "research--development--production preparations--mass-production of new items" process and in the causes of delays in the acceleration of scientific and technical progress.

On the Basis of Programmed-Goal Planning

The organization of large production and scientific-production associations has been accompanied by the emergence of conditions favoring a transition to programmed-goal planning for the entire complex of work connected with the production of new commodities. And this tendency has been particularly apparent during the Ninth Five-Year Plan and the beginning of the Tenth.

Convincing facts confirming the positive significance of improved production management in the interest of scientific and technical progress were mentioned in the reports by L. Maksimov, head of a subdepartment of USSR Gosplan, and V. Pokrovskiy, head of a GKNT division.

During the Ninth Five-Year Plan (in comparison to the Eighth), new types of production were mastered twice as quickly, and obsolete items were withdrawn from production three times as quickly. Greater demands were made on product quality and important elements were created in the unified state system of quality control.

Other speakers also mentioned the great possibilities for accelerating scientific and technical progress. But these possibilities are not being used fully. Speakers at the conference discussed the inertia and inconsistency in the resolution of problems connected with the planning of scientific and technical progress.

This is apparent, for example, in the lack of a set of procedures for predicting future technical developments. This gives rise to great difficulties in the compilation of branch prognoses and in their coordination with long-range plans for the development of production and scientific-production associations and enterprises.

Experience in drawing up prognoses of this kind has been accumulated by those developing the production of electronic computers. But this experience has not been thoroughly generalized as yet and has not become accessible to all branches of the national economy.

Many speakers at the conference stated that the absence of a stock of normative plans on the incorporation of new equipment has a negative effect on the development and realization of plans for scientific research and design engineering.

When scientific research and design engineering are being planned, said S. Kamenitser, head of a laboratory at the Institute for the Study of Problems in Management of the USSR Academy of Sciences, the planners must deal with new objects. At the time when the plans are being compiled, their characteristics are still unknown. At the same time, it is necessary to foresee the labor-intensiveness of research and design operations and the expenditures connected with these operations and to determine the dates of their completion.

It would seem that the GKNT and USSR Goskomtrud should take part in solving this problem. The job is completely practicable. Studies have shown that, when scientific and design organizations are specialized, there is a significant degree of continuity in their work. New assignments are partially based on preceding work. This makes it possible to introduce standard sections on operational processes, for which normatives can be set in regard to expenditures and the degree of labor-intensiveness.

The acceleration of the process of scientific research, project planning and the mastery of new production processes is being delayed by the incomplete resolution of financing problems. The plans of all organizations are limited to specific calendar periods (five-year plans and annual plans). Financing is provided to scientific and project planning institutes for these periods.

In the opinion of those attending the conference, it would be best to issue financial and other resources for objects or studies for a specific goal and to break these allocations down by years. This set of procedures would create the necessary prerequisites and stimuli for the more rapid development and incorporation of new equipment and would ensure a reduction in related expenditures. The main object of planning and computations then becomes the study, the object of the work as its final result.

An important topic was raised by speakers at the conference who discussed the content of programmed-goal plans for scientific development. They mentioned that these do not always reflect a comprehensive approach to the resolution of various problems. In particular, this is true of the problem of comprehensive production mechanization and automation.

In connection with this, L. Maksimov said that the program on the resolution of basic scientific and technical problems, which are approved by the GKNT, must envisage the development and mastery of systems of technological processes within the current 5 years and, on this basis, machines for the comprehensive mechanization and automation of production units.

Questions connected with increasing the responsibility for observing dates of plan fulfillment are related to the effectiveness of programmed-goal planning methods and the acceleration of scientific research, design engineering and the mastery of series-production on this basis.

At the present time, speakers at the conference said, the degree of economic liability of scientific and project planning organizations is low. It does not affect the interests of the organization and its administrators. Moreover, there are frequent cases when the nonobservance of completion dates and the revision of drafts and recommendations because of their poor quality must be covered by additional financing. Obviously, it would be expedient to work out a system of measures to make the scientific and project planning organizations economically viable for the results of their work.

In this connection, the experience of the Svetlana Production Association in Leningrad in the organization of research and the development and mastery of new series-production processes should be thoroughly studied and disseminated. Here, scientific-production complexes have been set up under the jurisdiction of the design bureau at the head plant. The head of the design bureau now has control over basic production shops and specialized branches in other cities and is now responsible not only for the fulfillment of the plan for scientific research and design engineering, but also for the mastery of the series-production of new items at the scheduled time.

This experiment in the creation of scientific-production complexes operating on economic accountability within the general economic unit and the functioning of these complexes have proved their high degree of efficiency. On the average, it now takes half the time to develop and master new production processes. All of the association's technical and economic indices have risen considerably.

It would seem that USSR Gosplan, the USSR Ministry of Finance and the USSR GKNT should pay serious attention to the Svetlana Association's system of economic management of the uniform process for the development and mastery of new production processes.

Strengthening the Ties Between Science and Production

The experience of the Svetlana Association would seem to be extremely valuable if we consider that there are almost 40,000 design and technological organizations and more than 5,000 scientific research institutes in the nation. Their isolation from one another sometimes makes the process of developing and mastering new production processes a longer one.

K. Taksir, deputy chairman of the scientific council of the USSR Academy of Sciences on economic aspects of the scientific and technical revolution, said in his report that just the coordination process involved in the transmission of documents from one organization to another frequently takes as much time as is needed for the entire period of scientific and technical development. When organizations are autonomous, under different jurisdictions and isolated from one another, it is extremely difficult to carry out comprehensive and continuous planning for all stages of the work, from research to the manufacture of new items or to the incorporation of a new technological process. The transition to intensive forms of scientific and production activity is not possible without the development of inadequate links in the "research--production" cycle at the enterprises themselves and in associations and research organizations.

