

FOR OFFICIAL USE ONLY

JPRS L/9611

16 March 1981

... FBIS 40TH YEAR 1941-81 ...

USSR Report

ECONOMIC AFFAIRS

(FOUO 3/81)

FBIS FOREIGN BROADCAST INFORMATION SERVICE

FOR OFFICIAL USE ONLY

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

COPYRIGHT LAWS AND REGULATIONS GOVERNING OWNERSHIP OF MATERIALS REPRODUCED HEREIN REQUIRE THAT DISSEMINATION OF THIS PUBLICATION BE RESTRICTED FOR OFFICIAL USE ONLY.

FOREIGN BROADCAST INFORMATION SERVICE
P. O. Box 2604
Washington, D. C. 20013

26 February 1981

NOTE FROM THE DIRECTOR, FBIS:

Forty years ago, the U.S. Government inaugurated a new service to monitor foreign public broadcasts. A few years later a similar group was established to exploit the foreign press. From the merger of these organizations evolved the present-day FBIS. Our constant goal throughout has been to provide our readers with rapid, accurate, and comprehensive reporting from the public media worldwide.

On behalf of all of us in FBIS I wish to express appreciation to our readers who have guided our efforts throughout the years.

FOR OFFICIAL USE ONLY

JPRS L/9611

16 March 1981

USSR REPORT
ECONOMIC AFFAIRS
(FOUO 3/81)

CONTENTS

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

- Regulation of Inventions in USSR Discussed
(V. R. Skripko; VESTNIK AKADEMII NAUK SSR, Dec 80)..... 1
- Management Strives To Improve Product Quality
(A. Glichev; VOPROSY EKONOMIKI, Dec 80)..... 9

PLANNING AND PLAN IMPLEMENTATION

- Programmed Measures To Improve Economic Management Cited
(V. Ivanchenko; VOPROSY EKONOMIKI, Oct 80)..... 23

INTRODUCTION OF NEW TECHNOLOGY

- Better Technical Progress Indicators Sought
(V. Astaf'yev, et al; VOPROSY EKONOMIKI, Dec 80)..... 35

- a -

[III - USSR - 3 FOUO]

FOR OFFICIAL USE ONLY

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

REGULATION OF INVENTIONS IN USSR DISCUSSED

Moscow VESTNIK AKADEMII NAUK SSR in Russian No 12, Dec 80 pp 55-61

[Article by Doctor of Juridical Sciences V. R. Skripko: "Legal Regulation of Inventions in USSR"]

[Text] The CPSU Central Committee decree on "Socialist Competition for a Worthy Welcome to the 26th CPSU Congress" emphasizes the fact that the circumstances of scientific-technical progress make it necessary to direct the efforts of the scientists, specialists, inventors and efficiency experts to the task of resolving the fundamental problems of technical improvement and intensification of production, development and introduction of the most modern means of mechanization and automation, progressive technology, and scientific organization of labor. Article 47 of the USSR Constitution guarantees to the citizens freedom of scientific and technical creative endeavor. The Soviet state provides the necessary physical conditions for this purpose; it organizes the introduction of inventions and rationalization suggestions in the national economy and the other spheres of social living.

In our country the activity in the field of invention has become a significant factor in increasing labor productivity and enhancing the quality and technical level of the output. This helps in the development of the productive forces and makes a great impact on the economic system. The period of the Ninth Five-Year Plan, for example, saw the introduction of 195,000 inventions in the national economy and the adoption of 18.5 million rationalization suggestions, which resulted in a saving of 19.6 billion rubles.¹

For improvement of the work in connection with the entire complex of problems pertaining, in particular, to the field of invention, great importance attaches to the CPSU Central Committee and USSR Council of Ministers decree of 12 July 1979 on "Improving the planning and intensifying the influence of the economic mechanism in the matter of enhancing the efficiency of production and the quality of the work."² In accordance with this decree, the new system of planning indicators is being introduced at all the levels of economic operation. In line with a new statute, the work of every enterprise is evaluated not on the basis of "production volume" but on the basis of production of the basic types of output in physical terms and on the basis of the growth of "net" output. This impels the ministries, departments, enterprises and associations to step up the efficiency and quality of the work, to make better use of the fixed capital and reserves, and to obtain a

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

more rapid rate of introduction of the latest achievements of science and technology in production. There has also been a significant growth in the role of invention because technical innovations can only be developed on the basis of the effectiveness of inventions.

Because of this, the development of invention activity has been marked by an increase in the role of its legal regulation, particularly the legal provision for the planning and financing of this activity.

The planning of the invention and rationalization work must direct the creative efforts of the inventors and rationalizers to the accomplishment of the urgent tasks of improving national production. The planning must also provide for expeditious and extensive use of effective inventions and rationalization suggestions, for development of the technical creative skill of the workers and for involving them in active work in the field of invention and rationalization. The planning therefore encompasses all the aspects of this activity: the themes, the introduction of the results of the inventions and rationalization suggestions in production, the calculation of the economic effect of this introduction, the mass organizational work in the realm of invention and rationalization, and the financing of the outlays for this type of activity.

After deciding on the introduction of the inventions they have selected, the enterprises and organizations incorporate them in their current and long-term plans, define the responsibility for fulfillment, and indicate the time limits for fulfillment as well as the procedure for financing and the sources of material supply. Of special interest is the work of the Leningrad Electric Machine Building Association Elektrosila, which introduced continuous planning of the introduction of inventions back in the stage of submitting the requisition to the USSR State Committee for Inventions and Discoveries. Concurrently with the formalization of the requisition they draw up the assignment for introduction, indicating in it the time limit for the preparation of the technical documentation, manufacture of the mock-up and test model, and the starting of industrial production of the invention, "product." Provision is made for the author's surveillance of the product output obtained as a result of the invention. Also evolved is a close creative cooperation between the production shops and the development personnel. Evidence of the effectiveness of the system of continuous planning is the fact that during the period of the Ninth Five-Year Plan the association introduced 310 inventions which yielded nearly 7 million rubles of savings.³

Acting in accordance with the prescribed procedure, the enterprises and organizations develop and introduce suggestions for inclusion of the inventions which were incorporated in their plans (depending on their importance and noteworthiness) and also in the state plans for economic and social development of the USSR and the Union republics. In turn, the ministries and departments convey to the USSR State Committee for Inventions and Discoveries information on the inventions which have been accepted for introduction into their system. Jointly with this committee they prepare and submit to Gosplan USSR and the State Committee for Scientific-Technical Work (GKNT) or to the councils of ministers of the Union republics suggestions for adopting the inventions of a sectorial or intersectorial character which are of national economic importance and incorporating them in the state draft plans for the economic and social development of the USSR or the Union republics.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The planning of the economic effect of the results of the introduction of inventions and rationalization suggestions is coming to be a part of the overall plans for increasing the effectiveness of the production-management, scientific-research, or other types of activity of the enterprises and organizations. The determination of this effect is based on "The Methods of Determining the Economic Effectiveness of National Economy Use of New Equipment, Inventions and Rationalization Suggestions," as approved on 14 February 1977,⁴ by the GKNT, Gosplan USSR, the Academy of Sciences USSR and the USSR State Committee for Inventions and Discoveries; the determination is also based on the industry regulations compiled on the basis of these methods. Experience shows that in the development of new equipment and technology optimum effect is achieved by the enterprises and organizations which have previously planned and applied the qualitatively new and progressive technical solutions based on the pertinent inventions. Thus, for example, in the Ministry of Petroleum-Refining and Petrochemical Industry USSR in 1977 six new technical installations developed on the basis of inventions produced 15 million rubles of savings for the national economy while 12 other new installations which did not make use of the results of inventions produced savings of only 20.7 million rubles. In other words, technology based on the use of inventions yielded nearly 1.5 as great an economic effect as the technology which did not make use of these results.⁵

A major role in the legal regulation of inventions is played by the financial provisions for invention and rationalization work and by effective utilization of the allotted funds.

According to the laws now in effect⁶ the financial outlays of the enterprises, organizations, institutions, associations, ministries and departments for inventions and rationalization are carried out in accordance with special estimates which are incorporated as an integral component of the yearly industrial (economic) plans of financing.

The estimates of outlays for inventions and rationalization provide for expenditures for the manufacture and testing of models and patterns and the organization of production, the payment of awards to the authors of inventions and rationalization suggestions, bonuses for assisting in inventions and rationalization, etc.

The expenditures incurred by the ministries, departments and All-Union and republic industrial associations in accordance with the estimates of outlays for inventions and rationalization are defrayed from the budgetary appropriations and the assets of several centralized funds (the fund for putting new equipment into operation, the common fund for the development of science and technology, and the centralized fund for payment of bonuses for the development and introduction of new equipment). The enterprises, organizations, institutions and associations defray the outlays for inventions and rationalization from the assets provided by the production estimates (the cost accounting enterprises and organizations) or the assets based on the estimates for their maintenance (the organizations and institutions which are in the state budget system or are financed by some other method) and also the assets of certain funds which are on hand at the enterprises and in the organizations and associations (the fund for production development, the enterprise fund, and the fund for payment of bonuses for the development and introduction of new equipment). Besides this, the construction organizations can

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

make use of the portion of the savings left at their disposal from the amount obtained as a result of a reduction in the prices for construction without a lessening of its quality.

The outlays connected with the preparation for introduction of inventions and rationalization suggestions which are in the sectorial or intersectorial category are made from the assets allotted from the budget and also from the relevant centralized funds of the concerned ministries.

Experience has shown that there is in many respects no justification for the separate planning and financing in effect until recently for the assignments for development of scientific-research and planning and design work and for measures pertaining to the development and introduction of new technology. As a consequence of this, there has been lacking the necessary relationship between the plans of the scientific research institutes and the planning and design organizations and the enterprises' plans for the development and introduction of new technology. It has also slowed down the rates of practical application of the results of research and development, has failed to establish the reciprocal responsibility of the scientific research institutes, the design and technological bureaus, and the enterprises in respect to the development and putting into operation of new equipment and the introduction of new technological processes within the prescribed time limits. Important inventions which could further the acceleration of scientific-technical progress have been put into practice at a very slow pace or else have not been introduced at all.

All this has demonstrated the need to establish an indissoluble link between the creative process of development of the invention concept and the process of creating the new technology, thus joining the theoretical aspect of the research with the "materialization" of the new designs.

This problem was also effectively resolved in the 12 July 1979 decree of the CPSU Central Committee and the USSR Council of Ministers.

To expedite scientific-technical progress and increase the production of new highly-effective output, this decree establishes in the ministries and departments a single science and technology development fund for financing scientific-research and experimental-design work and for reimbursement for outlays connected with the development and putting into operation of new types of products and technology and with the introduction of scientific organization of labor; also for financing the outlays for improvement of the quality of the output and providing compensation for the expenses incurred in the first years of production of the new output. This fund is derived from withholdings from the planned profit of the scientific production and production associations (enterprises) on the basis of the norm established in the five-year plan (with a breakdown by years) in percentages of the "net" (normative) output and in some industries percentages of the commodity production. The industrial ministries are authorized to transfer a portion of the assets in the common fund for development of science and technology to the All-Union (republic) industrial associations and large production and scientific production associations.

For the financing of especially important scientific research work requiring considerable outlays, in addition to the assets of the common fund for the development

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

of science and technology, use of assets from the state budget is also authorized.

It should be noted that prior to the issuance of the July decree, measures for the establishment of a common fund for the development of science and technology were implemented on an experimental basis in some industry sectors, particularly the electrotechnical, heavy, and electric power industries and transport machine building.⁷ The measures yielded good results.

The object of the planning and financing in this field became, not the scientific research organization, as was the case previously, but the specific theme or project. The planning encompasses all the stages of accomplishment of the scientific development work (up to the point of putting the results into operation). Coordination of the work on each theme is the function of the leading organization, which is responsible for fulfillment of the assignment. The financing of the work is accomplished through this organization in proportion to the actual fulfillment (based on the goods and job orders drawn up for the theme as a whole).

The system of continuous thematic planning on the basis of goods and job orders and the establishment of a common fund for the development of science and technology make it possible to concentrate the material, labor and financial resources on the most important directions of scientific-technical progress, to join the process of development of new technology with the creative process of evolving new inventions, and to direct the efforts of the inventors in the principal directions of the development of the industry and the national economy. At the same time, the financing of scientific and technological development from a common fund and, in essence, from the profit of the enterprises strengthens the motivation of the enterprises for maximum rapidity of the introduction of the scientific results in production and for shortening the research-development-production cycle.

