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Soviet Union

Economic Affairs

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Soviet Union Economic Affairs

JPRS-UEA-88-038

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5 OCTOBER 1988

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ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Creation of Unified Economic Code Advocated

18200296 Moscow *EKONOMICHESKAYA GAZETA* in
Russian No 34, Aug 88 pp 1-2

[Article by V. Andreyev, senior research official of the USSR Academy of Sciences Institute of State and Law and doctor of Juridical Sciences titled: "Economy and Law"]

[Excerpts] At the 19th CPSU All-Union Conference, the question on how radical economic reform is to be implemented was singled out in examining the progress of perestroika [restructuring]. It was noted that while the new economic methods are still only being mastered, they are already beginning to show up positively in solving many production and social questions in all situations in the collectives.

The main shortcoming in constructing the rules of economic behavior is that legal norms are not built on the principle that one can do anything which is not forbidden by legislation, but on a precise, causal determination of what an enterprise and its labor collective can do.

The great efforts undertaken in opening up economic legislation after passage of the USSR Law on [State] Enterprises should be directed not at the complete and scrupulous survey of ministerial and departmental normative acts, but at the systemization of legislation and a constructive approach to creating a legal basis for restructuring the economic mechanism. Indeed, today more than 4,300 all-union governmental decisions and more than 165,000 departmental instructions have already been repealed or changed. But has this noticeably improved the visibility of economic legislation for labor collectives, state and social organs, officials and citizens?

In our opinion, benefits from this colossal work would be significantly larger if the ministries and departments, taking the Law on Enterprises as a basis, would repeal all of the instructions and ukases, publishing anew only those which flow from the Law on Enterprises and the 17 July 1987 package of decrees of the CPSU CC and the USSR Council of Ministers. This would also permit many decisions on one and the same question to be unified into one act. One must turn over that which is necessary to USSR Ministry of Justice workers, who indeed regard the work on inventorying economic acts conscientiously and responsibly. But must one carry out the work of clearing economic legislation in such a manner? Would it not be more expedient to leave the decisions of the USSR Sovnarkhozy and then those of the USSR governments of the 20s, 30s, 40s, 50s, 60s and even 70s just to the historians, concentrating attention on contemporary documents?

It is practically important to work out the question of how to construct the planned regulation of enterprise activities and other economic organs which are being led by the principle that all is permitted which is not forbidden by law. Must one now create a new piece of paperwork on every occasion? Evidently not. But previous habit is strong. It is interesting to note that after passage of the Law on Enterprises, more than 20 normative acts were adopted in developing it. One must consider that it is not uncommon for economic departments to issue instructions only in order to avoid possible questions from enterprises and telephone calls.

The practice of bringing about economic reform forces us to look once again at questions of putting economic acts in good order. In the 19th All-Union Party Conference resolution "On Legal Reform," the political directives on codifying economic legislation were developed and clarified. In the block of legal norms on radical economic reform, substantial changes are proposed in legislation on socialist property, planning, financial, tax and economic relations, and preserving the environment. Extensive legislation on preserving the environment, while it is connected to economic management, has long been separated into an independent branch. The remaining norms can be formulated, in our opinion, in a codifying act, the USSR Economic code, according to the following structure:

- principles, forms and methods of socialist economic management and leadership of the economy;
- forms of socialist property and its assignment to labor collectives;
- economic organs and their subdivisions;
- planning;
- scientific-technical progress and the quality of production;
- the financial, credit and tax mechanism of economic management;
- economic contracts;
- responsibility and defense of the rights of economic organs.

An Economic code, unifying the common rules of economic behavior of the enterprise and economic leadership organs, would provide not only for access for all labor collectives to the basic legal requirements, but would significantly limit the volume of departmental creation of normatives. In the Economic code it would be expedient to regulate the variants of economic activity while avoiding pretentiousness and streamlining the formulation of statutes.

It would seem that it is necessary even now for the USSR Supreme Soviet, in keeping with the decisions of the 19th All-Union CPSU Conference on strengthening the legislative functions of Soviets and the cardinal review, codification and systemization of legislation, to form a commission of workers from the USSR Ministry of Justice, the USSR Academy of Sciences Institute of State and Law and the Institute of Economics, and other ministries and departments to work out a USSR Economic code in order to adopt it at the end of the current five-year plan.

In explaining the situation on the Law on Enterprises, it is important to concentrate attention on its content and role in bringing about radical economic reform. One must so propagandize this fundamental act that despite some of its weak spots, it becomes clear that it is necessary in a socio-economic sense for the given stage of perestroika. The Law on Enterprises is not the result of a compromise between progressive and conservative forces, but a legal act which objectively reflects the existence in the economy of the dialectical unity of planned management and commodity-money relations.

Comparison of the USSR Law on State Enterprises (Associations) with the USSR Law on Cooperatives and characterization of the latter by some scholars and economists as more progressive in the socio-economic plan is erroneous, in our opinion. The cooperative form of property under the leading role of state (people's) property permits the economic activity of cooperatives to be organized on the basis of a wide use of commodity-money relations considering the particular features of the cooperative economic mechanism (article 17 of the Law on Cooperatives). Planned economic management is characteristic for state enterprises, which, as was noted at the 19th All-Union CPSU Conference, "issues from the limited combination of the center's role in solving structural questions with the wide independence of production units as producers of goods, units which are operating on the beginnings of economic accountability and independence, and working in a market."

The question regarding the fate of unprofitable and low-profit enterprises is of particular interest in improving the economy's financial health. At the July (1988) CPSU CC Plenum, it was indicated straightforwardly that in the situation of weak enterprises which feed on ministerial handouts, "it is possible to widely use the granting of credit in certain conditions, employing reorganization when necessary, and as a last resort, liquidating such enterprises and transferring them to leasing by labor collectives or cooperatives."