But many production associations, for example, those in branches of light industry, the food industry, wood processing and the construction materials industry, only have small design and technological subdivisions for carrying out assignments connected only with day-to-day production activity.

This situation can be corrected through the inclusion of the appropriate scientific research institutes, design and technological organizations and experienced production units in the production associations.

The creation of the specialized links needed for the incorporation of new equipment directly at enterprises and associations, however, is a lengthy process. In connection with this, speakers at the conference raised the question of developing specialized economically accountable associations for the incorporation of inventions and technical innovations. The number of

such complexes is still negligible, and most of them are small and have inadequate potential. As a result, the realization of scientific and technical achievements is considerably delayed.

At the same time, it is necessary to systematically improve the organization of the work involved in incorporating new equipment and in supplementing and developing a technological design base at the enterprises themselves. N. Potapov, director of the Voronezh Elektrosignal Plant, spoke at the conference, discussing the valuable experience of this enterprise, which has permitted the enterprise to incorporate scientific and technical innovations through its own efforts, within a short period of time and with a high degree of efficiency.

Many of the proposals made by speakers at the conference concern the search for efficient ways of relating academic science to production. In particular, E. Kalinin, head of the Main Administration of the RSFSR Ministry of Higher Education, devoted his report to this subject.

Speakers pointed out the fact that one of the main reasons for the slow utilization of research results and, sometimes, the refusal to incorporate these results is that most VUZ's, because of their poor experimental production facilities, cannot even imagine their own studies in the form of finished structures, thoroughly tested models or small experimental series. In connection with this, the establishment of inter-VUZ design bureaus with experimental production units, computer centers and facilities for the manufacture of scientific tools in large cities would evidently represent a more efficient way of ensuring the qualified realization of the scientific studies of academic institutions in structural and technological forms.

Speakers at the conference proposed the establishment of specialized associations in the nation's large centers for the rendering of technical production services to VUZ's; these should be made up of experimental production units, design and construction units and supply services. It would be economically expedient to expand the experimental facilities of VUZ's directly at industrial enterprises through the establishment of experimental shops and control divisions.

Problems connected with price-setting, the stimulation of scientific and technical progress and the improvement of systems for the material and technical supply of scientific and project planning organizations were discussed extensively.

Those attending the conference adopted recommendations directed toward accelerating the process of the development and mastery of new production, improving product quality and increasing the national economic effect of this production.

ECONOMIC INCENTIVE FUNDS OF SCIENTIFIC-PRODUCTION ASSOCIATIONS

Moscow BYULLETEN' NORMATIVNYKH AKTOV MINISTERSTV I VEDOMOSTV SSR in Russian
No 1, Jan 77 pp 3-9

["Statute on the Procedure of the Formation and Utilization of Economic
Incentive Funds of Scientific-Production Associations"]

[Text] Approved by the USSR Council of Ministers State
Committee on Science and Technology, 19 June 1976, and
the USSR Council of Ministers State Committee on Labor
and Wages, 21 July 1976. Coordinated with the AUCCTU.

The present Statute is formulated in accordance with the decree of the
USSR Council of Ministers dated 30 December 1975 No 1062 "Ratification
of the Statute on Scientific-Production Associations."

The Statute establishes the procedure for the formation and utilization of
the material incentive fund, the social-cultural measures and housing
construction fund, and the development fund in scientific-production
associations of industry. The characteristics of application of this
type of Statute in scientific-production associations of agriculture,
construction, transport, communications, and other sectors of the national
economy are defined by the appropriate ministries (departments) of the
USSR and the councils of ministers of the union republics in coordination
with the USSR Council of Ministers State Committees on Science and Techno-
logy and Labor and Wages.

I. Formation of Economic Incentive Funds

1. Incentive funds (material incentive fund and social-cultural measures
and housing construction fund) of scientific-production associations are
formed from the following sources:

a) deductions from profits (savings) formed in the association and in
sector enterprises as a result of the actual lowering of the prime cost of
goods production through the use of new scientific-technical applications
proposed by the scientific-production association (applications promoting

improved technological processes, organization of labor, production administration, reduced specific norms of raw materials and supplies consumption, increased labor productivity and so on). Deductions are withheld for three years from the beginning of adoption of the new technical (technological or organizational) application, based on the increase in the annual volume of goods production compared with the previous year;

b) deductions from additional profits obtained due to markups on wholesale prices for new (modernized) types of goods which in terms of parameters and indicators match or surpass the best Soviet and foreign models.

A markup is determined in accordance with the existing procedure for determining prices on a new (modernized) product designed for production-technical use and is set, as a rule, for one year (or up to two years in the case of a product of special complexity). If in the course of the designated period the product is awarded the State Emblem of Quality in the established procedure, the markup is to remain in effect for a longer time without any change in its size. The total length of time the markup remains in effect should not exceed three years from the beginning of series (mass) production of the product (four years in the case of a product of special complexity).

The amounts of deductions into the incentive funds as per subparagraphs "a" and "b" are established on the basis of the economic benefits obtained due to the production and use of the new equipment, and are determined by the amounts of one-time bonuses for the development and adoption of new technology in accordance with paragraph 14 of the decree of the USSR VSNKh [Supreme Council of the National Economy] dated 25 August 1964 No 81.