The following facts can attest to the effectiveness of the new system of financing the development of science and technology: Whereas in 1977 in our country as a whole the number of inventions introduced with a yearly economic effect of 100,000 rubles and more was only 3 percent of all the inventions introduced, the electrotechnical industry, which began to employ this system starting back in 1968, obtained an average yearly economic effect of 100,000 rubles from every invention introduced. Back in the mid-1970's the time periods for the development of new products in the industry were shortened to 2/3-1/2 the previous level and the economic effect from the use of the electrotechnical industry output increased six-fold.⁸

As a rule, inventions are intersectorial in character. Nearly every invention (or rather the principle of an invention developed in any industry for some specific purpose) should also be suitable for use in other industries for the most diverse purposes. The use of inventions and the machines, technology and consumer goods developed on the basis of these inventions, not in one but in many production sectors, leads to an increase in the scale of use of the inventions and consequently to a reduction in their production cost.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Evolving as an important legal form of proliferation and introduction of scientific-technical achievements has been the contract for the transmission of technical methods (for a definite payment). This contract obtained widespread practical use following the adoption by the USSR Soviet of Ministers of the 27 August 1971 decree on "Increasing the reciprocal economic incentive of the enterprises and organizations for the transmission of their scientific-technical achievements and for the use of the advanced experience borrowed."⁹ In accordance with this decree the USSR State Committee for Science and Technology on 31 December 1971 approved a standard contract to be used when enterprises and organizations transfer their scientific-technical achievements to other enterprises and organizations and render assistance to them in the use of the borrowed advanced experience.¹⁰

Arising on the basis of this contract were essentially completely new and previously unknown relationships between the organizations for the transmission of advanced experience. The experience transmitted by the developer enables the recipient to create new equipment (technology) in shorter time periods with minimum costs and with a strong likelihood of obtaining the planned economic effect.

Contracts for the transmission of scientific-technical achievements are concluded in instances when the borrowing party is given technical assistance in putting the achievements into operation (manufacture and delivery of models, installation and adjustment of equipment, joint tests, etc.) or when the technical documentation delivered is being revised to make it conform to the production conditions of the borrowing party.¹¹

The subject of this contract is not the scientific-technical work itself but only the models of new machines, the new types of raw material and material, the progressive technological processes, and the assistance to be given for putting them into operation. The content of the scientific-technical findings to be delivered, the time limits for their delivery, and the character, volume and time periods for the technical assistance are all defined by the parties and specified in the contract.

The borrowing organization is committed to making payments to the other party and to achieve maximum effectiveness in using the material delivered to it. The principles of compensation for delivered findings are based on the concept that in our country any scientific-technical achievement can be freely used by any state enterprise and organization. Consequently, the scientific-technical finding itself is transmitted without charge; payments are made only for the forms in which it is transmitted (technical documentation, models and assistance given for putting the new development into operation).

Experience indicates that the greatest demand is for findings on the level of inventions safeguarded by authors' certificates within the country and foreign patents.

Legal regulation of inventions in our country is carried out on the basis of the Statute on Discoveries, Inventions and Rationalization Suggestions as approved by the 21 August 1979 decree of the Council of Ministers USSR.¹²

It should be emphasized that regulation of the relationships which evolve in the process of development and introduction of inventions and rationalization

FOR OFFICIAL USE ONLY

suggestions is of a comprehensive character because it embraces administrative, civic, financial, labor and other relationships. Consequently, increasing the effectiveness of the process of development of inventions and introduction of technical achievements in the national economy requires the working out of a broad complex of economic, legal and organizational measures. This cannot be accomplished in the proper manner on the basis of the normative document now in effect.

The All-Union scientific and practical conference on "Problems of Improvement of the Invention Law and Development of Statutes on Inventions in the USSR," which conference was held on 10-12 March 1980 by the USSR State Committee on Inventions and Discoveries, the Institute of State and Law of AS USSR, and the Central Council of the VOIR [All-Union Society of Inventors and Efficiency Experts], noted that the implementation of a large complex of measures relating to improvement of planning, financing and economic motivation in the field of invention can only be achieved on a higher level of legal regulation--on the level of law.

The urgency of this matter is indicated by the fact that the 12 July 1979 CPSU Central Committee and USSR Council of Ministers decree on "Improvement of the planning and strengthening of the influence of the economic mechanism in increasing production efficiency and work quality" emphasizes the need for a close relationship between the plans of economic and social development of the USSR and acceleration of the implementation of scientific-technical findings designed for stepping up the rates of growth of labor productivity and output quality. This is one more proof of the increased role of inventions and rationalization suggestions in our country's economics.

The need for the working out of a law on inventions in the USSR also stems from the steady expansion of our country's economic and scientific-technical cooperation with foreign socialist countries, most of which carry out legal regulation of inventions, not on the level of normative documents under the law, but on the level of specific laws.¹³

FOOTNOTES

1. See VOPROSY IZOBRETATEL'STVA [Problems of Inventions], 1978, No 8, p 4.
2. See PRAVDA, 1979, 29 July.
3. See VOPROSY IZOBRETATEL'STVA, 1977, No 1, pp 10-11.
4. Ibid, 1977, No 7, pp 46-64.
5. Ibid, 1979, No 2, p 5.
6. See SP [Collection of Government Regulations and Decrees], USSR, 1973, No 19, p 109; VOPROSY IZOBRETATEL'STVA, 1979, No 5, pp 51-59.
7. See SP, USSR, 1968, No 18, p 122, 129; No 14, p 98.
8. See VOPROSY IZOBRETATEL'STVA, 1976, No 2, p 45; 1979, No 2, p 6, 13.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

9. See SP, USSR, 1971, No 16, Art. 118.
10. See "Bulletin of Normative Documents of the Ministries and Departments of USSR," 1973, No 4, pp 25-28.
11. See VOPROSY IZOBRETATEL'STVA, 1974, No 3, p 15.
12. See SP, USSR, 1973, No 19, Art. 109.
13. See, for example: Law of NRB [Bulgaria] of 8 October 1968 on "Inventions and Rationalization Suggestions" in the book "Laws of the Socialist Countries on Inventions," Vol 1, Moscow, TsNIIPI [Central Scientific Research Institute of Patent Information and Technical and Economic Research], 1975, pp 81-105; Law No 2, 1969, VNR [Hungary] on "Patent Safeguarding of Inventions"--Ibid pp 5-27; Law of PNR [Poland] of 19 October 1972 on "Inventions"--Ibid pp 106-134; Law of CSSR of 1 November 1972 on "Discoveries, Inventions and Rationalization Suggestions and Industrial Models"--Ibid, Vol 21, pp 128-175.

COPYRIGHT: Izdatel'stvo "Nauka", "Vestnik Akademii nauk SSSR", 1980

7962
GSO: 1820

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

MANAGEMENT STRIVES TO IMPROVE PRODUCT QUALITY

Moscow VOPROSY EKONOMIKI in Russian No 12, Dec 80 pp 114-124

[Article by A. Glichev: "Orienting the Economic Mechanism toward Improved Product Quality"]

[Text] As a source of growth in production efficiency, improved product quality and state-of-the-art create the physical basis for developing this growth and for satisfying the growing needs of the Soviet people. At the June 1980 CPSU Central Committee Plenum, L. I. Brezhnev declared improved production efficiency and work quality the major goal that should continually be in our sights.

Enhanced product quality contains major reserves for increased productivity in social labor, conservation of physical, manpower and energy resources, improved return on fixed capital and accelerated rates of economic development. To uncover these reserves, the economic mechanism must be improved so that it ensures complete product quality control at all levels of the science-technology-production cycle.

For a long period of time, the economic mechanism was primarily oriented on quantitative indicators of production development. In the CPSU Central Committee Keynote Address to the 25th party congress, L. I. Brezhnev emphasized that the entire planning and management mechanism, the entire system of tangible and intangible incentives for employees, the efforts of engineers and designers and workers skills must be directed toward improving product quality. Active, creative work in this direction unfolded at the beginning of the 10th Five-Year Plan. A large package of measures was introduced to update many components of the economic mechanism and to orient it toward a solution of the problems of enhanced product quality and improved production organization and state-of-the-art. First of all, the planning principles for the job of improving product quality were strengthened. For the first time in production planning, economic and social development plans for sectors, union republics, enterprises and associations included targets to increase production of top-quality products.

FOR OFFICIAL USE ONLY

The state standardization system was directed toward solving the problems of improved product quality to a greater degree. There was an increase in the scope of applications for standards. Moreover, primary attention was directed at increasing the scientific and engineering level of standards documents and toward timely implementation of and strict compliance with the requirements in the documents. Over 9,000 State Standards were updated and revised. The newly developed and revised standards include more and more progressive requirements and indicators. At present, the technical standard base being used consists of approximately 23,000 State Standards, over 35,000 Sector Standards, 7,000 Republic Standards and almost 132,000 specifications.

Systems of standards, such as the Uniform Process Production Setup System, the Uniform New Product Production Supply System, the Uniform Measurements System and others, were developed and successfully implemented. There was a simultaneous introduction of new product standards and prices. This procedure made it possible to tie the enterprise economic incentive system in with the targets to improve product quality and state-of-the-art. The establishment of economic penalties for producing products which deviate from the requirements of the standards has improved the practice of introducing standards and compliance with them. The number of unimplemented state standards was reduced by almost a factor of two.

The product certification system has become an effective component of the economic mechanism. The inclusion in the USSR state economic and social development plans (beginning with the 10th Five-Year Plan) of targets to increase production of top-quality products and of targets to certify newly developed products has made the planning of improved quality more concrete. There was an expansion of socialist competition by groups at enterprises, in regions and union republics to increase the production of products with the seal of Quality. Based on its economic scope, certification has been transformed into an important tool of production planning and of evaluating the contributions of enterprises to national income growth.

The job done by industry to improve product quality and to consolidate the organizational principles and methods for this job has had a large impact in accelerating production growth rates for highly efficient products. For example, on 1 October 1980, the State Seal of Quality was awarded to more than 85,000 items. This exceeds the number of such goods at the beginning of the current five-year plan by a factor of three. In the 4 1/2 years of the 10th Five-Year Plan, the percentage of top-quality products in the total volume of commodity (gross) output increased for industry as a whole from 6.5 to 15.2 and, for machine building ministry products, from 18.5 to 32.6. By the end of the five-year plan, it is anticipated that the percentage will reach 16-17 for industry. The production of highly efficient products stabilizes the economic links in the

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

"supplier-consumer" chain and it is important to consider this when organizing product quality control.

Significant changes are taking place in the management machinery at enterprise, individual sector and inter-sector levels due to the widespread introduction of product quality control systems. In August 1975, the CPSU Central Committee approved the experience of party organizations and collectives at leading industrial enterprises in L'vovskaya Oblast in their development and implementation of an integrated product quality control system (IPQCS).

Based on a synthesis of the experience gained by using IPQCS at enterprises in L'vovskaya, Saratovskaya, Yaroslavl'skaya and other oblasts, the State Standard Commission (Gosstandart), in conjunction with the USSR State Committee for Science and Technology (SCST) and the State Planning Commission (Gosplan), developed and approved the "Basic Principles for the Uniform State Product Quality Control System (USPQCS)." They formulated ways to achieve the main goal of a product quality control system, systematized the special functions for improved quality of process control and established the system's hierarchy and developmental stages. It was clearly indicated that the technical and organizational bases for the USPQCS are the national economic planning system and the state standardization system. The "Basic Principles" are recommended to ministries and departments, union republic Councils of Ministers, associations and enterprises, research institutes, planning and design organizations in their job of using scientific, technological, industrial and socio-economic factors to ensure high, stable rates of improved quality in all types of products.

Product quality control systems are developed in a systematic manner based on the scientific methods of planning large systems of economic organizations. With the participation of employees from industry in 1976-1977, Gosstandart and its leading institute, the National Standardization Research Institute (NSRI), developed a series of recommendations on scientific methods to establish and introduce integrated product quality control systems at enterprises. Based on these recommendations, sectors developed documents establishing the methods for organizing the job of product quality control considering the industry's specific products, specialization and affiliation. During the same period, Gosstandart and its institutes and local agencies widely publicized the experience of leading enterprises and associations in developing and implementing IPQCS's. Over 12,000 industrial enterprises filed documents on the implementation of IPQCS's.