It is necessary to admit that in this portion of radical economic reform, progress is the slowest. This is explained psychologically by the fact that reorganization or liquidation of unprofitable enterprises directly touches the vital interests of enterprises and their families. Once again, the lack of initiatives and the fear of applying responsible solutions make themselves known.

In addition, the legal questions of leasing state enterprises have not been worked out. Life is outstripping the preparation of statutes which are important for this. And not many independently take on "trying out" all of the questions.

Of course, unprofitable and low-profit enterprises may enter into an association. But it turns out that not all economic leaders properly represent the legal status of enterprises in this case. Therefore, in the 17 July 1987 decree of the CPSU CC and USSR Council of Ministers "On restructuring the activity of ministries and departments in the sphere of material production under the new economic conditions," the section on improving the organizational structures in the basic economic link is still not being implemented in a satisfactory manner.

A question arises: is it always necessary to distribute the existing large enterprises between production and scientific-production associations? Are other forms of organizing economic activity possible which the enterprises could choose themselves? Of course, a non-contradictory line is needed here. There is none at present. Thus it has currently been decided that production associations and independent enterprises may join the ranks of a scientific production enterprise. But such an approach contradicts the idea of article 5.3 of the Law on Enterprises, in which it is stated that a scientific production enterprise is created on the basis of scientific research (project-construction, technological) organizations or enterprises (production associations) and functions as a unified scientific production complex. Is it necessary to depart from these decrees? I assume not. In any case, a precise legal expression of the rules of behavior in economic life, always important, is particularly needed in a period of radical economic reform.

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Adaptation of GNP Calculation Methods to Socialist Economies Discussed

18200286 Moscow VESTNIK STATISTIKI in Russian No 7, Jul 88 (signed to press 12 Jul 88) pp 32-38

[Article by Yu. Ivanov, head of the CEMA Statistics Department, candidate of economic sciences; B. Ryabushkin, deputy chief of the Administration for the Balance of the National Economy of USSR Goskomstat, candidate of economic sciences; and M. Eydelman, director of the NII of USSR Goskomstat, professor and doctor of economic sciences: "Computation of the USSR's Gross National Product"]

[Text] Practical realization of the party's strategic course of accelerating the country's socioeconomic development, radical restructuring of management of the economy, and intensification of the internationalization of world economic ties are making it necessary to improve the statistical information base for planning and economic research and to expand the system and group of summary indicators for economic analysis, international

comparison, and also for the purpose of exchange of information between countries. In addition to the indicator of national income, computed according to the methodology of the balance of the national economy (BNKh), which will continue in future to play an important role in planning and macroeconomic analysis, the indicator gross national product (GNP), which is used in the Western countries, may also be used to perform these tasks.¹

The national income and the GNP differ in content because of the differing interpretation of the sphere of their formation. By contrast with the conception of the balance of the national economy, in which the sphere of production of the national income is defined as the totality of branches in physical production, in the national accounts system (SNS), which is the basis for computing GNP in world practice, the sphere of its formation embraces practically all types of economic activity related to the production of physical goods and the rendering of services (except those which are unlawful).

The gross national product reflects the end results of economic activity for the national economy as a whole and totals up the income of economic entities (enterprises, institutions, organizations, and individuals) realized in the spheres of physical production and the nonproduction sphere, as well as depreciation of fixed capital. When it is calculated, deductions are made from the volume of "gross output" (volume of physical goods produced and services rendered) for "intermediate consumption" (current consumption of physical goods and services by economic entities); in the stage of use the GNP reflects the final consumption of physical goods and services, their accumulation, (gross, i.e., accumulation in the form of fixed capital is taken at full value) and exports.

The gross national product is determined in the prices of final consumption (the prices at which consumers obtain the physical goods and services). The value of those which do not go into circulation and which are delivered gratis to consumers may be calculated at production cost (total current costs and depreciation), although there are exceptions to this rule.

A question that arises in connection with organizing the accounts of the USSR GNP is that of their methodology. It can and should, of course, be based on the principles of the UN standard system of national accounts. This approach will make it possible to guarantee international comparability of data on the gross national product of the USSR. At the same time, we should bear the following points in mind. First, the methodology for computing GNP approved by the UN Statistical Commission was developed in reference to the economy of the capitalist countries and reflects that economy's specific institutions and forms. That is why it seems advisable to adapt that methodology to the peculiarities of a socialist economy.

Second, we should bear in mind that the solution to a number of problems in this UN methodology is still under discussion. A new phase of efforts to revise the SNS is now under way within the framework of the UN Statistical Commission. Its improved version is to take effect in the mid-1990's. It is accordingly worthwhile, as we see it, to make a careful study even now of the changes proposed in the system of national accounts, above all those which concern the methodology of GNP accounts.

Leaving aside for the moment its specific questions pertaining to the treatment of income and expenditure items and flows of physical goods and services, we will note that the general approaches to GNP accounts of the USSR may be as follows.

One of them, the simplest and therefore seemingly the most accessible for the early stages of the effort, is to compile tables for conversion from national income to GNP. For example, in the most general form (and with certain simplifications) the algorithm of the conversion may be represented as follows:

- 1 National income (by the methodology of the balance of the national economy)
- 2 Net product in the branches of the nonproduction sphere (plus)
- 3 Income of persons in the liberal professions and also other income from self-employment (except for that which has been counted in the national income) (plus)
- 4 Estimated net income from owner-occupied housing (i.e., which is their personal property) (plus)
- 5 Depreciation (wear) of fixed productive capital and nonproduction capital (plus)
- 6 Value of nonphysical services rendered by enterprises in the sphere of physical production (minus)
- 7 Income from economic activity realized by enterprises, organizations, and individuals of a given country from foreign countries (plus)
- 8 Income from economic activity realized by enterprises and organizations of other countries on the territory of the given country as well as by foreign nationals (minus)
- 9 Gross national product ($9 = 1 + 2 + 3 + 4 + 5 - 6 + 7 - 8$)