Estimates of the economic benefits due to the adoption of new technology are made in accordance with the procedures (directives), approved in the established procedure in the sectors, for determining the economic benefits due to the adoption of new technology, or if there are none-- in accordance with the standard procedures for determining the economic effectiveness of new technology.

In cases where the period of the development and production startup of a new product or new technological process exceeds two years, part of the incentive funds for workers of the scientific-production association (formed in accordance with subparagraphs "a" and "b" of paragraph one of the present Statute) are included in advance in the cost of the scientific-research, design, technological, and experimental work to be performed.

The amount of the funds to be included in advance should not exceed 30 percent of the total incentive amount computed on the basis of guaranteed economic benefit* due to the use of the new product (technological processes) in the national economy (by the user). Subsequent deduction of funds for incentives to workers of the association are made with account taken of the advance paid out.

If through the fault of the association the guaranteed technical-economic indicators of the new product (technological process) are not achieved, the funds received in advance are to be returned to the client from the material incentive fund of the scientific-production association. The advanced funds thus returned go to replenish the sources of financing from which the advance was made. Disputes arising in the process of determining the amount of advanced funds and their return are to be resolved by higher-level bodies.

For scientific-production associations of ministries (departments) converted to the new system of economic incentive and material incentive for the creation, development, and adoption of new technology, the amount and procedure of deductions into incentive funds are determined by the normative documents (directives) approved for them by higher-level bodies.

Deductions as per subparagraph "a" are planned every year in the financial plans of associations, enterprises, and organizations of ministries utilizing the results of the research and development carried out by the scientific-production association.

Deductions as per subparagraph "b" are made by the indicated associations, enterprises, and organizations from the additional profit actually obtained due to the sale of a product for which a markup on wholesale prices has been established. In drawing up the planned estimate of the disbursement of incentive funds, funds formed from the indicated source are taken account of by calculation by the scientific-production associations;

c) funds incorporation in the estimated cost of work done to develop systems (layouts) and complexes of equipment to utilize the equipment produced by the industry, also in the estimated cost of work to be performed as per orders of organizations and enterprises of other ministries and departments to develop new equipment whose production will be inaugurated in these ministries and departments. The amount of these funds is determined on the basis of the guaranteed economic effect of the use of the results of

* Guaranteed economic effect: the calculated economic effect (coordinated with the client who is the user of the application) due to the development and utilization of the new technology, an effect guaranteed by the producer.

the research and applications in accordance with the amounts of deductions into incentive funds established for subparagraphs "a" and "b" of the present paragraph;

d) funds (in the amount of up to 20 percent of the wage fund of direct participants in the work for the period established by the plan in the portion assigned to outlays on such work) included in the estimated cost of work done to develop unit models of new equipment, systems (layouts) or complexes of equipment, and technological processes on the level of the best world scientific-technical achievements, to formulate standards and conduct economic research to be carried out in accordance with national economy plan targets, and to implement applications relating to environmental protection and safety engineering in cases where the economic effect due to the utilization of the indicated undertakings cannot be computed. The specific amount of funds with respect to each application is determined on the basis of the significance of the work, its innovations, and the labor-intensiveness.

Bonuses for the completion of work indicated in subparagraphs "c" and "d" of the present paragraph are paid out after the acceptance and positive evaluation of the results of the work by the client (consumer) of the application.

Amounts of incentive funds formed from sources as per subparagraphs "a," "c," and "d" of the present paragraph are stipulated in the annual plans of the scientific-production associations. The indicated fund amount is increased (reduced) when the actual deductions into these funds are being determined on the basis of the fulfillment of the thematic work plan and revision of the calculated amounts of the annual economic effect.

In addition, the actual amount of the incentive funds of scientific-production associations is increased by the amount obtained due to deductions as per subparagraph "b" of the present paragraph;

e) profit earned from the sale of the product of the scientific-production association. The procedure for deductions from this profit is established by the ministry (department) in accordance with the procedure of formation of the material incentive fund and the social-cultural measures and housing construction fund that is in force in the sector. Amounts of deductions into incentive funds from profits earned from the sale of series products turned out by the scientific-production association in the course of a period exceeding three years are reduced by 50 percent.

Planned amounts of deductions into incentive funds of scientific-production associations from source "e" are stipulated in the association's five-year plan with breakdown by years of the five-year plan within the limits of the amounts of the corresponding incentive funds approved for the ministry (department) as a whole. In determining the amounts of incentive funds for a ministry (department) as a whole, account is taken of the wage fund of the scientific-production associations with the exclusion of the wage fund for scientific-research work.

2. Into the incentive funds of the scientific-production association it is possible to channel funds allocated by the ministry (department) from reserves for the material incentive fund and the social-cultural measures and housing construction fund.

In addition, the following are also channeled into the material incentive fund of the association:

funds obtained by the association in the form of bonuses for competitive projects (research) and applications;

funds allocated by the higher-level body from the centralized bonus fund for the development and adoption of new equipment. These funds are allocated to the association for worker bonuses for the completion of vital work stipulated in the national economy plan and in the ministry's (department's) work plan on new technology, also for bonuses to workers of independent organizations and enterprises subordinate to the association;

funds obtained by the association for the submission of technical documentation in accordance with the established procedure (in the portion designated for material incentive).

3. From funds coming into the incentive funds of the scientific-production associations from sources indicated in subparagraphs "a," "b," and "c" of paragraph one of the present Statute, up to 20 percent of the funds are deducted into the ministry's (department's) or all-union (republic) industrial association's bonus fund for the development and adoption of new equipment. The specific amount of deductions into the centralized bonus fund are determined by the ministries (departments).