As a management subsystem, the IPQCS has a clearly defined goal--continually improving product quality and enhancing production efficiency on this basis. An important place in this subsystem is occupied by the evaluation of subdivisions' economic performance and the work of each employee by considering qualitative indicators

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

(the percentage of products accepted at the first presentation, the job performance factor for executives and others). Within the IPQCS at the enterprise level, there is an inherent unification of components of the economic mechanism, such as the improved product quality plan, standardization and economic incentives.

Dozens and hundreds of specialists and workers participate in the establishment of an IPQCS at each enterprise. While developing the enterprise standards, they include in them progressive methods for improving product quality by considering advanced techniques. Now that a large amount of experience has been gained, it can be said that this widely developed job is a unique form in the evolution of democratic principles in socialist production management and a means of increasing the creative performance of work groups.

The organizational, economic and social steps taken by enterprises which have implemented an IPQCS have promoted a significant increase in the output of top-quality products, reduced losses due to rejects, reduced the number of complaints and decreased new product development time. For example, at Dnepropetrovsk's K. Ye. Voroshilov Combine Plant, which implemented an IPQCS in 1978, the percentage of top-quality products reached 45.1 and losses due to rejects declined to 0.16 percent of gross production costs. The percentage of top-quality products at enterprises which have implemented an IPQCS is 1.5-2 times higher than the average for the corresponding region or sector. For example, at Georgian SSR enterprises which have implemented an IPQCS, the percentage of top-quality products was 33 while the total for the republic was 18.7; in the Latvian SSR, the corresponding figures were 35 and 18.8 percent.

With the large-scale implementation of an IPQCS, there has been a significant increase in production efficiency not only for individual enterprises but for regions and sectors as a whole. For example, in the three union republics which have implemented IPQCS's most aggressively, the percentage of top-quality products has increased: from 12.6 percent in 1976 to 22.8 percent in 1979 in the Belorussian SSR; from 9.7 percent to 18.8 percent, respectively, in the Latvian SSR; and from 8.8 percent to 17.3 percent in the Lithuanian SSR. As shown by an NSRI analysis, the IPQCS promotes an increase in industrial discipline. The average number of standards and specifications violations at a single enterprise which had implemented an IPQCS declined by a factor of 1.5-3.5.

During the 10th Five-Year Plan (according to a preliminary estimate), individual ministries whose products have a significant effect on rates of technological progress achieved a high percentage of top-quality product production: the Ministry of the Electronics Equipment Industry (45.1 percent), the Ministry of the Petroleum Equipment Industry (35.3 percent), the Ministry of the Automobile Industry

FOR OFFICIAL USE ONLY

(37.6 percent), the Ministry of the Instrument Industry (32.7 percent), the Ministry of the Machine Tool Industry (32.8 percent) and the Ministry of the Chemical Machinery Industry (30.0 percent). Compared to the others, these ministries have fewer non-certified products. For a number of the most important product types, the share of top-quality products is continually growing. For example, during the 10th Five-Year Plan, the production of top-quality power transformers increased from 40.8 percent to 53.2 percent; top-quality metal-cutting machine tools increased from 19.2 to 44.2 percent; and top-quality forge-and-press machines increased from 16.3 to 39.7 percent.

Enterprise-level product quality control does not by any means solve all the problems of improving product quality and state-of-the-art. In-depth industrial sector specialization splits the product development and manufacturing process; moreover, individual elements and levels are dispersed and it is more difficult to coordinate them in time. It is difficult to achieve engineering, standards and day-to-day coordination, which results in larger gaps between new product development periods at research institutes and design bureaus and production of top-quality products at enterprises and in broken deadlines for coordinated raw materials, materials and component deliveries. A lack of current or minimum inventories in these cases leads to irregular enterprise operations and, as a result, poor product quality. These and other reasons objectively necessitated a solution to the problems of product quality control at higher management levels.

During the 10th Five-Year Plan, the first practical steps were taken to coordinate sector and territorial product quality improvement planning methods. This work took the form of "Five-year plans of quality." Based on recommendations from the NSRI, such five-year plans were drawn up and successfully implemented at enterprises in Moscow, Minsk, Kiev and Novosibirsk and in Moskovskaya, Kostromskaya, L'vovskaya, Odesskaya and other oblasts. A number of ministries achieved a great deal of success in improving work organization to improve product quality at the sector level. The Ministry of the Electronics Equipment Industry, the Ministry of the Instrument Industry, the Ministry of the Machine Tool Industry, the Ministry of Light Industry, the Ministry of Agricultural Machinery and others are developing and successfully implementing sector product quality control systems (SPQCS). Sector product quality control systems are presently being developed by 22 union ministries. The sector systems not only ensure implementation of the IPQCS at all enterprises but also solve the quality improvement problems that enterprises cannot take on themselves.

An important stage will be the development of republic product quality control systems (RPQCS), which will make it possible to integrate sector and territorial quality control on the union republic scale. Such systems are being developed in the Latvian SSR,

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

the Armenian SSR and the Belorussian SSR. The most complete RPQCS is being implemented in Latvia. As a result of the introduction of the first phase of the republic system in the Armenian SSR, there was a significant increase in the production of top-quality products, which was 15.6 percent on 1 June 1980. The republic exceeded the country's average for this indicator.

A number of industrial centers are developing city product quality control systems. A city industrial product quality control system developmental program is being implemented in Moscow. Guidance on scientific methods for this job is being provided by Gosstandart, its research institutes, the Moscow City Planning Agency and other city organizations.

At the city level, they are developing and implementing long-term and current product quality and state-of-the-art improvement plans and programs, mobilizing work groups to fulfill and over-fulfill these plans, synthesizing and disseminating advanced quality control techniques and developing socialist competition to achieve high item quality. The primary quality control operating agencies at this level are: the city planning commission, Gosstandart's Moscow Standardization and Precision Measurement Center and the statistics administration. The entire job is being directed and supervised by the Public Council on Industrial Product Quality Improvement of the Moscow City Party Committee [MGR] of the CPSU.

To increase the coordination of enterprises and city organizations in finished product quality improvement, creative cooperation is expanding among collectives at industrial enterprises and research organizations and development organizations. The cooperation is developing based on a slogan which appeared in the city: "An Assurance of Quality--From Design to Finished Product." The organizations make contracts on cooperation, develop joint documents on standards and provide mutual assistance and supervision during all stages of product development. All of this ensures high quality in design formulation and in the manufacture of series products and it ensures skilled maintenance. Creative cooperation is successfully developing among many enterprises and associations on the foundation set by a number of enterprises, including Moscow's Automatic Transfer Line Plant dedicated to the 50th anniversary of the USSR, the A. I. Yefremov Red Proletariat Machine-Tool Plant, the Sergo Ordzhonikidze Machine-Tool Plant and others. A beginning has been made toward setting up creative cooperation among the collectives at the ATE-1 [Moscow Automobile and Tractor Electrical Equipment Plant], Compressor and Pressure Gauge plants, the Zarya and Bolshevik associations and others.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

In the city's rayons, quality control is ensured by developing and implementing rayon product quality control systems which consist of integrated rayon plans based on enterprise quality improvement plans. This work is directed and coordinated by the CPSU Rayon Committee's Public Councils on Quality. The plans are drawn up using the experience gained by major, leading enterprises and associations and by developing an environment for mutual assistance to improve procedures, work and production organization, production management and personnel training. Universities of quality have been set up in the rayons. Such universities began to operate for the first time in Moscow's Oktyabr'skiy and Krasnopresnenskiy rayons. The rayons and the Moscow City Planning Agency are developing product quality improvement plans for 1981 and for the 11th Five-Year Plan.

The large amount of work done to orient the economic mechanism toward improved product quality has already made it possible during the 10th Five-Year Plan to significantly improve the quality of many product types, to reduce the gap between quality growth rates and requirements and to expand the introduction of integrated product quality control methods at all levels of the national economy. However, in spite of the work that has been done, there are still shortcomings whose correction will accelerate the rates of improved product quality and state-of-the-art.

Products with the State Seal of Quality are being produced by approximately 10,000 enterprises, i.e., less than 30 percent of all industrial enterprises. Compared to 1975, 1978 saw a decline in the percentage of top-quality process equipment for the textile and leather shoe industries, of top-quality tracked cranes and of top-quality excavating machines. Many machines and household appliances frequently break down due to their unreliability.

In a number of cases, certification of products is insufficiently objective and there is a decline in requirements levied on certified items. As a result, articles of low state-of-the-art and quality are being submitted for State Seal of Quality certification. This is why Gosstandart refused to register 370 decisions of state certification commissions during the first quarter of 1980 and 170 articles were stripped of the honorary pentagon. Certain sectors still have a high percentage of products which have not undergone certification. For example, over 30 percent of total commodity output at enterprises of the Ministry of Agricultural Machinery and almost 40 percent at enterprises of the Ministry of Heavy Machinery have not been certified.

The proper job is not always being done to implement and comply with standards. For the national economy as a whole, 260 State Standards were not implemented, standards which set the state-of-the-art and quality for petroleum derivatives, industrial rubber articles,

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

precision alloys and certain types of machines, equipment and machinery. Over 10 percent of the total amount of coal delivered to consumers does not meet the requirements of state standards for ash content, moisture content and fines content. As a result, there is an increase in fuel use, millions of tons of rock are transported and materials handling costs are increasing.

Pursuant to the decisions of the 25th CPSU Congress, industrial ministries are developing integrated standardization programs for the most important product types with guidance on scientific methods from Gosstandart. At present, 142 programs are being implemented. Among them are "Metal-cutting Machine Tools," "Tractors," "Shoes," "Fabric" and others. The transition to the program method is of fundamental importance in organizing the job of improving quality on a large scale. It makes it possible to more accurately define the goal of improved quality and to balance the essential properties of finished products with the quality of raw materials, materials and components. Departmental independence is being overcome and the level of industrial integration is increasing. However, in order to widely disseminate this method, it is necessary to solve many methodological problems. It is well known, for example, that there are methodological and practical problems in balancing the quantitative indicators when the materials balance sheet is compiled. These problems increase greatly when working on a balance for indicators of quality and are even greater for indicators of quantity and quality.

Large opportunities to more completely and broadly orient the economic mechanism toward improved product quality are appearing with the implementation of the CPSU Central Committee and USSR Council of Ministers decree "On Improving Planning and Increasing the Effect of the Economic Mechanism to Improve Production Efficiency and Job Performance." Many product quality control problems are now being solved at the intersector level. It has been established that the ministry which is the leader in producing a specific product is responsible for meeting the requirements of the national economy and the people for the required mix and quality of the product. Procedures have been established for supplier and consumer coordination and this raises many problems of organization and methods for the leading ministries, problems which include developing and implementing methods to accurately determine the pattern of demand. It should be noted that the methods for analyzing, or rather, determining the planned pattern have not been completely worked out yet. The correction of shortcomings in this area will make it possible to significantly improve planning for enhanced product quality.

To ensure a stable growth rate for product quality, a new, important procedure is being introduced in planning. A top-quality product growth indicator (or other equivalent indicator for a specific sector),

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

broken down by years, will be approved for industrial ministries, associations and enterprises. There will be changes to the system of real product measures, changes which will more completely and accurately reflect the product's national economic efficiency, state-of-the-art and other essential properties. For consumer goods, provisions have been made to plan the production of products in real terms for a multiple mix, including children's goods.

The plans for new technology will be more closely coordinated with improved product quality planning. Basic targets are being set to introduce and produce new, highly efficient products, including at newly commissioned enterprises. It is also important that improved product quality will be planned by taking into account the long-term development of social production and enhanced material and cultural standards of living. Provisions have been made to supplement the system of plan indicators and measures for improved product quality with systematic measures to develop, produce and introduce new, highly efficient articles, materials, machinery and equipment and with systematic measures to improve the quality of the products produced. This job has been assigned to ministries and departments and to the union republic Councils of Ministers.

The establishment of precise parameters for improved product quality and accurate planning of them are, to a significant extent, new goals whose accomplishment is complicated by the fact that the economic, engineering and social nature of quality is dynamic. It is necessary to develop scientific quality measurements and evaluation methods based on qualitative analysis and it is necessary to develop areas of improvement in organizational forms and methods for this job both at the enterprise and organization level and for sectors and industries as a whole.