The algorithm for conversion from national income to GNP, which is based on data concerning final product use, might be represented with certain simplifications as follows:

- 1 National income (by the methodology of the balance of the national economy)
- 2 Value of paid nonphysical services rendered to individuals (plus)
- 3 Value of nonphysical services rendered to the population gratis (plus)

- 4 Value of nonphysical services rendered to society as a whole (organizations in the domains of administration and science) (plus)
- 5 Value of services rendered by public organizations (voluntary associations, clubs, and so on) (plus)
- 6 Value of services related to use of privately owned housing (plus)
- 7 Material costs in organizations of the nonproduction sphere, including depreciation (wear) of fixed capital (minus)
- 8 Depreciation (wear) of fixed productive and nonproduction capital (plus)
- 9 Net balance of exports and imports of nonphysical services (plus)
- 10 Income from economic activity realized from abroad, minus the analogous income transferred to other countries (plus)
- 11 Gross national product ($11 = 1 + 2 + 3 + 4 + 5 + 6 - 7 + 8 + 9 + 10$)

The advantage of using conversion tables lies in their relative simplicity. But it should be borne in mind that for analytical purposes the grand totals of the gross national product are insufficient. There is a necessity to have additional and closely coordinated data on its basic components, classified with respect to diverse characteristics and criteria. In time, it would seem, then, the need will arise for a more detailed and systematic approach to working up data on the GNP. We should mention that

a_{11}	a_{12}	P_1
a_{21}	a_{22}	P_2
z_1	z_2	
d_1	d_2	
X_1	X_2	

The notation in the first row of the matrix denotes use of the gross product of the sphere of material production (X_1) as physical inputs in that sphere (a_{11}); material costs in the nonproduction sphere (a_{12}); personal consumption by the population of physical goods, including services of a physical nature (P_1) and accumulation (N_1); the notation in the second row denotes use of the gross product of the nonproduction sphere (X_2) in the directions indicated above (for example, a_{21} —nonphysical services in the sphere of material production; a_{22} —nonphysical services in the nonproduction sphere; P_2 —personal consumption by the population of nonphysical services); the notation in the third line: z_1 and z_2 —“net added value” (difference between “gross output” and the sum of “intermediate consumption” and depreciation (wear) in the sphere of physical production and in the nonproduction sphere); the notation in the fourth row: d_1 and d_2 —depreciation (wear) of fixed capital in the sphere of material production and in the nonproduction sphere. For the sake of simplification, flows of exports

today the national income is computed within the framework of the balance of the national economy—a system of mutually reconciled tables characterizing different, but interrelated aspects of the process of reproduction. This approach imposes a strict sequence in the development and analysis of data on the various phases of movement of the national economy and makes it necessary to use the balance to check the reliability of the results of the calculations. Consequently, it is also advisable to compute the gross national product, an indicator which is kindred in nature to the national income, within the framework of the special system of balance tables interrelated by coordinated terms, definitions, and classifications.

Possibly in the first stages of the work the GNP should be calculated primarily or even exclusively on the basis of conversion tables. But later the approach based on use of the system of balance tables we mentioned is preferable. In the still more remote future the GNP and national income might be worked up within the framework of a unified and integrated system of macroeconomic accounts in which the initial data on flows of physical goods, services, income, and expenditures would be so represented that it would be possible to “construct” from them not only the GNP, but also the national income.

To illustrate the general conception of the system referred to above we will use a matrix in which a distinction is made in simplified form both between flows of goods and services and also between income occurring in the sphere of material production and in the nonproduction sphere. It takes the following form:

$$\begin{array}{ccccc} & & & N_1 & X_1 \\ & & & - & X_2 \end{array} \quad (1)$$

and imports of goods and services and losses were omitted from the matrix (1).

Nevertheless, the composition of the matrix (1) makes it possible to obtain estimates simultaneously of both the gross national product and also the national income, and to guarantee their straightforward consistency with one another in addition. For example, starting with the elements of the matrix pertaining to flows of physical goods and services, one can obtain estimates of the GNP and national income (ND):

$$\text{GNP} = P_1 + P_2 + N_1; \quad (2)$$

$$\text{ND} = (a_{12} + d_2) + P_1 + N_1 - (d_1 + d_2). \quad (3)$$

On the other hand, the GNP and ND can be determined with the formulas below on the basis of the elements of the matrix pertaining to income:

$$\text{GNP} = (z_1 + z_2) + (d_1 + d_2); (4)$$

$$\text{ND} = z_1 + a_{21}. (5)$$

It is better, of course, for a real integrated system of macroeconomic calculations to be more detailed. In addition to flows of exports and imports of goods and services, many other additional elements should figure in it. For instance, flows of physical goods and services need to be broken down into basic groups with respect to the sector or branch of origin, indicators of "net added value" by basic components (remuneration of labor, social insurance deductions, profit, etc.).

In our opinion, in the further effort to compute the gross national product, whichever of the general approaches indicated might be used, it is advisable to envisage calculations of the indicator of the gross internal (domestic) product (VVP)—an important modification of the GNP—which is also widely used in international statistical practice and specifically in the practice of the UN, to describe the results of economic development. By contrast with the gross national product, which embraces the final results of economic activity of enterprises (organizations, and so on) of a given country, regardless of where they are located, the gross domestic product reflects the final results of economic activity of economic entities within a given country regardless of the nation to which they belong. Thus the difference between the gross domestic product and the gross national product is as a rule greater when foreign economic relations are more intensive.

Finally, the possibility of computing the national and domestic products both on a "gross" basis and also on a "net" basis, i.e., before and after elimination of depreciation (wear), has been provided for within the framework of calculations of the GNP. This will contribute both to the task of deepening economic analysis and also the international practice of computing these indicators. The interconnections between the different modifications of the national and domestic products are given below:

- 1 Gross national product
- 2 Income from economic activity received by enterprises, organizations, and individuals of the given country from foreign countries
- 3 Income from economic activity received by enterprises and organizations of other countries within the territory of the given country, as well as by foreign nationals
- 4 Gross internal (domestic) product (1 - 2 + 3)
- 5 Depreciation (wear) of fixed capital
- 6 Net national product (1 - 5)
- 7 Net internal (domestic) product (4 - 5)

We should note that income from economic activity must reflect not only profit and wages, but also interest on loans and credit and the value of products transferred (received) in barter deals.