Funds remaining after deductions into the centralized bonus fund for the development and adoption of new equipment are distributed between the material incentive fund and the social-cultural measures and housing construction fund: 60 percent goes into the material incentive fund and 40 percent into the social-cultural measures and housing construction fund.

4. The management of the scientific-production association is given the right, with the consent of the trade union organization, to redistribute the funds between the material incentive fund and the social-cultural measures and housing construction fund within the limits of up to 20 percent of the planned amount of each fund without regard to the balances of these funds as of the beginning of the year.

5. The total amount of funds designated for the formation of incentive funds of associations, organizations, and enterprises taking part in a specific application is distributed among them on the basis of the volume, complexity, and type of the work performed, as a rule in the following amounts:

В и д ы р а б о т (1)			Всего %% (5)
Исследовательские и проектно-конструктор- ские работы (2)	Технологические ра- боты и работы по подготовке производ- (3) ства	Работы по освоению и организации про- изводства новой тех- ники (4)	
от 30 до 50 (6)	от 20 до 35 (7)	от 25 до 40 (8)	100

Key:

1. Types of work
2. Research and planning-design work
3. Technological work and production preparation work
4. Work on the assimilation and organization of the production of new equipment
5. Total, percent
6. From 30 to 50
7. From 20 to 35
8. From 25 to 40

Depending on the specifics of the scientific-research and experimental-design work performed, in certain cases the ministries (departments) may approve other normatives of fund distribution.

The amount of funds owed to each of the participants in the development, assimilation, and adoption of new equipment is stipulated in the economic agreement (intra-ministerial order) or other plan documents governing work fulfillment adopted in the ministry (department), and may be revised at the time of acceptance of the completed work.

Disputes with respect to the distribution of incentive funds among scientific-production associations, enterprises, and organizations jointly involved are to be resolved by their higher-level authorities.

6. The development fund of the scientific-production association is formed as follows:

a) accumulations (profits) included in the estimated cost of work to be carried out by the association on the basis of intra-ministerial (intra-departmental) orders and economic agreements, in the amount of 1.5 percent of the calculated annual economic effect due to the utilization of the new equipment by the client, an effect guaranteed by the executor association, but not more than six percent of the estimated cost of the work. Accumulations are stipulated in the estimated cost of work the guaranteed economic effect from the utilization of the results of which in the national economy exceed its estimated cost by two or more times. The accumulations are incorporated in the estimated cost of the work on a separate line;

- b) 75 percent of the amounts by which income exceeds expenditures (profit) for scientific research and technical applications carried out on the basis of intra-ministerial (intra-departmental) orders and economic agreements. The amount by which income exceeds expenditures for completed work delivered is calculated after excluding, from the total amount of profit; the planned accumulations formed in accordance with subparagraph "a" of this paragraph, and funds included in the estimated cost of work for the formation of the association's incentive funds in accordance with subparagraphs "c" and "d" of paragraph one of the present Statute;
- c) earnings from the sale of surplus or outmoded equipment listed among the association's fixed assets;
- d) earnings, including foreign currency, from the foreign sale of licenses on inventions and other scientific-technical achievements of the association;
- e) amortization deductions earmarked for the full replacement of the association's fixed assets. The amount of the deductions is established by the ministry (department) in accordance with the procedures for the formation of the production development fund out of amortization deductions that is in effect for the industrial enterprises of the appropriate sector;
- f) profit obtained from the sale of the association's product. Deductions from this profit into the association's development fund are made in accordance with the procedure for the formation of the production development fund that is in effect for the industrial enterprises of the appropriate sectors.

II. Utilization of Economic Incentive Funds

7. The material incentive fund of the scientific-production association is used to pay bonuses to the association's workers for the development, assimilation, and adoption of new equipment, the results of scientific-production activity; to pay awards based on the results of the year's work; to pay outstanding association workers a one-time award for the completion of especially vital targets; to pay bonuses to workers on the basis of the results of socialist competition within the association; and to provide one-time aid. Moreover, the greater portion of deductions and funds coming into the material incentive fund in accordance with subparagraphs "a," "b," "c," and "d" of paragraph one is to be used for bonuses for the development and adoption of new equipment.

The social-cultural measures and housing construction fund of the scientific-production association is to be used for the construction and capital repair of residential buildings and cultural-amenity establishments, also to improve cultural and consumer services for workers of the association.

In addition to the indicated uses of incentive funds, they are to be used for purposes specified by existing Basic Statutes governing the formation and disbursement of the material incentive fund and the social-cultural measures and housing construction fund.

8. The scientific-production association's development fund is used to acquire scientific equipment, instruments, materials, mechanization and automation of production processes, equipment modernization, renovation of capital assets, the financing of other measures aimed at improving work quality, scientific organization of labor, technical equipping of production, the manufacture of experimental models of machinery, equipment, and materials, also for the financing of capital investments.*

9. In accordance with paragraph 52 of the Statute on Scientific-Production Associations, the higher-level authority is not permitted to withdraw or redistribute funds from the scientific-production association's economic incentive funds, except in cases to be determined by the USSR Council of Ministers. Unutilized balances of these funds remain at the disposal of the association and are carried over to the following year.

10. With the adoption of the present Statute, paragraphs 17 and 18 of the decree of the USSR VSNKh dated 25 August 1964 No 81 with regard to the formation and utilization of funds for worker bonuses for the development and adoption of new equipment do not extend to the structural units of the scientific-production association.