As already noted, in practice, unobjective evaluations of product quality and state-of-the-art are frequently encountered. Product developers and manufacturers are inclined to inflate their evaluations and consumers are inclined to deflate theirs. To overcome this subjectivism, a number of steps must be taken. Specifically, it is necessary, in our opinion, to establish clear-cut procedures and deadlines for conducting non-departmental examinations of the economic and engineering indicators for especially important types of products under development. The non-departmental examination will be conducted both during the request for proposal stage and during operational use when it will be possible to actually evaluate the ultimate results of improved quality. The establishment of these procedures preceded the 1979-1980 evaluation of the state-of-the-art for machinery, equipment and other producer goods. Based on the data obtained, plans called for developing and taking steps to improve the engineering and economic performance of articles being manufactured and those recently put into production and to take obsolescent products out of production. Plans also call for conducting an evaluation of the state-of-the-art for articles periodically in the future.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Ministries must improve the work of state certification committees and introduce scientifically based product quality evaluation methods on a wider basis. Extremely promising for the certification committees is further specialization and the establishment of permanent committees by product types; this will facilitate the committees' increased responsibility for their decisions. State certification committees have to evaluate product quality and obsolescence. A mechanism should be developed that will make it possible to set deadlines for putting new products into production and for taking obsolescent articles out of production based on certification results.

Gosstandart agencies have been instructed to raise quality requirements for standards being developed, ensure efficient review of them and improve supervision over compliance with product certification requirements and certified product quality. For violations of these requirements, provisions have been made for taking away the State Seal of Quality and for reducing economic incentive fund write-offs by the amount of mark-ups (to product prices) transferred to the funds since the beginning of the year in which the violations are discovered. This procedure covers all products for which incentive allowances have been set.

In all activities to improve product quality, a large role is allocated to testing; the match between actual quality and plan targets is established based on test results and management actions are developed in the event of deviations. Because of this, ministries and departments, in conjunction with Gosstandart, must authorize leading organizations for state testing of the most important types of producers goods, recreational goods and household products. Gosstandart has been assigned to provide guidance on state product testing methods and supervision over proper conduct of them. Regulations on leading organizations for state testing have been implemented. Essentially, a process is underway for establishing an orderly, well-organized system for checking the quality of newly developed and old products. This will make it possible to keep from putting products into production or from producing products which do not meet the modern standards set by the national economy and the people.

A significant role in additional improvements to the economic mechanism is allocated to standardization. In conjunction with ministries and departments, Gosstandart has been instructed to revise obsolescent machinery and equipment standards during 1979-1981. Along with other qualitative characteristics, the new standards will include requirements for a decrease in the weight of articles, a reduction in fuel and energy used during operational use and standardization of parts, units and instruments.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Ministries, departments, Gosstandart and its research institutes will have to do a lot of work in a short period of time; they will have to review approximately 2,500 State Standards, numerous Sector Standards, Republic Standards and specifications. These standards must include graduated quality indicators, optimal reliability, productivity and service life indicators and minimum materials and energy consumption indicators. The standards must aggressively stimulate enhanced production organization and engineering and product quality growth. Gosstandart will have to increase its methods guidance on standardization for leading and basic organizations in various sectors and also increase its requirements on draft standards submitted by ministries and departments for review and approval.

To accomplish the goals on improved planning and up-dating the economic mechanism set by the CPSU Central Committee and USSR Council of Ministers decree, a special place is earmarked for integrated standardization. This is an important means of directing resources toward national targeted programs. At the beginning of the 10th Five-Year Plan, as noted above, 142 integrated standardization programs were being implemented, programs which encompass all the basic types of industrial products. Integrated standardization will have to unify the work being done in various sectors to solve major national economic problems, such as developing the country's fuel and energy base, machine building, instrument manufacturing, the agro-industrial system, territorial-industrial systems and the national economy's infrastructure.

Standardization resources are widely used to intensify production specialization. A production standardization specialization program will have to be developed for articles with overall machine building applications and for articles with similar purposes; major, intersector systems of standards for engineering and economic data classification and coding, environmental protection, safety procedures and for solving other major socio-economic problems will have to be developed.

The integration of plan indicators and economic levers makes it possible to develop a better environment for aggressive action by associations and enterprises in using all their reserves to produce highly efficient articles. The decree sets forth a package of measures to increase the role of economic levers and incentives in product quality improvement. Moreover, industrial association and enterprise managerial performance and economic incentives will be evaluated by considering fulfillment of the producer and consumer goods product delivery plan and the product quality improvement plan. Beginning with the 11th Five-Year Plan, associations (enterprises) will have increased economic incentive fund formation standards for a significant increase in the output of new, highly efficient producers goods and new consumers goods. The size of the economic

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

incentive fund is set in direct relationship to the profit obtained from an increase in production of top-quality products.

In establishing the prerequisites for production of articles with a high state-of-the-art and quality, a large role is played by collectives at research, design and planning organizations where the future product's state-of-the-art is laid and high rates of updating and upgrading it are set. A lot that is new has appeared in the management methods of these organizations with the formation of a uniform scientific and technological development fund at ministries and departments. This fund is designed to finance the work and to recover new product development and acceptance costs, the additional cost for improving product quality and the increased cost during initial years of production. At machine building associations, enterprises and organizations, one-time bonuses are being introduced as incentives for managers and employees who directly participate in the development and acceptance of especially important and efficient types of equipment and machinery.

Prices are an effective tool in the economic mechanism. However, in many cases, established wholesale prices for products do not stimulate output. For example, the total additional profit from the sale of products with the State Seal of Quality as a percentage of total profits ranged, for example, from 1.3 to 2.4 percent for the machine building ministries during 1975-1978. As a result, it is economically more advantageous for associations and enterprises to produce highly profitable items with lower quality than to develop new product types. To correct these shortcomings and to establish an environment which will economically stimulate the output of high-quality products, incentive mark-ups to wholesale prices are being set for new, highly efficient producers goods whose parameters meet those of the best domestic and foreign models.

In approving prices, it is important to correctly set the mark-up by considering the economic impact within the established range--from 0.5 to 12.5 of the profit standard--accepted for pricing the specific product or a similar one.

Improvement in the economic mechanism is directed at developing consumer goods production, expanding the mix, updating articles and systematically improving their quality. At the October 1980 CPSU Central Committee Plenum, L. I. Brezhnev said that an increase in the people's well-being is unthinkable without increased efficiency in the economic system and intensification of all social production and the basic trends must ensure significant movement in this direction during the 11th Five-Year Plan. In addition to the general product quality improvement measures in the CPSU Central Committee and USSR Council of Ministers decree on improved planning, there were also special measures for consumer goods. There is a significant increase in the role of the USSR Ministry of Trade which will be the

FOR OFFICIAL USE ONLY

primary customer for consumer goods. The practice of concluding five-year contracts between the USSR Ministry of Trade's main administrations and industrial associations is being implemented. These contracts must have provisions for updating the mix, improving trim and appearance of articles, commodity packaging and other manufacturer commitments which will ensure better satisfaction of demand.

To increase the production of high-quality consumer goods, it is important to find out the consumer's opinion of them quickly and accurately and to realistically evaluate the quality. Industrial ministries will have to develop a network of company stores to sell the consumer goods produced by their subordinate associations and enterprises. Leading industrial ministries which produce recreational, household and domestic goods must enter wholesale markets as general suppliers of goods produced by all their associations and enterprises. All these steps are directed at developing feedback within the product quality control systems and they undoubtedly will increase the reaction time of associations and enterprises to changes in demand for their products.

Consumer goods pricing is also being improved. Wholesale prices for the first test batches of goods and for especially fashionable items and also commercial discounts will be set according to the quality of the essential properties of the goods being supplied. When the State Seal of Quality is awarded to new consumer goods, the temporary wholesale prices set for them are maintained for the entire effective period of the Seal of Quality. When there is significant improvement in the quality of consumer goods and when they are awarded the Seal of Quality, associations and enterprises will increase their deductions for the economic incentive fund. The economic incentive system must increase the manufacturer's responsibility for product quality. Therefore, when the terms of the contract are broken for consumer goods and children's items, the size of the fine levied for short deliveries is increased compared to other goods.

In the near future, among the large group of measures to improve the economic mechanism, a number of steps should be taken to increase product quality and state-of-the-art, including:

- by the middle of the 11th Five-Year Plan, set up IPQCS's at all industrial enterprises and design organizations and, by the end of the five-year plan, set up sector systems;
- expand the developmental work on republic product quality control systems;
- begin development of quality control systems in transportation, agriculture and construction;
- gradually combine all the systems into a Uniform National Quality Control System;

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

conduct systematic training of personnel in advanced work methods to improve product quality and state-of-the-art.

Additional improvement in the economic mechanism will create the necessary organizational and economic environment for total, comprehensive implementation of the "Basic Principles for a Uniform National Product Quality Control System" and thereby ensure an improved state-of-the-art and quality for all types of products and open new opportunities for accelerating quality growth rates.

RECOMMENDED READING LIST

1. CPSU Central Committee and USSR Council of Ministers Decree "On Improving Planning and Increasing the Effect of the Economic Mechanism to Improve Production Efficiency and Job Performance." Politizdat, 1979.
2. "25th CPSU Congress Proceedings," Politizdat, 1976.
3. L. I. Brezhnev, November, 1979 CPSU Central Committee Plenum Remarks, PRAVDA, 28 November 1979.
4. L. I. Brezhnev, June 1980 CPSU Central Committee Plenum Report, PRAVDA, 24 June 1980.
5. L. I. Brezhnev, October 1980 CPSU Central Committee Plenum Speech, PRAVDA, 22 October 1980.
6. V. V. Boytsov, ed., "Standart-effektivnost'-kachestvo" (Standards--Efficiency--Quality), Izdatel'stvo standartov, 1978.
7. Problems of Equipment Quality Control" (Roundtable Discussion), VOPROSY EKONOMIKI, No 3, 1978.
8. A. V. Glichev, M. I. Kruglov, I. D. Kryzhanovskiy and O. G. Lositskiy. "Upravleniye kachestvom produktsii: Opyt, problemy, perspektivy," (Product Quality Control: Experience, Problems, Prospects), Izdatel'stvo "Ekonomiki", 1979.

COPYRIGHT: Izdatel'stvo "Pravda", "Voprosy ekonomiki", 1980.

9001

CSO: 1820

FOR OFFICIAL USE ONLY

PLANNING AND PLAN IMPLEMENTATION

PROGRAMMED MEASURES TO IMPROVE ECONOMIC MANAGEMENT CITED

Moscow VOPROSY EKONOMIKI in Russian No 10, Oct 80 pp 124-135

[Article by V. Ivanchenko: "Improvement of the Planned Management of the Economic System"]

[Excerpt] The decree "On the Further Improvement of the Economic Mechanism and on the Tasks of the Party and State Organs" which was adopted by the CPSU Central Committee in July 1979 and the decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning and Strengthening the Influence of the Economic Mechanism on Increasing Production Efficiency and Work Quality" were important landmarks in the Party's multifaceted work toward improvement of the planned management of the socialist economic system. The CPSU Central Committee decree points out that the enormous achievements in the USSR's economic and social development in the course of the consistent implementation of the scientifically grounded party policy after the October (1964) Plenum of the CPSU Central Committee convincingly demonstrate the advantages of the socialist planned economy and the creative and constructive powers of Soviet society. At the same time, the decree emphasizes that our economic system has now attained a level of development where further improvement of the management of the national economy becomes especially urgent.

The CPSU Central Committee attaches paramount importance to further enhancing the role of the state plan--and of the five-year plan in particular--as a crucial instrument for implementing the economic policy of the Party, to insuring balanced plans and to orienting the plans more strongly toward solution of social problems. At the same time, the decree set the task to strengthen the effectiveness of the economic levers and stimuli and to make the economic incentives directly dependent on work efficiency and quality, on the fulfillment of the plan quotas and on the results of the production work.

The plan, the economic levers and stimuli, the development of creative initiative and the socialist competition of the collectives under new conditions must form a unified, organically coordinated system of management and economic operation--a system insuring dynamic development and improvement of the efficiency of social production and the attainment of the main objective of socialist production: further growth of the material well-being of the Soviet people.

Addressing the June (1980) Plenum of the CPSU Central Committee, L. I. Brezhnev observed: "We have set ourselves a fundamental task, namely to improve production

FOR OFFICIAL USE ONLY

efficiency and work quality. We must at all times be mindful of this task. It is necessary further to think of ways of accelerating scientific-technological progress, strengthening work and public discipline and insuring positive increases in labor productivity."

The system of measures stipulated by the decree aims above all at raising the level of the entire planning work in industry, in the construction sector and in the national economy as a whole. The improvement of work in the construction sector and of the efficiency of capital investments involves fuller utilization of the established production potential in every sector. Great importance is attached to the development of cost accounting, to enhancing the role of economic levers and stimuli in the acceleration of scientific-technological progress, to more fully meeting public demand for high-quality goods, while improving overall production efficiency.