A number of very specific problems of methodology have to be solved in the process of organizing calculations of the gross national product. One of them has to do with estimating services which do not take commodity-money form. For decades this issue has been discussed without particular success at conferences of UN experts in the statistics of national accounts. In practice, such services are estimated in most countries according to the current costs of rendering them. But, in the opinion of certain specialists, this method could set the share of these services in GNP too low, and they propose adding to current costs a hypothetically computed element of net income.

The question of methods of estimating the services of banks and insurance organizations still remains a matter for discussion at the present time. Within the framework of the UN system of national accounts this question is related to the point that on the one hand the charge for them (for example, to keep clients' accounts) does not as a rule reimburse the current costs of the banks, while on the other the interest which banks pay and receive represents in economic theory elements of distribution and redistribution of income, not payment for services. Nor is it altogether clear how services of banks are to be classified in the stage of their use: as intermediate or final consumption? The size, structure, and dynamic behavior of the gross national product depends on how these questions are answered.

As for computations of the USSR GNP, estimating services of financial institutions at the level of their current costs and considering these services to be part of final consumption might be proposed. Such a recommendation was made a few years ago, for example, in the "System of Indicators of Nonphysical Services," worked out by the Standing CEMA Commission for Cooperation in the Field of Statistics. Another solution is to estimate bank services at the level of the net result of interest paid and received (as recommended in the UN System of National Accounts). In this case, the entire product (or portion of it) can be assigned to intermediate consumption.

In estimating the services of insurance organizations it is advisable to distinguish between personal and property insurance, between insurance of individuals and insurance of enterprises and organizations. For example, the cost of the services of life insurance must evidently be included in the volume of final consumption, whereas the cost of services to insure the property of enterprises should be included in the volume of intermediate consumption. We should note that this issue is now being discussed in connection with the work being done within the framework of the UN Statistical Commission to revise the system of national accounts.

The problem of drawing the line between final and intermediate consumption has quite often been imposed by peculiarities in the way an economy and its financial system are organized. For example, expenditures to support television are financed in different ways from country to country. Assignment of these expenditures to final and intermediate consumption in calculations of the gross national product depends on this. With respect to the task of computing the GNP of the USSR, difficulties might arise in classifying expenditures as either final or intermediate with respect to the services of certain scientific research institutions, highway and water management enterprises, etc.

In our view, the question of estimating services rendered at prices which do not reimburse the production costs deserves quite serious attention. First of all, there are housing services. Certain specialists believe that using the rates paid for them in the state sector, although this would conform to the general principle of estimating the GNP in actual prices, would still result in a relative undervaluation of the results of the activity of this sector in the gross national product. Here again we might propose estimating housing services at the level of actual costs.

The question of methods of calculating the value of services to maintain privately owned housing has to be dealt with. We should mention that rents for similar rental housing are provisionally being applied to estimate such services pursuant to the UN System of National Accounts.

Difficulties arise in classifying payments made by individuals which are directly or indirectly related to the rendering of services to them. If the types of payments depend directly on the volume and quality of services, their inclusion in the volume of personal consumption is beyond doubt. In a number of cases, however, payments for services are mainly redistributive in nature (for example, certain commissions which are collected). Sometimes the nature of payments is not altogether clear. Then it is advisable to adopt a convention, which is hypothetical, but sufficiently clear, in order to guarantee a consistent approach to determining the volume of services and to their classification among the various components of the GNP. For example, the services of children's institutions, the volume of which is determined at the level of their actual costs, must be assigned to the category of public consumption, not personal consumption.

A few words about the general principles of estimating GNP. Consistent with recommendations of the UN, the gross national product was estimated in the recent past according to what is referred to as the factor cost, i.e., the market price minus the net result of indirect taxes and subsidies. The factor cost is used even today in a number of countries (in the United States, for example). In our opinion, however, the GNP of the USSR must be computed in the prices of final consumption of physical

goods and services, i.e., in prices that include the turnover tax, minus the value of grants and subsidies. Some economists propose that in estimation of the GNP the excise portion of the turnover tax be omitted from it.² Implementation of this proposal seems highly problematical from both the theoretical and the practical points of view. The question of the indirect tax within the turnover tax is open to discussion. Attempts to identify it will inevitably be hypothetical and subjective in nature.

At the same time, we should acknowledge that the proposal to use in calculations of the gross national product prices from which the "indirect tax" element has been "purged," is related to an understandable desire to reduce the distorting effect of prices on the structure and dynamic behavior of summary indicators. In the light of this, the regular official calculations of the GNP in actual prices of final consumption do not in our view preclude the working up of auxiliary analytical estimates in conventional prices that reflect the socially necessary expenditures of labor more accurately than the actual prices.

The task of arriving at the dynamic behavior of the physical volume of the GNP requires working out a methodology for converting to comparable prices the volume of services rendered without payment to individuals or to society as a whole. The main difficulties are that price indices that might be applied in such a procedure are lacking for such services. In practice, the volume of services in value terms is converted in the statistics of many countries according to cost elements by means of the price indices of goods and services making up the structure of costs. The shortcoming of this approach is that a rise of costs in the relevant organizations and institutions may appear to be a growth in the physical volume of services. There are various ways of solving this problem: to apply certain indicators in physical terms in order to extrapolate the volume of services in value terms in the base year (the dynamic behavior, say, of the number of patients, the number of students, and so on). It is clear, however, that even this method is not free of a number of deficiencies, and aside from that it is limited in its sphere of application (for example, the increase in the number of students per class could detract from the quality of services in the system of education), nor can it be used to study the dynamic behavior of the physical volume of the services of general administration.