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* Funds from the development fund are spent by the scientific-production associations on capital investments, within the limits established for them governing the volumes of noncentralized capital investments for the planning year.

MEANS OF IMPROVING PRODUCTION EFFICIENCY DISCUSSED

Moscow IZVESTIYA in Russian 22 Feb 77 p 2

[Article by Academician A. Yefimov: "Ways To Improve Production Effectiveness"; passages enclosed by slantlines printed in boldface]

[Text] "The dynamic and proportionate development of production, the raising of its effectiveness, and the utmost improvement of the quality of work and the rapid growth of labor productivity -- such is the only true path for further strengthening the might of our motherland and more and more fully satisfying the material and spiritual requirements of the Soviet people." From the CPSU CC decree "On the 60th Anniversary of the Great October Socialist Revolution."

The program for the socioeconomic development of the country in the historical stage of the mature socialist society, the program elaborated by the 25th CPSU Congress, is characterized not only by its humanistic and democratic essence, colossal scale, and complexity of the solution to posed problems, but also by the profound scientific substantiation of those ways and means that lead to the achievement of the planned goal. The all-round assessment of the extant and foreseeable potential of society has enabled the party to set forth the rise in the effectiveness of social production and the improvement of its qualitative characteristics as the main source of resources for the country's further economic growth and the buildup of the people's well-being.

The policy to raise the effectiveness of the economy is dictated on the one hand by some objective prerequisites -- the presence of a multisectoral production organization, a mighty scientific technical potential, and the growth of the occupational and cultural level of the workers -- and on the other hand by the significant limitations of such extensive factors of national economic development as the involvement in production of additional manpower and capital investments.

"To successfully solve the diverse economic and social problems confronting the country," Comrade L. I. Brezhnev said at the 25th CPSU Congress, "there is no path other than that of /rapidly increasing the productivity of labor

and sharply raising the effectiveness of all social production/. Reliance on effectiveness -- and of this it is necessary to speak again and again -- is a most important integral part of all our economic strategy."

On the theoretical level, the category of effectiveness directly flows from the law discovered by K. Marx on economies of worktime and its systematic distribution by production sector. This law assumes the organic unity of production and consumption, and it is necessary to perceive it not only from positions of the reduction of labor and material inputs to produce a unit of output, but also in the sense of the most expedient satisfaction of society's requirements -- both production and personal.

We speak of the Tenth Five-Year Plan as the five-year plan of effectiveness and quality, having in mind the indissolvability of these two concepts, since in this five-year plan and over a longer haul, the expanded reproduction of social utility will take place on an ever-increasing scale despite the relatively lesser growth of usable resources.

The idea of economic effectiveness envelops all facets of social production, beginning with the most important national economic problems and ending with technical and economic problems of the use of concrete types of equipment at various enterprises.

The quantitative expression of effectiveness represents the relationship between the results of production (for example, the magnitude of national income or the volume of produced industrial output) and the inputs of social labor, live and embodied, and fixed production capital, raw and other materials, and energy.

It is necessary to distinguish between the national economic and local approaches to production effectiveness, i.e., analyze and plan its indices both on the scale of the country's economy and by separate sectors and subsectors, economic regions, associations, and enterprises.

Since public outlays function in different forms, this also makes it necessary to apply various indices: The productivity of live labor, the output-capital ratio, unit capital outlays, and material intensiveness. However, in practice varidirected trends involving changes in these indices frequently operate. One variant of production is characterized by high indices of effectiveness in the application of live labor, but lower indices in the use of past labor, i.e., the embodied variety; another variant gives an opposite picture. This gives rise to the necessity for a summary, generalizing indicator of effectiveness, on computation methods of which scientists and experienced employees are now working.

The economic effectiveness of production hinges decisively on the level of the intensification of the national economy. Materials of the 24th and 25th CPSU Congresses convincingly show that the placement on the front burner of the intensive factors of reproduction help reveal and use in the interest of the construction of communism enormous sources for the rapid growth of the effectiveness of management in all its links.

The CPSU CC decree "On the 60th Anniversary of the Great October Socialist Revolution" stresses that developed socialism is characterized "by a decisive turn toward intensive methods of economic development, toward a qualitatively new level and scale of production that permit directly solving problems of the creation of the material and technical base of communism and ensuring the unbroken growth of the workers' well-being."

The shifting of the economy onto an intensive development footing assumes the application of more progressive means of production and technology, the raising of the workers' skills, and the use of more improved forms for planning, organizing, and combining the processes of social labor.

The growth of the capital-labor ratio serves as a main factor of the intensification of production. In the current five-year plan the capital-labor ratio will increase 34 percent in industry, over 60 percent in the public sector of agriculture, and 36 percent in the national economy as a whole. Combined with the measures to improve labor and production organization, this will, in the future, to be sure, beyond the limits of this five-year plan, ensure a labor productivity growth that outstrips the capital-labor ratio growth.

We will recall that as far back as the Ninth Five-Year Plan, 84 percent of the entire increment of industrial output was obtained through a rise in labor productivity. This compares with 73 and 62 percent in the Eighth and Seventh Five-Year Plans respectively. In the national economy as a whole, the raising of labor productivity in the last five-year plan resulted in saving the labor of nearly 20 million employees -- nearly one-quarter of those employed in physical production in 1970.