As the socialist economic system develops, economic planning improves. The broader the scope of the economic system, the more complex the tasks concerning management of the national economy and of the concrete relationships regarding production economics.

The economic system of mature socialism as a unified national economic complex, which comprises all elements of social production, distribution and exchange as well as foreign economic relations, objectively calls for adequate, more fully developed forms and methods of planning and management. The strengthening of the influence of the economic mechanism on the scientific-technological, economic and other processes of the large-scale national economic complex is based on the system's key element--national economic planning, in which good organization--inherent to socialism--is realized as the general mode of movement of the socialist economic system. Of great importance in this process are the changes produced by the intensification of the social division of labor, by the development of production concentration and specialization on the basis of systematic establishment of large-scale associations--production, scientific production and industrial associations. In the primary section of management, the associations radically change the character of the enterprise; they extend its possibilities regarding planning, production retooling, production specialization, establishment of direct operational links with the suppliers of materials and the big commodity buyers, development of cost-accounting relations and implementation of the economic strategy within the limits of the five-year plan quotas. In such associations, the whole complex of problems concerning the social development of collectives is solved at a new level and worker participation in production control is extended.

Under the new conditions, of special significance in planned management is familiarity with the long-range perspectives of the scientific-technological, demographic, economic and social processes. The present elaboration of a system of long-range and current plans--the central element and core of which is the five-year plan--on the one hand enhances the role of the state plans and on the other hand creates the conditions necessary for the further development of the economic initiative and creativity of the collectives, associations and enterprises in the implementation of the economic strategy and in the practical solution of the problems concerning reorganization of the production sector in the interest of the consumer.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The plan system organically comprises a complex program for scientific-technological progress over 20 years (in accordance with five-year periods), the basic directions concerning the USSR's economic and social development (in accordance with five-year periods), five-year plans for economic and social development stipulating annual quotas, and annual plans as a way of implementing the targets of the five-year plan. The system denotes their continuous interconnection, the unity of the targets, as one plan ensues from another, continuing and concretizing it. In the development of long-term perspectives, science, scientific prognoses and the detailed study of basic problems assume great importance. This is demonstrated by the development of the complex program for scientific-technological progress up to the year 2000, which has for the first time been implemented by the USSR Academy of Sciences, the USSR State Committee for Science and Technology and the USSR State Committee for Construction Affairs with the assistance of the USSR State Planning Commission. On the basis of the data of the complex program, it is possible to improve the scientific substantiation of the Basic Trends of the country's economic and social development up to 1990 and of the 11th Five-Year Plan.

The Methodological Directives--confirmed by the USSR Gosplan Decree of 31 March 1980--concerning the elaboration of the state plans for economic and social development of the USSR implement the methodological operating principles of the system of coordinated plans in conformity with the arrangement established by the July Decree of the CPSU Central Committee and the USSR Council of Ministers. The Methodological Directives are interconnected with the complex of normative documents developed in the course of implementation of the statutes and requirements of the aforementioned decree.³

Under the new conditions, what is required of the five-year plan? The plan must solve the problems concerning the structure, proportions, balance and concentration of resources so as to carry out the most important national-economic tasks and to implement the specific complex national-economic programs, the complex NTP [Science and Technology Programs], and the programs for the overall development of the republics, TPK [Regional Production Complexes], and large cities.

The five-year plan (comprising annual quotas) is the basic form of implementing the strategic tasks and objectives of the Party's economic policy that are laid down in the long-term plans. Experience has shown that within the framework of the five-year plan one can adequately examine--in the process of their implementation--the concrete technical-economic plan parameters and the production relations that make it possible to use the five-year plan as an operational program for economic management in all parts of sectorial and regional administration.

The thorough, detailed substantiation of the programs, balances, indicators and economic norms, the creation of the necessary reserves in the five-year plan render it more stable and reliable in the organization of five-year operational relations and in concluding long-term contracts for the shipment of goods, raw materials, materials and complementary articles. On the basis of the indicators and economic quotas, it is possible to develop and deepen the cost-accounting relations among enterprises and between enterprises and supply/sales, transport, construction, planning/design, scientific research and other organizations. On the basis of such a five-year plan, there develops a system of cost-accounting relations of the sector as a large-scale operational complex, the main cost-accounting element of which are the production associations.

FOR OFFICIAL USE ONLY

The five-year plan also forms the basis for perfecting the methods, for improving the efficiency of counter-plans and of socialist competition, for strengthening the influence of the economic levers and stimuli and for the system of forming and utilizing the economic incentive funds for final results.

For the first time, it has become possible to evaluate--on all levels of economic management--the fulfillment of the five-year plan cumulatively from the beginning of the five-year plan, and fulfillment of the annual plan, cumulatively from the beginning of the year. Such an evaluation indicates not only the stability and obligatory nature of the fulfillment of the five-year plan quotas. The basic indicator value attained is taken into account only once--when the five-year plan is drawn up--which stimulates the enterprises to search for and utilize supplementary reserves so as to fulfill the plan ahead of schedule. In the development of democratic management principles and in the enhancement of the stimulatory role of the five-year plan quotas, stable five-year plans are assuming increasing importance.

According to the principle presently applied in the development of the annual plans, the indicators of the annual plan must not be lower than the five-year plan quotas specified for the respective year. Under these conditions, the enterprises, associations and ministries are granted extensive rights in regard to independent development and specification of key indicators of the annual plans. Closely connected with the operation of the plan system and with the enhancement of the role of the five-year plans in the management of the economic system is the development and implementation of scientific-technical, economic, social and other programs of a different type. An integral part of program- and object-oriented planning is the long-term approach.

In solving large-scale national-economic problems through a system of programs, one obtains an overall description of the objectives, of the ways of attaining them and of the resources required. The program- and object-oriented method allows better to subordinate the priority allocation of resources to the implementation of the objectives established, more purposefully and completely to solve the problems concerning acceleration of scientific-technical progress and establishment of an advanced production structure and of sectorial ratios. The system of programs is an important element in the consolidation of program- and object-oriented planning.

The complex programs are expected to become an important instrument for optimizing plan decisions, for improving the reproduction structure and for raising the level of efficiency of social labor. The elaboration of the system of complex programs and plans for the economic and social development of the USSR organically links sectorial and regional plans and vertical and horizontal production management.

In the Methodological Directives concerning the development of object-oriented complex programs (TsKP), it is pointed out that these programs are necessary for solving the most important national-economic problems and that they are an integral part of both the long-term and the current state plans for the economic and social development of the USSR. In the aggregate, the TsKP form the basis of programmed planning, which complements--in full coordination--the sectorial and regional plans.

The USSR State Planning Commission has approved a list of key economic, social and regional TsKP, which are subject to elaboration for the near future. The list

FOR OFFICIAL USE ONLY

comprises 13 programs, including programs concerning reduction of manual labor, efficient use of the fuel and energy resources, economical input of metal, production of highly critical materials that are presently imported, meeting the demand of the population for new industrial goods, and operational development of the Baykal-Amur Railroad zone.

The USSR State Planning Commission has also approved and put into effect the methodological directives concerning development of TsKP for solving regional problems and for establishing and developing regional production complexes (TPK). These are a different form of TsKP and they are required to solve the problems concerning development of new regions, reorganization of the economic systems of newly developed rayons, establishment and development of the TPK, and various problems--economic and social problems, problems concerning the development of the infrastructure, etc.--in connection with the given region.

The Methodological Directives concerning the elaboration of the state plans for economic and social development of the USSR provide a method for drawing up object-oriented, complex scientific-technological programs and programs for solving key scientific-technological problems. The long-term schedule provides for the development of approximately 40 object-oriented, complex scientific-technological programs and over 100 programs for solving key scientific-technological problems. The targets for the aforementioned programs are specified for all executors in the directive plan indicators. Moreover, the leading ministries establish detailed quotas and stages of program fulfillment for the individual years of the five-year plan. Thus, in regard to the production and introduction of new machines, equipment and products, the targets specify the scientific research work, the drawing up of the technical documentation, the production and testing of models, correction of the manufacturing instructions, preparation of production, production of a test series, and organization of series production. This is a big step ahead. However, the programs do not yet comprise the stage of furnishing the production process with new technologies.

In this connection, it is important that the programs for the establishment of machine systems be supplemented by other programs for the solution of sectorial problems, for the re-equipment and reorganization of associations and enterprises and for production specialization and concentration (they are drawn up in the plans for raising the technical level of the sectors). They should be oriented toward creation of the necessary production potential, toward furnishing the sectors of the national economy with new equipment, technologies and machine systems and toward raising the technical level of production and of the goods produced. Such an approach means that the production and capital construction plans must be based on the scientific-technical progress plan, that they must become its extension and its materialization in output and fixed capital. Every ruble of capital investment must be evaluated from the point of view of its efficiency in raising the technical level of production, not only in terms of its increasing the capacities. Of great importance in regard to this problem is the initiative of the collectives of the ministries, departments, associations, enterprises and organizations. A number of ministries are actively engaged in mastering the system of programs in planned sectorial management. Valuable experience is being accumulated in the electrotechnical industry. Here work is being done on a number of complex scientific-technical programs that are implemented on the sectorial level and with the assistance of "Interelectro" member countries.

FOR OFFICIAL USE ONLY

In the 11th Five-Year Plan, the sector plans to participate in the implementation of large-scale TsKP, including programs for making more efficient the utilization of fuel and energy resources, the operational development of the Baykal-Amur Railroad zone, etc. With the collaboration of the associated ministries, complex programs are being developed for producing fundamentally new materials and complementary articles for the electrotechnical industry; other industrial programs are aimed at raising the technical level of production and of the technical re-equipment and reorganization of enterprises.

The system of plan indicators is a key instrument of planning and management. To improve the indicators, one does not simply replace one indicator by another—a specific indicator by an accounting indicator or a value indicator by a natural indicator; rather, one must examine in detail the place, the functions and the interactions of the entire system and of every indicator in the economic mechanism.

The plan indicators reflect specific characteristics of the socialist system of economic operation, the effect of the totality of economic laws. They must describe all aspects and proportions of economic and social development, the production potential and its technical-economic level, the requirements of society and the extent to which they are met with due regard for the limitedness of the resources, the final work results of each unit of the national-economic complex, the factors determining their economic growth, and other processes requiring systematic regulation. The system of indicators and norms must cover not only the plan decisions, but the production process itself, the distribution and accounting, the cost-accounting relations, the plan implementation, and the plan objectives and targets.

Of great importance in regard to the accomplishment of these tasks is the organic unity of the measuring and motivating functions of the indicator system employed in planning. The unity of the aforementioned functions entails interconnection between the national-economic and cost-accounting criteria in the processes of production and centralized planning and the development of operational independence and creative initiative on the part of the worker collectives.

The stimulatory role of the plan indicators depends on how fully they reflect the economic laws, how correctly they show the objectives, the resources, the efficiency of resource utilization, the production targets and capacities, the interests of the national economy and of each working collective, and on what space is assigned to them in the methods of work evaluation, in the economic, material and moral stimulation and motivation.

The 25th CPSU Congress set the task to enhance in economic management the role of the indicators describing the final work results. Thus the final results are planned and evaluated in three directions: more complete fulfillment of the demand of the national economy and of the population for goods with certain qualitative and use characteristics; insuring a dynamic reproduction process and expansion and technical improvement of the production potential; attainment of a high rate of growth of overall production efficiency.

The new system of specific indicators and norms is distinguished by several characteristics. The indicators and norms specified in the five-year plan (with annual breakdown) are obligatory also in the elaboration of the annual plans that

FOR OFFICIAL USE ONLY

implement and concretize the targets of the five-year plan. They are addressed to the industrial ministries, associations and enterprises as a unified target system.

In view of the dynamic nature of the scientific-technological, economic and social processes, the structure of the indicator system varies over time and the system is differentiated with regard to the characteristics of the sectors, industries and concrete tasks of the plan period. At the same time, the indicator system must show a certain stability in the five-year period; it must show unity and interaction in regard to the plan periods (five-year plan--year) and in regard to the levels of management (national economy--ministry--association--enterprise). The entire system of plan indicators consists of accounting and specific indicators and also of indicators functioning as norms and limits. The most comprehensive group are the accounting indicators, by means of which the validation and detailed description of the plan are effected. For example, just to determine--in natural terms--the production volume of concrete types of industrial goods, over 12 million indicators are employed.