Practical application of economic computations of the indicator of the gross national product of the USSR places on the agenda the issue of working out the broader indicator of personal income conceptually coordinated with the GNP in the same way as real personal income is consistent with the national income. Without casting doubt on the role which the indicator of real personal income plays in economic analysis, we would like at the

same time to note that it possesses a certain one-sidedness. First of all, this income indicator practically coincides with the indicator of personal consumption of physical goods (it is very close). In other words, in direct form it does not include income used to acquire nonphysical services. What is more, real personal income does not include personal savings, which makes it difficult to use this indicator in analyzing certain aspects of the process of income distribution.

Practical application of the gross national product as an indicator will make it possible to obtain such additional characteristics of the national economy as a whole as the ratio between physical production and the nonproduction sphere, between the resources and results of economic activity in each of the spheres, the share of expenditures for health care, education, scientific research, and administration in the end result of the production of physical goods and services. Finally, and this is the main thing—use of the indicator of the GNP will facilitate international comparisons of rates and levels of economic development of the USSR and other countries.

Another reason for the objective need to use this indicator in economic analysis is, as statistical data show, that the role of services in the economy is rising in practically all countries in the world. This is manifested first of all in the increased share of resources committed to the sphere of services, in their volume for the national economy as a whole, in the ever growing role of services in productive and personal consumption. These general patterns in economic development are also typical of the USSR.

It would be advisable to also use in economic analysis an indicator reflecting the processes mentioned above and affording a general characterization of the results of economic activity in the two spheres of the national economy.

We would note the following in conclusion. Interest in working out the indicator of the gross national product both for analysis and for international comparison has been exhibited in many CEMA member-countries. Accordingly, the Standing CEMA Commission for Cooperation in the Field of Statistics has adopted a decision to begin to work out the methodology for computations of GNP on a multilateral basis. The joining of the efforts of the CEMA member-countries in this direction will make it possible to improve not only the methodology of computations of the gross national product, but also international comparisons of the level of economic development of socialist and capitalist countries.

Footnotes

1. VESTNIK STATISTIKI, No 6, 1988.

2. G. Zoteyev, "On Estimation of the Gross National Product," EKONOMICHESKAYA GAZETA, No 42, 1987, p 10.

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Saratov Roundtable on Problems With Law on State Enterprise

18200251 Moscow SOTSIALISTICHESKAYA
INDUSTRIYA in Russian 19 Jul 88 pp 1-2

[Roundtable discussion conducted in Saratov by SOTSIALISTICHESKAYA INDUSTRIYA correspondents A. Baranov, Ye. Leontyeva, and V. Lifanov: "To Break the Stereotypes of the Past." First two paragraphs are source introduction]

[Text] This meeting was held in Saratov. Participating in the meeting were the managers of local industrial enterprises, representatives of labor collective councils, city and oblast party and soviet organs, journalists, and officials of union ministries and departments. Among them was USSR Gosstab Deputy Chairman V. Konovalev; USSR Gosplan Department of Developing Planning and Economic Stimulation Chief Specialist P. Myagkov; Deputy Minister of Agricultural and Tractor Machine Building V. Postolnyy; USSR Minlegprom [Ministry of Light Industry] New Planning Methods Section Chief V. Antonyuk, and USSR Minfin [Ministry of Finance] Consolidation Section Chief Specialist L. Bugayets.

The topic of the "roundtable" discussion was how industrial enterprises can survive under the current difficult conditions when the primary Law determining the economic and legal basics of their management activity essentially does not work. Where is there a reasonable alternative to the as yet unequal, hypertrophic interrelations of ministries and enterprises, ministries and territories? What should we do to see that the Law which was adopted, as we know, at the initial stage of perestroika, when much was still unclear, is more revolutionary and more fully reflects the practical application of economic management?

To Get Out from under the Authority of the Weak

The discussion began with the emotional presentations of directors of three local plants—A. Shpak from "Pugachevptitsemash," N. Ivanov from the Saratov "Hammer and Sickle" Plant, and L. Gerasimenko from "Krasnoarmeysksemash." All of them, having made the transition to economic accountability and self-financing, went bankrupt.

The first plant cannot sell the product manufactured by state order. As it turns out, there is no longer any demand for it. The second got bogged down in reconstruction and went bankrupt, paying out millions of rubles in fines for not meeting deadlines for equipment

installation. The third plant, which was placed into operation before its construction was completed, manufactures machines which should be called gold spreaders rather than mineral fertilizer spreaders. That is how high their production cost is.

The fate of these three enterprises will be heartfelt and understood by many of their "brothers" in Minselkhzhmash. In the words of Deputy Minister V. Postolnyy, half of the plants operating today in the sector are unsuccessful.

Who has driven them to ruin? Is there a way out of this economic collapse, and what is it?

[A. Shpak] The state order accepted by the ministry, which, judging by everything, was issued "off the ceiling," has been termed the "grief order" by our workers. We have a million rubles worth of unsold production at our warehouse. Why? Because we were not the ones to determine how many and what kind of machines were needed. That was decided by them—"at the top." They made a miscalculation in determining the demand, and included this error in our state order. And here is the result—no one is rushing out to buy our product. Before we showed a profit, but now we have been left without earnings. We have lost the possibility of developing production and resolving social questions. This is also a serious blow to our small town of Pugachev. The city owes much to the plant. Tell us, how can we convince a worker in this situation that economic reform is good? How can we tell him that the Law on the Enterprise is his law?

[Question] What do you see as the way out of this dead end?

[Answer] The directorship, the labor collective council, the party gorkom and obkom all could foresee today's results and asked the ministry to redefine the enterprise, to allow it to manufacture products which were really needed, and to allocate sufficient funds and time for the preparation of new production. As yet this has been without result. Well, let them hand us over to other, stronger, hands. There are those who want to take the enterprise under their wardship.