The following task has been posed in the current five-year plan -- that of achieving through labor productivity growth about 90 percent of the increment of industrial output, the entire increase in agricultural output and of construction and installation work, and no less than 95 percent of the increment in shipments by rail transport. This will permit, during the 5 years, saving the labor of over 25 million employees in the national economy as a whole.

The task of supplying all sectors of physical production and the services sphere with contemporary highly effective implements of labor lies primarily on machine building -- the leading sector of heavy industry. It is precisely because of this that the growth of machine building will proceed at an outstripping pace. The output of machine building and metalworking must in the Tenth Five-Year Plan increase 53 percent, while all industrial output will go up 36 percent. This will permit basically satisfying the requirements both of new construction and of the technical reequipping of operating enterprises.

The Tenth Five-Year Plan devotes much attention to the improvement of working conditions and to the gradual supplantation of manual, especially heavy and unattractive, labor. To this end, the production of the means for the

mechanization of labor intensive and heavy construction, materials handling, loading and unloading, and warehouse operations will be increased about 2-fold during the five-year plan.

In the production of the implements of labor, the shift from the development and introduction of individual highly productive machines to the development and application of entire systems of machines enveloping the entire technologic process, as well as the growth of the unit capacity of machines and systems, serves as an important factor for intensification.

The improvement of the implements of labor is closely connected with the introduction of new technologic processes, primarily progressive technology featuring fewer operations (for example, blast furnaceless metallurgy, spindleless spinning, and drawloomless weaving) and technology ensuring maximum economies of starting raw and other materials and fuel and excluding environmental pollution.

Production intensification is also achieved by the broader application of materials having high operational and use properties. What is posed in this five-year plan is the task of significantly improving the assortment of metal products by increasing the production of high-quality steels, especially through the methods of electroslag and vacuum smelting. With an 19-percent increase in the overall growth of rolled ferrous metals, the production of cold-rolled sheet steel, cold-rolled transformer steel, and rolled products from low-alloyed steel will be increased 45-57 percent. The share of aluminum, titanium, and polymers will be increased in the production of construction materials. The accelerated growth of the chemical and petrochemical industries must ensure an 2-fold increase in the production of synthetic resins and plastics. The production of materials with pre-assigned properties will be expanded.

A reduction in the material intensiveness of production will, during the five-year plan, save nearly 8 million rubles throughout the national economy in 1980.

Given contemporary conditions, the pace of production improvement on the basis of technical progress will hinge more than ever before on the extent and mass nature of the technologic application of the accomplishments of science, technology, and advanced experience, on the close amity of scientific institutes and the engineering services of enterprises with advanced workers and production innovators.

The experience of the collectives of many enterprises of Moscow, Leningrad, and other industrial centers shows that a creative attitude toward labor and the initiative of the workers at large introduce significant correctives and additions in the engineering elaborations of designs and in technologic decisions. And this is quite understandable if one takes into account the continuous growth of the occupational mastery and educational level of the workers in all national economic sectors.

There are enormous possibilities for the intensification of production in capital construction. Allusion is primarily to the reduction of what at

times is excessively long construction time. The main reason for this situation, as has been frequently noted in party and government documents, lies in the dispersal of capital investments instead of their concentration on the most important objects. The problem of further improving the planning of capital construction also demands more attention. It is primarily necessary to eliminate the still extant gap between the plan for construction and the deadline for the introduction of production capacities. What frequently happens in practice is that the plan for outlays for construction is fulfilled 100 percent, and the plan for the commissioning of new objects is fulfilled only 70-80 percent and, in some sectors, even 60 percent.

A characteristic trend of economic development in case of the intensive type of reproduction is that the growth of national income and of the output of the basic national economic sectors outstrips the growth of expanded capital construction. As early as in the Tenth Five-Year Plan, the amount of capital investments and the country's national income must be increased in the same amount -- 26 percent, whereas in the last five-year plan capital investments outstripped the growth of national income used for consumption and accumulation by nearly 1.5-fold.

Fundamental is the fact that capital investments are now primarily channeled into the technical reequipping and reconstruction of operating enterprises, which permits increasing production capacities without new construction or with reduced unit capital outlays and putting them into operation much more rapidly. Computations made, for example, for some reconstructed enterprises of the Middle Urals show that economies of capital investments reach 44 percent in comparison with new construction.

Capital investments for the technical reequipping and reconstruction of operating enterprises will in the Tenth Five-Year Plan increase about 64 percent, including 67 percent in industry as a whole and nearly 80 percent in machine building.

The concentration of capital investments on the most important national economic objects and a reduction in the time for their construction and in the amount of incomplete construction will permit increasing the introduction of fixed capital by nearly 40 percent despite a capital investment growth rate that is reduced below the level of the last five-year plan.

The basic directions on national economic development in the Tenth Five-Year Plan, the directions confirmed by the 25th CPSU Congress, mention among the important conditions for the technical reequipping and intensification of production the concentration of production and the upgrading of the level of its specialization and cooperation.

Production concentration functions as a kind of catalyst of technical progress, and it permits applying with high effectiveness contemporary technology for mass-flowline production. A high degree of concentration is characteristic of all national economic sectors. The process of

production concentration has now been accelerated as a result of the establishment of large associations -- a qualitatively new phenomenon in economic management. Whereas there were 608 associations in industry in 1970, the number of production and science and production associations was 2,300 in 1976.

The new forms of management are contributing to the development of the specialization of enterprises. What has been effectively planned is the line on the development of large-scale specialized works, especially in machine building. It is known that the specialization of enterprises increases labor productivity steeply, frequently 5-10 and more fold, and exerts a conspicuous effect on the economic results of production.