The relatively small group of specific indicators represents a form of bringing the state plans for economic and social development to the executors in a directive manner; it also represents a form of control regarding fulfillment of the plan. However, it would be wrong to consider the indicators an instrument of administrative control. They are a most important form of optimally combining administrative and economic methods of control, of implementing in planning and management the Leninist principle of democratic centralism. For closely connected with the directive indicators of production volume and efficiency and of product quality are the economic levers and incentives, the sources and quantities of the resources directed to the economic incentive funds. In the final analysis, all forms of socialist competition and of counter-planning are oriented toward attainment of the plan targets, which are reflected in the directive norms.

For the most part, the new system of indicators reflects the direction of the plans toward improvement of production efficiency, accelerated introduction of new technologies, improvement of labor productivity and product quality. Thus, in the commodity output division for most of the industrial branches, there is being established the quota for net production (normative) increase. The indicator will become a key indicator with introduction of the net production norms, i.e. beginning on 1 January 1982. In 1981, the net production (normative) indicator will be applied to over 2,000 enterprises of 8 industries. In this division, the plans also provide for indicators of production increases of top-quality goods. In the current year, the indicator referred to is used in most industries. In the 11th Five-Year Plan period, it is essential that we radically improve the attestation of product quality as well as the planning and the accounting and reporting in conformity with the newly adopted norm regulations.

The established indicators and norms concerning labor are supplemented by indicators and norms of social development at all levels--from ministry to enterprise. They include: increases in labor productivity in regard to net production (normative) or another indicator that correctly reflects the changes in labor input; wage norms per ruble of output; norms concerning reduction of manual labor, and norms concerning formation of incentive funds. In the present demographic situation, it has been considered expedient to set work force limits for associations and enterprises for the purpose of improving the organization of the allocation and

FOR OFFICIAL USE ONLY

utilization of labor resources. For 1980, wage norms per ruble of output have been affirmed for nine branches of industry. The results obtained by these industries will become the basis of transition to such norms in other industries. In 1980, the work force limits and the quotas concerning reduction of manual labor have been tested. Experience has shown that these indicators must be improved and more fully coordinated with incentives and penalties.

Most of the difficult problems are connected with the planning of the new financial indicators that are characterized by the establishment of a general norm for profit distribution, payments to the state budget, and budget allocations for the individual five-year plan years. Here the ministries are fully responsible for fulfilling the plan in regard to profit transfers to the budget. Nonfulfillment of the plan accordingly reduces the profit share remaining at their disposal. Such a system of profit allocation in the five-year plans is already being employed in a number of ministries (Ministry of Heavy Machine Building, Ministry of Power Machine Building, Ministry of Agricultural Machine Building, Ministry of Electrical Equipment Industry, Ministry of Instrument Making, Automation Equipment and Control Systems) and will be given wide practical application. With due regard for the concrete conditions, the profit quotas are in various industries replaced by the indicator of production cost reduction. In 1982, along with the introduction of new wholesale prices, a number of ministries will begin to use the profit allocation norm.

We still have to insure the necessary reliability and stability of the financial indicators for the individual five-year plan years; we have to master the factors that underlie the changes in the profit dynamics and that are dependent on the enterprises' activities; we must work out the principles of centralized budget calculation at the cost-accounting ministry level.

In capital construction and in the construction and installation organizations, the indicator concerning introduction of fixed capital, production capacities and projects is assuming increasing importance.

A new element is the limiting of state capital investments and construction and installation work (including those in technical re-equipment and reorganization of operative enterprises) to 5 years, which limit is not subject to reestablishment in the annual plans and which radically changes the nature of that indicator. The volume of capital investments used to be an evaluative indicator, the use of which often led to inefficient utilization of resources for the sake of attaining the planned capital investment volume irrespective of the putting in operation of fixed capital, capacities and projects. The limit represents a resource indicator that describes the threshold value of the capital investment input in the planned start-up of finished enterprises, capacities and projects and in the establishment of normative semifinished product stockpiles. The main criterion in this respect is resource economy in the fulfillment of the planned work volume.

The targets for fulfillment of the scientific-technical programs, for raising the technical level of production and improving the quality of the main types of goods produced and the savings resulting from scientific-technical measures are becoming the most important plan indicators concerning introduction of new technologies. The indicators of the economic effect produced as a result of the elaboration, development and introduction of new technologies and other measures based on scientific-technical progress are for the first time used as specific indicators.

FOR OFFICIAL USE ONLY

A number of industries have already gained some experience in regard to the planning of this type of indicator. In the Ministry of Electric Equipment Industry, a new regulation is being applied in regard to the planning, accounting and reporting of the economic effect resulting from measures for raising the technical level of production and improving labor organization, management and product quality.

We have developed methods of calculation and we have established for each sector as a whole norms for determining the volume of input in scientific research, experimental design and technological operations and for determining the magnitudes of the Unified RNT [not further identified] Fund and of the wage fund of scientific organizations for the period from 1981 to 1985. In the 11th Five-Year Plan, it will be necessary to master the indicators of the national-economic and cost-accounting efficiency of new technologies in all industrial sectors.

The various annual plan indicators established for the corresponding year of the five-year plan are being concretized and defined more accurately. For the industrial ministries, we are setting targets for commodity output in natural terms (but with the products list being more comprehensive than in the five-year plan), for putting in operation basic assets, production capacities and projects, for payments to the state budget and allocations from the budget, and for the volume of material resource shipments. Other indicators and norms are established by the industrial ministries of the USSR in coordination with the USSR State Planning Commission, and by the republic ministries, in coordination with the state planning commissions of the union republics. The industrial ministries establish a number of indicators independently, proceeding from the five-year plan targets or norms for the corresponding year.

The situation is different in regard to the indicator of the volume of output sold. This indicator is worked out only in the annual plans and it is specified for the ministries, departments, associations and enterprises for evaluating the fulfillment of the quotas concerning commodity shipments in accordance with the agreements and supply orders for export goods. With regard to economic motivation and evaluation of the work results, nonobservance of the deliveries in the products list (product assortment) indicates nonfulfillment of the commodity sale plan and a corresponding reduction of the incentive funds. This reduces the negative influence exerted on the enterprise's activity by the indicator of volume in value terms, since it is now impossible to orientate toward production of more profitable or expensive goods. Unfortunately, only approximately 60 percent of the industrial enterprises completely fulfill the commodity shipments in accordance with the agreements concluded. A number of ministries, above all the USSR Ministry of Light Industry, grant the associations and enterprises very favorable conditions regarding the payment of bonuses to the executives in relation to implementation of the shipments.

Measures are being taken in regard to improvement of the natural indicators on the basis of broad application of up-to-date methods of determining the efficiency, productivity, quality and other use characteristics of machines, equipment and other products. The production of equipment is planned on the basis of an expanded products list. The indicators expressed in tonnage will if necessary be used as accounting indicators.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Already, changes have been made in the indicators for 15 types of materials handling, loading and unloading and warehousing equipment. In regard to products of the machine building industry, we have improved the natural indicators for 70 types of machinery and equipment; we have expanded the centrally planned products list (80 items) and the products list of complete sets of equipment, process lines, installations and machine units (162 items). For example, the Ministry of Electrical Equipment Industry has developed a unified electrical products list to be used in planning and reporting on the following levels: ministry--USSR State Planning Commission--USSR Council of Ministers. A draft plan for 1981 and for the 11th Five-Year Plan is being developed on the basis of new indicators and a unified products list. Similar work is being done in most of the industries, with the exception of ferrous metallurgy, which has not yet found an alternative to tonnage.

Side by side with the improvement of indicators carried out within the complex of measures oriented toward acceleration of the NTP and toward organic combination of the plans for development of science and technology with other sections of the plans for economic and social development, an important role is assigned to expansion of the plans for technical sectorial development. Many ministries have developed or specified regulations concerning the procedures to be followed by the planning and scientific research organizations and KB [not further identified] in regard to the complex of operations concerning reorganization and expansion of operative enterprises.

An important measure was the evaluation--carried out in 1979/80--of the technical quality of the output of machinery, equipment and other production technology. The first data that are now being received form the basis for planning the improvement of the technical-economic indicators of manufactured and newly developed products and of obsolete, discontinued types of products.

There is a number of measures that aim to develop a program of state certification of product quality, to work out complex programs for standardizing technical products and consumer goods, including basic raw materials, materials and complementary products, and also systematically to revise outdated standards. This will make it possible still more consistently to implement overall product quality control. In most of the machine building ministries, the volume and share of top-quality products are increasing year after year. In electrical engineering, for example, the top-quality product share of the output subject to certification amounted in 1979 to 55.9 percent (45.2 percent of the overall volume). The ministry plans to continue the production restoration over the next few years.

The 25th CPSU Congress emphatically established the task of ensuring the necessary plan balance. A basic prerequisite for successfully accomplishing this task is the development of a system of five-year balances and the establishment of reserves. Already, preparations have been made for drawing up material balances (on the basis of an expanded products list) and plans for distribution of resources among the principal supply organizations for the individual years of the five-year plan.

The USSR State Planning Committee and the USSR State Committee for Material and Technical Supply have defined more precisely the products list, according to which there are drawn up--within the framework of the plans for economic and social development of the USSR--the material resource balances and the resource allocation plans, which are correspondingly established by the USSR State Planning Committee,

FOR OFFICIAL USE ONLY

the USSR State Committee for Material and Technical Supply, the USSR ministries and departments and the councils of ministers of the union republics. Beginning with the 11th Five-Year Plan, balances based on the products list of the USSR State Planning Committee will be drawn up for over 400 types of goods (for each year of the five-year plan); for 330 of these items, allocation plans will be drawn up for the principal supply organizations.

To put the plan targets and balance calculations on a more solid basis, the USSR State Planning Committee has established a system of progressive norms and quotas and a procedure of establishing the targets concerning average reduction of the rates of consumption of material resources with due regard for scientific-technological advances. The system of progressive technical-economic norms and quotas comprises 10 orientations, including input and savings of raw materials, materials, and fuel and energy resources, quotas of production capacity utilization, proportionate capital investments, norms and quotas for determining the demand for equipment and cable products. In accordance with this system, the ministries and departments work out the basic norms and quotas that are necessary for drawing up the plan for economic and social development of the USSR for the period from 1981 to 1985.

The USSR State Planning Committee, the USSR State Committee for Material and Technical Supply and the ministries and departments bear increasing responsibility for balancing the commodity output plans and for the allocation balances and plans drawn up by them in the five-year and annual plans. They are implementing a system of measures aimed at strengthening direct operational communication and contractual relations, at developing progressive modes of steady supply for enterprises and construction organizations, at expanding the network of company warehouses for the marketing of consumer goods, at improving the organization of the wholesale trade fairs and at strengthening plan and contractual discipline. In 1979, the volume of commodity deliveries based on direct communication amounted to 36 percent of the overall volume of output sold. We feel that this work must be intensified.

The basic orientations regarding improvement of the capital construction planning are expected consistently to implement the measures that are stipulated by the decree passed by the CPSU Central Committee and the USSR Council of Ministers and that are aimed at improving the planning and the economic motivation in industry and capital construction. At present, preparations are being made for drawing up--beginning with the 11th Five-Year Plan--stable five-year plans for capital investment that are balanced--with due regard for establishment of the necessary reserves--with the material and equipment resources, with the capacities of the construction/installation and planning organizations, and with the labor and financial resources. This ensures the priority of capital investments, resources and equipment for the renovation and technical re-equipment of operative enterprises on the basis of the latest machinery and technologies. Measures have been adopted to restrict the construction of new enterprises and to expand operative enterprises through full utilization of the available capacities and through the objective of introducing in the national economy the latest advances in the field of production technology and equipment. Within the framework of the five-year plans, lists will be established of enterprises and installations, construction of which is newly beginning, and of enterprises subject to renovation and expansion.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

In the planning, work evaluation and economic motivation of the construction/installation and planning/research organizations, the indicators concerning the final results of their work and improved efficiency of capital investments are assuming greater importance.

The most important specific indicators are the following: Startup of production capacities and projects, including expansion of capacities on the basis of technical re-equipment and renovation of operative enterprises; increase in labor productivity; profit (for the individual organizations--reduction of the cost of construction and installation work); targeting of the introduction of new technology. With the establishment of an estimate/norm base in the 11th Five-Year Plan, we will be using--in the planning of labor productivity in the construction and installation organizations--the indicator of net output (normative) or another indicator that more accurately reflects changes in labor input, and in the planning of the wage fund, we will be using quotas per ruble of output.