[N. Ivanov] The reconstruction of the "Hammer and Sickle" Plant was undertaken because of the "Don" Combine, or more precisely, because of one part for it. We agreed that this part was needed. However, the ministry did not know that the capacities of the construction organizations here were inadequate, and that the construction would drag on for an indefinite period of time. They did not know that the plant, which stood essentially in the center of the city, had no open building area, and that it would be necessary to demolish the surrounding homes. This is a long, worrisome and expensive matter. No, they did not consider any of this, they gave the order to "go ahead," and then, supposedly, they would see...

I don't think the ministry workers suffer as much from their hasty decisions as we do now.

[L. Gerasimenko] "Krasnoarmeyskselfmash" is in a similar position, if not a worse one. It was planned as a rather large enterprise. However, you will note that there is no construction base here. The builders are brought in from Saratov, which is 100 kilometers away. Even worse, there are also no resources at all for solving the personnel problem at the plant itself. One can only guess why the ministry "planted" the new production specifically in Krasnoarmeysk.

Well alright, they got started and began building. The rural areas, they said, are in desperate need for machines. The situation is the same as in Shpak's case. They laid in shops for 35,000 units, and now the comrades from Agroprom tell us—2,500 units, no more. Yet the expenditures have been spent, the money has been invested in the construction and preparation of the technology. My plan for this year provided for 5 million rubles profit, but I have already gone into debt to the suppliers of complement equipment in the sum of 9 million (since only partial assembly can be performed in a plant which has not been completed). I don't know what I will use to pay for the deliveries in the future. And will there be any deliveries at all?

[N. Shabanov, editor of the Saratov Oblast newspaper KOMMUNIST] There is one other curious nuance here. The brilliant minds from the ministry for some reason decided to manufacture a solid fertilizer spreader here in Krasnoarmeysk, in an arid zone. Yet such machines are needed in the Prebaltic, Belorussia, and non-chernozem region. Meanwhile, liquid fertilizer spreaders, which are very much needed in steppe areas, are produced in Riga. And we, the newspapermen, have been writing for decades about the cross-shippments. Is anyone concerned about this, might we ask?

Moreover, the spreader is ecologically harmful. Its principle is the same as the machine which sprinkles the streets with sand. The fertilizers are spread on the surface, where they poison birds and other living things. Even for the plants it would be more beneficial if, as agronomists say, the fertilizers were not spread, but worked into the soil. We need a sowing machine which would introduce them together with the seeds. However, I have not heard of the Minselkhzhmash manufacturing such units in mass supply.

[V. Postolnyy] I must admit that the enterprises whose managers have spoken out here are not to blame for finding themselves in this situation. The crux of the matter is how the development of the sector proceeded as a whole over a long period of time. Nevertheless, no matter how grievous it is now for the ministry, we will support [these enterprises] and find certain reserves. Let us think about the proposals of the "Pugachevptit-smash" collective. We will hand over the equipment which was not installed at the "Hammer and Sickle"

Plant to our other enterprises. We will probably change "Krasnoarmeysksemash" over to the number of those enterprises planned to operate at a loss...

[Comment] You should have thought about this sooner!

[V. Postolnyy] We self-critically acknowledge that we were ill-prepared for the process of perestroyka. We listened too much to the voice of the Ministry of Agriculture (Gosagroprom). They told us, for example, that 110,000 grain harvesting combines were needed. We developed this order, creating mass production plants such as, for example, "Rostselmash." We did not think about surprises in demand. But then they began, finding us unprepared. For the current year Gosagroprom has ordered only 85,000 combines. Next year, they warn us, even fewer will be needed.

We need 180 million rubles in order to help all the enterprises which find themselves in a difficult financial position. But where can we get them if the ministry simply has no money in its account? Last year we worked under very difficult conditions, primarily due to the strictness of state acceptance in our own and related sectors. We were short almost 400 million rubles in profit. And then, these machines which has already been produced were rejected. How much do you think they were worth? Their worth was 500 million rubles! It was on this background that we had to change over to economic accountability and self-financing—with an outstanding debt to the state of 700 million rubles.

[Comment] Does this mean that your ministry has gone bankrupt? Fine management! Tell us, will the sector be able to dig its way out of this hole?

[V. Postolnyy] I think it will, but it is a matter of time. For now things are very difficult. Look at the position that we, the ministry workers, are in. On one hand the Gosplan, which strictly adheres to the control figures defined in the five-year plan, is pressuring us. Our average annual growth rate for production volume is defined in this plan at about 8.3 percent. How can we possibly achieve this? On the other hand, according to the Law on the Enterprise we must coordinate our plans with the labor collectives. So, for this year they have turned down a volume in the sum of 500 million rubles.

[Comment] It's a good thing that not all of them have yet become so brave...

Is there a way out of this? Yes, there is. We must create small plants and flexible types of production capable of being quickly retooled to master the production of that which the customer demands. We must urgently restore the practice of producing machines in small lots. We must place marketing and direct work with the consumer in the forefront. Alas, the Gosagroprom does not know what the farms specifically need. That means we will

have to think for ourselves. But most of all it is the producer of the farm equipment who must think, grasp the situation, and seek out a buyer.

The next task is entry into the international market. Here we have many problems, large and small. In order to solve all these problems and to restore our prestige and our financial position in the course of perestroyka, we will ask the government and the Gosplan to extend the repayment of our debts and to help us with credits...

[Comment] Again with the outstretched hand?

[V. Postolnyy] ...because their official seals are on the documents which have brought us into this dead end.

[Question] In spite of the great over-production of tractors and other farm equipment, Minselkhoz mash is nevertheless building still another tractor plant in Yelabug. Why?

[V. Postolnyy] We need it for bringing up the rear of the ministry. Large capacities are being created there for this purpose. Also, this plant will not produce that many tractors.