Given the conditions of the socialist economy, which is being developed on the basis of a unified national economic plan, the improvement of the planning of national economic development is of primary, largely decisive, significance for raising production effectiveness. In revealing the essence of the philosophy of socialist planning, Comrade L. I. Brezhnev has pointed out that it must live not only today, but also tomorrow, see prospects, elaborate and make fundamental decisions promising an important success and gain in the future, find the means for the realization of these decisions, and be able to effect a broad economic maneuver.

It is possible to say without exaggeration that a most important function of planning, a function reflecting the basic advantages of the socialist economic system, lies in the deliberate formation, proceeding from the interests of the entire society, of proportions -- general economic, intersectoral, and intrasectoral.

The implementation of the party's economic strategy has in the last decade led to very substantial changes in national economic proportions. As an example, we will point to the redistribution of accumulations in favor of agriculture. Whereas in the 1961-70 period capital investments in this sector for production construction totaled 110 billion rubles, in the 1971-80 period they will reach 260 billion rubles. Their share in overall capital investments will increase from 18 to 23 percent.

Important changes are taking place in Soviet industry. The share of the sectors mostly determining technical progress and the structure and effectiveness of the national economy, such sectors as machine building, electrical engineering, and the chemical and petrochemical industries, in the overall volume of industrial production has been raised from 31 percent in 1970 to 36 percent in 1975; and in this five-year plan will reach over 40 percent. This will serve to accelerate the shift of the entire economy onto a most modern technical and technologic foundation.

A characteristic example of the qualitative restructuring of our country's industry is the change in the structure of its energy potential. The introduction of capacities at atomic and hydroelectric stations will in the current five-year plan be increased 2.1-fold, including 4-fold at atomic stations.

The effectiveness of social production is determined by the improvement not only of its sectoral, but also of its territorial structure, by the integrated development and the specialization of the republics and economic regions in the all-union division of labor. This affords an opportunity for correctly combining the interests of every republic with the interests of the state as a whole, for involving the most advantageous fuel and energy and mineral and raw material resources in national economic turnover, and rationally placing the production of the most important types of industrial and agricultural products.

In this connection, it is necessary to stress the special significance of the further accelerated development of the economy of the country's eastern regions, which have very abundant natural resources. In these regions, the Tenth Five-Year Plan contemplates obtaining the entire increment of fuel extraction, of aluminum production and markedly increasing the output of electric power. This will permit developing rapidly and with great economic effect energy-intensive production and some other important industrial sectors in Siberia, Kazakhstan, Central Asia, and the Far East.

Thus the raising of the effectiveness of social production, as a most important comprehensive indicator of the qualitative changes in the socialist economy, hinges on the action of many factors. But the most important remains the creative, selfless labor of millions of Soviet people, the concern of every worker about the zealous management of the economy, about economies in major and minor matters, and about the achievement of the highest results in the socialist competition for the successful execution of the decisions of the 25th CPSU Congress and the assignments and counterplans of the current year -- the year of the 60th anniversary of October -- and the five-year plan as a whole.

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INTEGRATION OF SCIENCE WITH PRODUCTION

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[Text] The policy of increasing the efficiency of social production and improving the quality of work, substantiated in detail by the 25th CPSU Congress, is inseparably connected to continued acceleration of scientific-technical progress. This in turn requires both a significant increase in the scope and an improvement in the quality of scientific research and a more rapid incorporation of their results in new equipment and technology, new materials and types of production, in new organization of labor and production as a whole. The practical adoption of new scientific ideas, it was pointed out in the Summary Report of the CC CPSU to the 25th party congress, is today no less an important task than their development.

Along what basic lines is this problem being solved and will be solved? First of all, through improvement and strengthening of ties between science and production, uniting the efforts of scientists and specialists with the efforts of those who are directly responsible for scientific achievements, through involving in an active struggle for acceleration of scientific-technical progress all sectors of social progress, all parts of the operational mechanism. Pointing to the importance of work in this direction, Comrade L.I. Brezhnev said in a speech at the October (1976) Plenum of the CC CPSU: "Our party congresses posed with special care the task of strengthening the relation of science to production."

Integrating processes in the system of "science--production" have been developed to a large degree in our country. Good results have come from direct ties between scientific institutions, including academic institutes, and production enterprises, achieved on the basis of economic agreements, agreements on creative cooperation, long-term programs of cooperation, coordination plans and so on. In Moscow, for example, more than 800 scientific-research institutes and design bureaus are working on different developments on the basis of agreements on creative cooperation with industrial enterprises for improving production and management and improving production quality.

A promising and qualitatively new form of organic union of science and production and at the same time a qualitatively new development in management of industry are production, scientific-production, production-technical and other associations, comprising large scientific-production complexes. These complexes began to be created in our country not long ago, but are already rather widespread. By the beginning of the Tenth Five-Year Plan, the country had 2,300 associations, 24 percent of which dealt with union industrial production. In 1980 the process of creating such associations in industry should be completed.

What is the new quality of this form of integration science and production? It is, first of all, the fact that scientific-research institutes, planning-technological and design institutions become associated organizationally with production enterprises. Furthermore, in production associations where head enterprises are industrial enterprises, scientific institutions become structural subdivisions, while in scientific-production associations, they play the role of head organizations. In the one and the other case, there is a marked growth of the scientific-technical potential of the association, and more favorable conditions are created for its realization owing to the fact that scientific workers become direct participants in the production process.