In 1981, we must complete--with due regard for the regulations set forth--the introduction of settlements between the client and the contractor for fully completed enterprises, priority complexes, sections and projects that are turned over to be put in operation. The production and equipment delivery planning and the financing of capital investments are not restricted to the framework of the annual plan; they are stipulated for the entire period of construction, up to the actual startup of the enterprises and complexes. In the system of financing capital construction, an important mode is the bank loan involving utilization of funds freed at the client's due to the transition to settlement without intermediate payments.

To shorten the planning cycles, to build new large-scale enterprises and to put an end to the rapid obsolescence of the capacities established, we are extending the practice of combining the planning periods with the construction and startup of underway complexes and projects. Within the framework of the state plans for economic and social development of the country, of the union and autonomous republics, of the krais, oblasts, cities, rayons and of the ministries, departments, associations and enterprises, there is being developed a consolidated division for the entire complex of measures. In this respect, it is necessary to consider the qualifications and professional expertise of the workers, the general educational and cultural level of the population, improvement of the working, housing, living and cultural conditions and of medical care, and other measures in coordination with production development and improvement of production efficiency.

FOOTNOTES

3. See "Sovershenstvovaniye khozyaystvennogo mekhanizma. Sbornik dokumentov" [Improvement of the Economic Mechanism. Collected Documents], Izdatel'stvo "Pravda" 1980.

COPYRIGHT: Izdatel'stvo "Pravda", "Voprosy ekonomiki", 1980

8760
CSO: 1820

FOR OFFICIAL USE ONLY

INTRODUCTION OF NEW TECHNOLOGY

BETTER TECHNICAL PROGRESS INDICATORS SOUGHT

Moscow VOPROSY EKONOMIKI in Russian No 12, Dec 80 pp 60-68

[Article by V. Astaf'yev, V. Kalish and L. Povolotskiy, Zaporozh'ye: "Improving Indicators of Economic Effectiveness of New Equipment"]

[Text] Improving methods used to determine economic effectiveness of new equipment and reflecting results of its introduction clearly and completely in plan and report indicators both on the national economic and sector levels, as well as at the level of cost accounting enterprises and organizations, are important factors in successfully accomplishing measures on improving planning and strengthening the influence of the economic mechanism on increasing production efficiency and work quality. Indicators of economic effectiveness of new equipment must, firstly, strictly correspond to actual results obtained when specific measures for technical progress are implemented, and secondly, be entered into the overall system of planning and economic management. The economic effect from implementing scientific and technical measures, according to the decree by the CPSU Central Committee and the USSR Council of Ministers on improving planning, is among the major indicators of the plan for economic and social development of a sector, which is changing the attitude to this indicator and imposing increased demands on its substantiation.

Now used in planning and accounting of the economic effect of new equipment is the Procedure for Determining the Economic Effectiveness of Utilizing New Equipment, Inventions and Rationalizer's Suggestions in the National Economy (1977). A number of its provisions require concrete definition to carry out tasks to further improve planning of the economic effect and accounting of its results in plans for economic activity of enterprises and in the norms and standards used in substantiating these plans and evaluating the results of economic activity.

Development and use of a general indicator of economic effectiveness of new equipment for solving problems at various stages of its development and various levels of managing the economy, in our view, are hardly possible. It is evident that, based on a unified methodological approach, ways and means must be proposed to employ a number of indicators of economic effectiveness of new equipment that support the identity of decisions made at one or another level of managing scientific and technical progress. For this, in giving preference to the national economic approach to evaluating economic effectiveness, provision should be made for maximally possible linkage between the indicators of economic effectiveness and indicators of cost accounting activity of enterprises and indicators of effectiveness of investments in capital construction.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

In selecting the optimal alternative to design new equipment, just as in substantiating the optimal alternative for capital investment, the minimum of reduced user outlays, calculated by formula [1] of the cited Procedure, has to be provided.¹ To calculate economic effect by the Procedure, a number of modifications to this formula is recommended; use of them gives rise to some methodological questions.

The user defines the amount of economic effect from use of the new equipment as the difference of reduced outlays in using the new and superseded equipment by formula [3] of the Procedure. In doing so, although not mentioned directly (except paragraphs 17 and 18), it is implied that materials, power, equipment, etc. are included in production cost and capital investment during calculations of outlays by the alternatives on wholesale prices being compared. Thus, the results of calculation of the economic effect are coordinated with the cost accounting indicators of the enterprises producing and using the new equipment. But at the same time, in calculating the economic effect from production and use of the new means of labor in accordance with paragraph 13, reduced outlays should be determined and compared by formula [4] both in the sphere of production and in the sphere of consumption.

By formula [4], just as by formula [5], calculations of economic effect are made primarily by manufacturers or developers of new equipment, since users not only do not have the information on reduced outlays for production of the equipment, but also are not formally bound to be guided by this formula, inasmuch as for them this is new industrial equipment. They calculate the economic effect from use of new equipment by formula [3] of the Procedure and consider all outlays for materials and equipment, including for acquisition, delivery, and assembly of new products, not by reduced outlays, but by wholesale prices. This approach as a whole corresponds to the principles of cost accounting and makes it possible to consider the influence of new equipment on the indicators of economic activity of consumers.

In addition to the cited basic difficulties with calculation of reduced outlays for new products, a number of practical difficulties arise. Under conditions of a multiproduct list and insufficiently high level of normative economy, planning and accounting of outlays for production, determining the capital-output ratio of the individual models and designs of superseded and new products is very difficult. In the electrical equipment industry, for example, in many enterprises the number of models and designs of products made is 5,000 to 20,000. Besides, the methodological principles for determining the capital-output ratio of multiproduct list production have not yet been finished. Therefore, it is no coincidence that in establishing wholesale prices, the accepted standard of profitability used is calculated not for productive capital, but for production costs. Great efforts and labor input to calculate capital-output ratio when engineering principles of design or technology of manufacturing new products do not change radically are hardly advisable. For multiproduct list production, in all cases the capital-output ratio for a specific model or design can be determined in a highly approximate manner.

The majority of electrical equipment, included in a specific parametric series, is produced by many enterprises. These products have a dissimilar level of unit current and capital outlays, and therefore, establishing economic effectiveness based

¹ The bracketed formula numbers correspond to the notation system used in the Procedure to Determine the Economic Effectiveness of New Equipment.

FOR OFFICIAL USE ONLY

on individual or average sector reduced outlays for production of superseded and new equipment entails great difficulty. To determine them, an effort similar to that done in substantiating wholesale prices has to be made (calculate average weighted amounts, check ratio in parametric series, etc.), and calculations have to be made not only on production cost, but also on capital-output ratio of the products at various enterprises. It is practically difficult to ensure receipt of data needed in each specific case of calculating economic effect. Therefore, in a majority of cases, outlays for the sphere of production are determined on the basis of wholesale prices, but reduced outlays are calculated only in the sphere of utilization of goods and means of labor.

Based on what has been said, it is advisable from our viewpoint, in elaboration of the cited Procedure, to calculate economic effectiveness with determination of reduced outlays by sectors conjugated for the direct consumer of new equipment only by large complexes (systems) of equipment. This may also be applicable for unique products of individual design and small-scale series production with a limited list of product nomenclature at a specific industrial enterprise. For multiproduct list industries, it is advisable to evaluate the majority of the measures of technical progress based on cost accounting mutual relations of the consumer and manufacturer of new equipment, that is, based on wholesale prices of utilized goods and means of labor, by the formulas in paragraphs 13 and 14 of the Procedure, modified on the basis of the following supplements.

In substantiating wholesale prices, the profitability (R_f) of each group of products is determined in relation to the value of the productive capital used to produce these products, but to establish the price of each specific type of product, the normative profit is scaled to the total production cost of all products and the accepted standard of profitability (R_n) is established. If one accepts that for superseded products, the capital-output ratio corresponds to the average value of it by group of products and varies in proportion to the production cost of the products, then the reduced outlays can be approximately determined the following way:

$$Z_b = S_b + Ye_n \cdot K_b \cong S_b + R_f \cdot K_b = S_b (1 + R_n) = Ts_{bs} \quad (1)$$

where Z_b is reduced outlays, in rubles; S_b is production cost, in rubles; Ye_n is the standard coefficient of effectiveness of capital investment; K_b is unit capital investment in productive capital, in rubles; R_f and R_n are profitability, scaled to productive capital and production cost, respectively; and Ts_{bs} is the price of the superseded product, adjusted for the accepted standard of profitability established for the given type of product.

The suggested assumption is fully justified in our view, since for many machines, apparatus and other products, the production technology is standard, while labor-intensiveness is about proportional to the cost of the materials consumed. Besides, this assumption would have to be accepted in determining the capital-output ratio for each product. The production cost of the superseded product in the calculations should be established at the level corresponding to the moment of its replacement in production by the new one, that is, it should be adjusted to the level of the normative profitability at that moment.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Developing production of a new type of product (equipment) may require additional capital investment (compared to the average established unit capital-output ratio) associated with fundamental change in technology, introduction of new specialized industrial equipment, etc., as well as outlays for developing a new design and putting it into series production. In this case, capital investment in production of a new product (K_n) compared to capital investment in production of the superseded product (K_b) will be: $K_n = K_b + \Delta K$, while reduced outlays for its production will be:

$$Z_n = S_n + Y_{e_n} \cdot (K_b + \Delta K) \cong T_{s_n} + Y_{e_n} \cdot \Delta K. \quad (2)$$

Based on this, in the sector instructions for the electrical equipment industry, when the capital-output ratio of individual types of products cannot be determined, calculations of economic effectiveness from production and use of new products (means of labor of long-term application) should be made by the formula:

$$E = T_{s_{bs}} \cdot a - (T_{s_n} + Y_{e_n} \cdot \Delta K) + \frac{(I_b^1 - I_n^1) + Y_{e_n} (K_n^1 - K_b^1)}{R_{am} + Y_{e_n}}, \quad (4-1)$$

This formula² defines more concretely formula [4], recommended by the Procedure, for the often encountered cases when the capital-output ratio of individual types of new products cannot be established with sufficient accuracy. Calculation by this formula corresponds to the provisions of the Standard Procedure for Determining the Economic Effectiveness of Capital Investment (1969) and can be coordinated with cost accounting indicators of enterprises-consumers. The latter in substantiating additional capital investment for development of production capacity and in estimating the results of economic activity use wholesale prices (planned or approved) of the new equipment. Calculation of the economic effect by formula (4-1) makes it possible to correlate its value with an important indicator of price formation--the upper limit of the price.

For manufacturers of new equipment, determining economic effectiveness by formula (4-1) also facilitates its coordination with indicators of cost accounting activity, inasmuch as these indicators are determined on the basis of comparison of the prices of new products with their production cost, labor-intensiveness, etc.

2 In formula (4-1), the coefficient of equivalence according to productivity is designated:

$$a = a_1 \cdot a_2; \quad a_1 = \frac{v_n}{v_b}; \quad a_2 = \frac{\frac{1}{T_b} + Y_{e_n}}{\frac{1}{T_n} + Y_{e_n}}.$$

It is given calculating on a unit of the product. Formula notation corresponds to "Instructions on Determining Economic Effectiveness of New Equipment, Inventions and Rationalizer's Suggestions in the Electrical Equipment Industry." Moscow, 1978.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

An important advantage of the 1977 Procedure in estimating economic effectiveness of new equipment by its manufacturers lies in the fact that the economic effect from introduction of scientific and technical measures aimed at improving production and reducing outlays for product manufacture (formula [3] of the Procedure) can be summarized and compared with the economic effect from production and use of new means of labor, also calculated by formula [4]. Outlays for production of new products are considered directly (without adjusting them with use of the normative coefficient of economic effectiveness) even for machines, equipment and instruments. This is important when using indicators of economic effect for evaluating economic activity. However, indicators calculated by formula [4] can be used to substantiate the effectiveness of new products, plan and evaluate the activity of enterprises only if the identity of results derived through formulas [1], [3] and [4] of this Procedure has been proven.³

The normative coefficient of effectiveness of capital investment (Ye_n) and the normative provisions of reduction for accounting of the time factor (Ye), according to the Procedure, are different quantities ($Ye < Ye_n$). Therefore, the effect calculated by formula [4] of the Procedure does not correspond to the difference in reduced outlays, since the estimate of annual current outlays and associated capital investment will change. Consequently, in selecting the optimal alternative of new equipment design, in accordance with the provisions of the Procedure for Determining the Economic Effectiveness of New Equipment, and the optimal alternative of capital investment, according to the "Standard Procedure for Determining the Economic Effectiveness of Capital Investment," by the minimum of reduced outlays, the economic effect, as a rule, does not coincide for the majority of new types of equipment, since the predominant share of it is aimed at capital construction (in building transformers, for example, \approx 98 percent).