[Questions] There are rumors that this plant is going to be united with KamAZ [Kamsk Automobile Plant]. The firm will be independent, not answerable to any ministry. Do you favor such a step?

[V. Postolnyy] It is difficult for me to favor it, since I am an employee of the ministry. Our loss of the Kamsk Tractor Plant is undesirable. We would immediately be deprived of procurement and instrumental production, as well as our own machine tool manufacturing facilities, which our enterprises cannot do without. That means we will have to build another such plant. How many funds will be needed! But, I repeat, this is a departmental point of view.

[V. Volkonskiy, doctor of economic sciences (TsEMI) [USSR Academy of Sciences Central Economics-Mathematics Institute]] The enterprises are making their first attempts to get out from under the authority of a weak and helpless ministry. I believe they deserve support. There is a real crisis in this sector. We must make use of this to see that we do not follow the previous command-administrative course in resurrecting agricultural machinebuilding. I would like to remind you of the idea of V. I. Lenin that financial crisis is even a good thing. It gives us a chance to shake up the bureaucratic structures. And, in the period of perestroyka, there is some shaking up which must be done.

Why has this crisis occurred? Because both the production plans and the construction plans were developed by two gigantic monopolies—Minselkhoz mash and Gosagroprom—without any consideration for the "lower echelons". In other words, the plan was not the sum of

contracts concluded "at the bottom," but rather a directive "from the top." And, judging by all things, the intervention into the work of the enterprises will for the time being continue in the most detrimental form. As regrettable as this may seem, the Law on the Enterprise permits this. It contains too many contradictions and mutually excluding moments.

Where are the guarantees against these "mechanics?" I believe that they are found primarily in the market order. We must strive to see that the dictate of the consumer, and not the producer, finally triumphs.

V. Volkonskiy was supported by other participants in the discussion, who noted that for the time being, unfortunately, we are looking at many of the problems through the eyes of the manufacturer. We feel great sympathy for him when his product is not in demand—it is hard to get by. But should we feel sorry for him? By subsidizing such enterprises at the expense of state funds or at the expense of depriving the strong collectives, we are merely reinforcing the dictate of the manufacturer.

We should give credit or allow extension of payments only to those who have a clear program for getting out of the dead end, to those who have defined new production and new types or products or concluded preliminary agreements with specific consumers of these products. We cannot leave collectives which have gone bankrupt to the whims of fate, but we should also not weep in sympathy for them. In connection with this, proposals have been presented regarding the need for developing a law on bankruptcy.

The main conclusion of this portion of the discussion was as follows: the enterprises are as before looking in the direction of the ministry, hoping it will perhaps help them since they still feel themselves to be cogs in its apparatus. All the while this apparatus, in all the audacity of its present-day reasoning, continues to see its task as the management of its subordinate enterprises (we already know the price of such management). This means that at this stage we must seek forms of getting out from under its authority, forms of independent existence. We must rely only on our own powers. Concerns, consortia, rentals, turning enterprises into cooperatives—they are just beginning to think about these things in Saratov Oblast. However, the need for new forms of economic management, where property relations would be resolved in a different manner, is already persistently knocking at the door, regardless of whether the ministry is weak or strong.

To Get Out from under the Authority of the Strong

[P. Myagkov] They argue until they are hoarse about what the state order should be like in terms of a percentage. Yet, in my opinion, there is no question. If the state order is viewed as a mockery of the enterprise—without

benefit, without material-technical support, without consideration for the capacities, then of course the enterprise will try to take on as little as possible. If, however, all this is ensured and there is a guarantee that the product will be sold, you will not find a plant which would turn down a state order.

Thus, the matter is not one of percentages. The problem is that this is perceived as a nomenclature plan. In other words, this is the previous form of planning, only disguised by another name. This means that a noble cause is doomed to failure.

The entire sense of the state order is to ensure the solution of major national-economic problems. We have an abundance of them. And therefore, in allocating resources for a certain state program, we must provide for a certain amount of "fat"—funds for the co-executors, the co-participants in a large job. In other words, getting a state order must be made a privilege.

[V. Volkonskiy] You are correctly formulating the question of normal economic relations between enterprises and ministries. I will add that I see one more gaping breach in the Law on the Enterprise—the financial standards. These, in essence, are taxes. Thus, taxes are established in all countries in a legislative order. In our country, for some reason, they are not. There are many examples where in the same sector the standards of deduction into the state budget and ministry coffers fluctuates from 90 percent to zero.

[L. Bugayets] Here is a piece of news. The principles of formulation of the economic standards will be different starting with the next five-year plan. The primary orientation will be toward the application of unified standards.

The advantage of unified standards for all the national economic complexes and production groups is that the enterprises are guarded against administrative intervention of the superior organ, and it becomes possible to give the standards legislative force.

[I. Yashkin, director of Saratov GPZ [State Ball Bearing Plant] No 3] Excuse me, but how can our plant make it to the next five-year plan if, for example, we are left with only 17 kopeks from every earned ruble? For 20 years we have been a leading enterprise. We did much construction, helped the city, actively developed production, including our own machine tool building (maybe you have read about our rotor lines?). But now we have to go begging.

Today the plant produces 60 million ball bearings. In order to produce this same number next year, we need several million rubles to restore our fixed capital. Yet the Minavtoprom [Ministry of the Automotive Industry], with which we are affiliated, is significantly cutting back these funds. It is even taking 60 percent for amortization, although, as they say, God Himself would leave us

everything. After all, the plant is almost 40 years old, and half of the equipment needs to be replaced. Can we seriously speak of expanded reproduction under these conditions?

In 1986, before the transition to self-financing, our collective had a material incentive fund in the sum of 3.3 million rubles. Now it is half of that. We need 4 million rubles annually for housing construction, yet we have slightly over 1 million. And another thing. We used to have the lowest personnel turnover rate in the city. Now people are looking ever more frequently at the exit.