There is still another side to the problem. Creation of associations leads to the expansion of enterprises, which opens up added possibilities for greater specialization and cooperation of production, for the more efficient use of production areas, material, labor and financial resources. In other words, expanded opportunities are created for production itself to adopt and apply in practice the achievements of present-day science and technology. In small and even medium-size enterprises such possibilities are naturally quite limited.

We would like to dwell in greater detail in our talk on the operation of scientific-production associations. First of all, let us point out that these associations by virtue of the specifics of these or those sectors of industry and the special features of the problems facing them differ from one another. Let us say that they can be divided according to the character of their final product into four basic types. Some of them (like the Akkumulyator, the Elektroapparat, the Kondensator and others) create new examples of industrial products. Others, for example the Pozitron, produce both new models of products and manufacturing equipment for their fabrication. The third, such plants as the Neftekhim, create new types of materials and new manufacturing processes. Finally, there are associations engaged in the manufacture of mechanization equipment and automation of production, as well as automated control systems. Scientific-production associations differ also in their internal structure.

But with all their structural and other differences, these associations represent rather a clearly marked form of scientific-production complexes. Their special feature is that they encompass in their operation all the parts

of the "research-production" cycle, beginning with the statement and development of new scientific ideas to the organization of manufacture of new production. Furthermore, the technology developed here of series production together with equipment, fixtures and accessories, labor and material norms are turned over to other enterprises and associations. In distinction to production associations, scientific organizations that are usually serviced only relative to the needs of their industrial subdivisions and scientific-production associations ensure a higher technical level and efficiency of production for all sectors of the industry to which they belong.

All this, naturally, is a marked step forward. Formerly the creation and utilization of new technical equipment were achieved principally on the basis of turning over-acceptance of separate operations to structurally separate and economically unrelated organizations. Such turning over-acceptance used to take much time because of the inevitably different kinds of agreements. In addition, enterprises receiving technical documentation frequently had to correct independently it while taking into account those of their special features which could not be considered at the stage of experimental-design and technological development.

These barriers are being removed in scientific-production associations. Unified control of research, planning-design and technological work ensures clearly defined interaction of all subdivisions. Idling from coordination and transfer of work is eliminated. The possibility emerges of combining operations and performing them in parallel. Thus, prior to termination of research, planners can go on to the compilation of an engineering design, and not waiting for its completion, to the compilation of working instructions.

The organization of such an operation results first of all in a significant--two- to threefold--reduction in the duration of the "research-production" cycle. For example, the creation of the Pozitron Scientific-Production Association made it possible to reduce the duration of this cycle from three years to one year. The cycle was reduced from 6 years to 3.5 years at the Argopribor Association, from 3.7 years to 2.2 years at the Znamya Truda Association and from 2-3 years to 1-1.5 years at the Pishchepromavtomatika Scientific-Production Association.

The quicker that scientific ideas are realized in mass production, the quicker naturally will renewal of industrial products take place. Let us say that the Soyuzsteklomash Association has been able to reduce significantly the time interval between the development of a new product and the organization of its series output. A line for producing polished glass with the latest manufacturing method was planned, created and put into operation in record time--in only 14 months. At the same time, the share of new products in the total volume of production grew perceptibly at the association. In 1971, this share amounted to 31 percent and in 1975 it had increased already to 71 percent.

Scientific-production associations also ensure a higher level of quality for their products. At the Elektrokeramika, Akkumulyator and Kondensator associations the share of the highest-quality category products was 1.5-2.5-fold higher than for the ministry as a whole.

And one more important factor. Possessing considerably greater possibilities than separate institutes or enterprises, associations achieve greater effectiveness in scientific-research and experimental work. For example, the combined effectiveness of all scientific and technical developments at the Sakhar Scientific-Production Association increased in the first four years of its existence from 5.7 million rubles to 10.5 million rubles. The return per ruble of expenditures increased in the same period from 6 to 7.2 rubles. This is far from the most striking example of growth of economic effectiveness of developments at the scientific-production association.

The number of comparable examples for different positions could be multiplied significantly. But the presented facts, we think, serve as sufficiently convincing evidence of the great success of integrating science and production within the framework of scientific-production associations and of their really big contribution to the general job of accelerating scientific-technical progress.

A great deal could also be said about other types of scientific-production complexes. Despite the great specificity of the problems that they solve, they are also characterized by more rapid introduction of the achievements of science in mass production, growth of the technical level and quality of products, increase in the economic effect of using in the national economy newly developed and manufactured products. Major successes have been achieved in this regard in particular at the Moscow Motor-Vehicle Plant imeni I.A. Likhachev, the Leningrad Svetlana and a number of other production associations whose positive experience was highly rated at the October (1976) Plenum of the CC CPSU.

In a word, scientific-production complexes have a big future. Of course, their creation and the first steps of their operation require overcoming certain difficulties. Some associations are still far from realizing the possibilities opening up before them. Now and then, the "fitting," as they say of collectives of researchers, planners and production men proceeds slowly. Some organizational problems are not solved completely.

The party sees these defects and takes steps for their elimination, for the further improvement of the operation of associations and for the strengthening of the ties of science to production. Measures outlined in this connection by the 25th CPSU Congress have been reflected in the State Five-Year Plan of Development of the National Economy of the USSR for 1976-1980, approved by the fifth session of the USSR Supreme Soviet. Fulfillment of the plans of the party will contribute to acceleration of scientific-technical progress, increased efficiency of social production, improvement of the quality of work in all parts of the national economy.

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