An even greater divergence in calculations of the economic estimate of compared alternatives is caused by the different treatment of the quantity R_2 . According to the Procedure for Determining the Economic Effectiveness of New Equipment, R_1 and R_2 are parts of deductions from balance value for full restoration (renovation) of the basic and new means of labor. They are calculated as reciprocals to the service lives of the means of labor determined on the basis of their obsolescence. When calculation accuracy has to be raised, they are taken from the data in appendix 2 of the Procedure. In this determination, the criterion of service life based on obsolescence is not given, but in appendix 2 the values of R are calculated based on reducing service lives by complex percentages. Therefore, the Procedure makes it possible for calculations of the economic effectiveness of the same equipment to accept values differing from each other by an order of magnitude. With the existing divergence of values of R_2 , not only will the amounts of economic

³ Amounts of the effect may not coincide since it is a question of results of operation of new equipment, estimated in the first case by reduced outlays (calculating on a year), and in the second, for some period of service. Of importance is the identity of conclusions on effectiveness or ineffectiveness and the economically permissible bounds of price rises of new equipment when operating parameters are improved.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

effectiveness differ, but also the conclusions on the effectiveness of new products (they may be directly opposite).

Such a situation occurred, for example, in discussing the wholesale price handbook for electrical equipment steel used in making power transformers. Using the same brand of steel in ferrous metalurgy (in the same transformer) by calculations according to the Instructions for Determining the Economic Effectiveness of New Products turned out to be effective, but according to the corresponding instructions for electrical equipment and power--ineffective. Changing the value of the transformers was assumed to be equal to changing their production costs when utilizing the different brands of electrical equipment steel. The cause of the contradictions in estimates of the economic effectiveness was the value of the accepted standard of amortization deductions assumed in the calculations. Now in all sectors the upper limits of prices for electrical equipment steel are calculated with the same value of R_2 and the prevailing wholesale prices are approved based on them.

The problem of determining and reflecting in calculations the real service lives of products based on obsolescence in estimating economic effectiveness is relevant for the majority of machine-building product types. In building transformers, for example, the average product replacement period is 6 to 8 years. However, the economically expedient service life for power transformers used for general purposes is far greater owing to a number of reasons. Analysis of the influence of technical progress on obsolescence of transformer equipment enabled establishing that the effectiveness of its utilization today and in the long term owing to the invariability of the engineering principle is determined by a relatively small improvement in the technical-economic parameters of successively produced models. Calculation results showed that it is inadvisable to replace a series of transformer equipment from an economic standpoint even after the 25th year of operation.

Problems of economic substantiation of periods of obsolescence of equipment have not been fully worked out. In our opinion, in resolving them it is necessary to delimit the economic categories of "service life" of equipment functioning within fixed capital and "expected production period" of this equipment until the emergence of more improved equipment in the production sphere. The halting of output by the manufacturers of equipment of a particular design does not yet mean that the whole park of machines used in the national economy is becoming obsolete.

Supporters of more stringent R_2 values believe that equipment service lives based on obsolescence are determined primarily by the actual periods for design replacement in the production sphere. The economic significance of making R_2 values more stringent lies in enhancing the effectiveness of additional capital investment compared to saving on current outlays in the long term. In essence, this is a veiled rise in the normative coefficient of effectiveness of capital investment Ye_n .

Another consideration in making this value more stringent lies in the fact that the amount of economic effectiveness may be overstated owing to inaccuracy or nonrepresentativeness of the source data. There is no doubt that this is a fair assumption. In this case, adjustment of the amount of economic effect should be made on the basis of the appropriate corrected factors calculated for each group of equipment, and not on the basis of raising the R_2 factor for "insurance."

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

When the length of the period before onset of obsolescence of equipment has been substantiated scientifically, and consequently the economic advisability of replacing by new equipment after a specific number of years of operation has also been demonstrated, this should be reflected not only in calculations of economic effect, but also in the norms for amortization deductions. Until this problem is solved, in our view, the prevailing norms of amortization deductions for coordination of indicators of effectiveness of new equipment with indicators of cost accounting activity of enterprises and effectiveness of planned decisions for capital construction should be used in calculations of the economic effect of new equipment made at the level of enterprises and manufacturing sectors. This suggestion corresponds to the Procedure for Determining the Effectiveness of New Equipment, and therefore, it should be clearly stipulated in the practical instructions for use in calculations.

In correlating the indicators of effectiveness of new equipment at the various levels of management, it is difficult to determine the amount of economic effect for each new type of product. The overwhelming majority of products, machines and apparatus is used by the consumer in a complex and in conjunction with other devices. Therefore, it is difficult to determine the influence of parameter changes for each type of equipment on the end results of the operation of the system (complex), and in many cases it is impossible. There arises the problem of determining the economic effect obtained from each type of equipment. Used most often for this are the methods of expert estimates and distribution of the effect in proportion to the value of the equipment based on its complexity and innovation. With all the simplicity of the expert estimate method, it is subject to the influence of subjective factors. In distributing the effect in proportion to equipment value, also considered in it is the value of the materials making up the products that are not created directly by the producers of the work. Besides, even in this case one can not do without an expert estimate of the complexity and innovation factors.

Consumers are not now interested in substantiating the economic effectiveness of each new product, since they do not bear direct responsibility for it, nor do they have enough specialists to make such calculations. At the same time, designers and manufacturers of equipment have to know the economic effectiveness of each specific type of equipment, inasmuch as the question of the advisability of its development is considered and resolved independently, and in evaluating the activity of organizations and enterprises, a major indicator is the economic effectiveness of new products. Besides, workers in the sector producing new equipment have a material interest in demonstrating the maximal amount of effect of the new product.

To estimate the effect from using each new type of equipment, in our view it is necessary to organize specialized studies under the direction of the consumer (customer) who calculates the economic effect from the complex of equipment as a whole. Such study should be performed by the joint efforts of collectives of scientific, design and planning organizations of the various departments.

A number of sectors use indicators to reduce comparable types of equipment operating in complexes (systems) to conventional interchangeability. Both in the 1977 Procedure and in sector instructions drafted in accordance with its provisions, the productivity change index is recommended as an equivalence factor. Its use is legitimate when the volume of work performed by the new machine or complex of equipment in which this machine is used increases as a result of a change in the parameters of a new product. But such reduction to the conditions of comparability of the new

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

and replaced alternatives is not always possible. Thus, for many types of equipment used in electric power, circuits for electric supply and drive and circuits for monitoring and indicating, the indicator "productivity," as well as the indicators "amount of work performed" and "volume of production," makes no physical sense at all. For example, what sort of productivity or production volume may one speak of that applies to high and low voltage switches, circuit breakers and instrument transformers, relays and voltage regulators under load, or to the overwhelming majority of high and low voltage apparatus in general?

The coefficient of equivalence for productivity is also used to reduce to conventional interchangeability alternatives of equipment in which no end product is made and which performs no specific industrial operation in its production. A conventional base for substantiating the effect of new equipment is thereby artificially created, that is, comparison is made on the assumption that if a product with the given technical parameters did exist in the parametric series, then replacing it with a new product with improved characteristics would yield precisely that economic effect.

The following examples are indicative of the methodological incorrectness of this approach to estimating the economic effect. Based on the capacity of connected facilities at a specific point in an actual power supply circuit, a 32 MV A transformer has to be installed. Since the standard parametric series provides for 25 and 40 MV A transformers, the advisability of making equipment with the intermediate capacity has to be determined. If developing the new equipment would lead to results strictly corresponding to the regularity of the parametric series, the economic effect from its use calculated by the comparison method described above would be negative. In practice, in the power supply circuit in which it is possible to use a 32 MV A transformer, a 40 MV A transformer will have to be used. But in this case, use of the new transformer will be effective only if outlays for its production and operation, compared to the one being replaced, are reduced by an amount that exceeds the unit outlays for development and implementation of series production.

Even more obvious is the methodological incorrectness of using coefficients of equivalence for productivity with calculations of economic effectiveness in cases when the necessity and technical possibility of creating transformers with extreme capacities emerge. Experience in making such equipment has shown that the increasing technical difficulties and limitations lead to a relative decline in some parameters compared to formal extrapolation of regularities of the parametric series. In this case, using the coefficient of equivalence with calculations of economic effectiveness of new equipment, as a rule, also leads to obtaining negative results. In a real system (circuit), using one new transformer with increased capacity in place of two existing models makes it possible to obtain a substantial economic effect in the majority of cases.

In modern complexes (systems), technological links between individual elements are firm. Therefore, in determining economic effectiveness, these links cannot be disrupted and the individual elements of the system considered since this introduces distortion in their economic characteristics. In using coefficients of equivalence for productivity to reduce alternatives to conventional interchangeability, the calculated economic effect does not reflect the actual result of using specific equipment in the total effect of the complex, and the sum of the effects of the

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

individual types of equipment, as a rule, differs significantly from the effect obtained as a result of operating the entire complex.

Consequently, development of theoretically substantiated criteria for per unit allocation of the effect of the complex and at the same time extensive development of the joint efforts of equipment consumers on substantiating the economic effectiveness of specific types of equipment, operating in the complex and used extensively, are of great practical importance. In any case, allocating the effect obtained from the whole complex must occur under the direction and with the direct participation of designers and customers of complexes and this condition has to be met: the sum of the effects of the individual types of equipment must equal the value of the economic effect from operating the complex (system) as a whole. Specific recommendations on these questions have to be included in the instructions and directives on determining economic effect that are developed and approved in elaboration of the Procedure under discussion.

In the current stage of economic development, realization of the achievements of technical progress effects not less than 70 percent of the reduction in production costs of industrial products and the greater part of the growth in labor productivity. Therefore, it is extremely important to consider the impact of each measure on new equipment in the plans for the enterprises and organizations in which this equipment is introduced, to determine the actual savings and to provide material incentives to the collectives for results obtained.

In accordance with the 1977 Procedure, the economic effectiveness of new equipment must be clearly reflected in the norms and standards and in plan and report indicators. These requirements are not met by determining the economic effect by the standard yearly amount of introduction of new equipment. In the process of an experiment in the electrical equipment industry, another procedure was developed for accounting for the economic effectiveness of technical progress and for reflecting it in the plan and reporting indicators of the operation of enterprises and the sector as a whole. Let us examine some basic provisions of this approach.

In calculations of the economic incentive funds for improving production technology and labor organization, both when planning for new equipment and after its introduction, not only the total economic effect by reduced outlays, but also the total reduced production cost of the product is determined simultaneously. Resources for economic incentive for introduction of new equipment are included in the financial plan of an enterprise only on condition that the corresponding savings from reduction in product production cost have also been considered in the enterprise plan. Calculations are made on the real volume of the first year of introduction or increase in this volume over the course of two years after the start of utilization of the new equipment.

Economic incentive for the collectives and immediate executives follows the measure (and in the amount) of actual accomplishment of each planned measure. In the process, new equipment is considered introduced into production, according to the sector Instructions in the electrical equipment industry, after the appropriate material and labor normative provisions have been changed at the enterprise.

It is not advisable for the new equipment consumer to set up a special complicated and expensive accounting and reporting system on the effectiveness of use of each

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

new product. From our point of view, for new items used to produce products, the economic effect should be considered in planning production cost and profit for the enterprise as a whole, as stated above, and the consumer should provide for strict accounting of the confirmed or actual effect and reflect the results of using new items in the appropriate standards and consolidated calculations.

The sum of the economic effect of the new products being output influences the rates of growth of commodity production in comparable prices and labor productivity; it is an important indicator in summing up the results of economic activity. Therefore, in determining the economic effectiveness of new equipment, it is advisable to use indicators differentiated for the various levels of economic management. These indicators may differ, but they must correspond to the criterion of national economic effectiveness, ensure identical decisions and allow consideration of the influence of new equipment on the results of economic activity in all elements of the national economy. It is also necessary to accelerate development of a unified complex procedure to determine the economic effectiveness of social production, instead of the prevailing procedures, instructions and directives intended to solve individual problems that in many cases lead to contradictory solutions.

COPYRIGHT: Izdatel'stvo "Pravda", "Voprosy ekonomiki", 1980

8545
CSO: 1820

END

FOR OFFICIAL USE ONLY