[Question] Have you complained to anyone about your minister, comrade N. Pugin?

[I. Yashkin] We went as far as the party Central Committee, but without result. At the ministry they firmly told us: the five-year plan has been compiled, you will not get any changes. In the best case, we will toss some funds your way in case of great need. They will toss funds our way! As if we ourselves have not earned this money...

We can understand the indignation of Ivan Andreyevich Yashkin. He is not concerned with the development of the economic management mechanism of which the "roundtable" discussion participants spoke. This will be someday. Yet the people have to be paid their wages today. However, other—related—plants are in no better position. The ball bearing subsector, which last year was the leader by a knockout in machinebuilding, is more and more becoming the stepchild of the Minavtoprom.

Demanding first priority shipments for itself from the GPZ, the ministry has dealt the ball bearing plants a financial blow and has complicated their relations with other customers, although the latter account for 70 percent of all deliveries.

Therefore, it is no accident that many collectives are currently raising the question of isolating ball bearing production into an independent sector by uniting all GPZs into a single large concern. Can we avoid a monopoly? Possibly. But today, many believe, there is no time for fat. We must saturate the market. Thus, as we can see, they are trying to get out from under the authority of the strong ministry no less than the weak. This is the centripetal force which has arisen ...no, not from independence itself, but merely from the tempting possibility of it.

[V. Volkonskiy] Yet how can we implement this if the Law on the Enterprise states that any reorganization is performed at the decision of those organs which are authorized to create the enterprise? It is unclear what organs we are speaking about. Most probably these are again the ministries.

[P. Myagkov] In my opinion, it is those enterprises who do not have normal conditions for operation that want independence from the ministry. Article 21 of the Law

notes that enterprises have the right to create joint production and to unify to the point of total merger. A necessary condition for this is that they are independent of the ministry.

However, having achieved independence and unification, they will be faced with other problems. The questions of material-technical provision, housing construction, methodological management of scientific-technical progress, etc. will become acute. Yet all of this will be cut off. In other words, I want to say that any new association is today a necessitated measure dictated by the present-day sole desire to "get out from under" the state order in its current form.

Actually, Article 5 of the Law states that the make-up of the association is approved by the superior organization. However, Article 21 indicates that the enterprises themselves join and divide as they see fit. Yet Article 5 has already played a cruel joke. I am referring to the epopee with the creation of the GPO—state production associations. This form has not justified itself specifically because the principle of voluntary membership was violated. You might ask: then why did many enterprises nevertheless agree to this? Why, because there were no limitations on the size of the management apparatus. Those same glavks [main administrations] and VPO were transformed into GPO with twice the number of managers. This again does not correspond to the main principles of the Law on the Enterprise.

[Comment] You are right. But all those consortia and concerns are not simply an attempt to evade the state order. They are a departure from the command-administrative system. They are a complete disavowal of it.

[L. Bugayets] Of course. Therefore, the enterprises who leave the make-up of the ministries should be given a special line in the national-economic plan.

[P. Myagkov] We spoke here of a monopoly. I believe the method of combatting it is not consolidation, but rather de-consolidation of the enterprises. However, small plants are synonymously considered unprofitable and incapable of solving their social problems. The statistics confirm this fact. However, we must admit that it is we ourselves, including also the Gosplan, who have made them this way.

In Bulgaria, for example, small, well-equipped enterprises are 5 times more profitable than the sector on the average. This is due primarily to the reduction in transport costs, pluralism, and better application of science and technology. Not one large enterprise will try to introduce technology or new production in a mass order until it is tested somewhere. In this sense the small plant always comes out ahead, always skims the cream. Having handed over assimilation to a giant, it immediately takes up a new endeavor. Alas, we will find no such example here in the Soviet Union.

[V. Volkonskiy] In order to move the matter ahead, it is necessary to break up the monopoly not only of the large producers and their ministries. It is also necessary to find a counterweight to the monopoly of the USSR Gosstab. I believe it is important to create independent supply-marketing organizations which provide an alternative to the territorial ones. And another thing—we must finally unfreeze prices and make them contractual.

This, by the way, will help those who want to break away from the ministries to survive and gain strength.

[V. Konovalov] The USSR Gosstab does not object to such a formulation of the question. Moreover, we have made provision for the organization of 500 supply-marketing cooperatives throughout the country. Some of these are already operational. For example, the young fellows at the Plekhanov Institute have worked out a survey of what enterprises have on hand in their warehouses. Receiving small commission payments, this middleman firm can give exhaustive information on "where, what, and how much". It also helps in establishing the necessary contacts.

[Question] So when will we finally change over to wholesale trade in materials?

[V. Konovalov] For the present day, 6,000 product titles have been handed over for wholesale trade. It will take time to complete this work.

[Question] Isn't the matter moving toward a self-liquidation of Gosstab?

[V. Konovalov] I don't think so. We need an intersectoral supply organ. Only it must operate in a more flexible and interested manner, carefully sensing the demands of the market.

Councils with Soviets

The ministries and departments exist in the management structure in yesterday's form. This is a fact which we are forced to deal with today. That this sector, with its former administrative habits and its reluctance to give up power to the enterprises, hinders the development of the economy—is also a fact. It is no wonder that the "roundtable" discussion centers around the right to independent existence. This has become a sore point, and how! Well, some evidently will opt for the extreme measure and will break away. Others intend to fight to change the superior administrative organ from a "master" into a "servant" of the main segment of the economy. Or, more precisely, to change it into a prudent, business-like administrator who will be hired by the chief producer of the material goods.

How things will go on from there, as yet even the foremost economists cannot predict. However, one thing is evident. Independence even "at the bottom" will require different administrative principles and different

relations of power in the territory, since instead of administrative, "vertical" relations, partnership managerial relations "along the horizontal" will have to be developed. Their formulation is not a simple task. Today neither self-government at the enterprises, nor the mechanism of new interrelations between local organs of authority and the enterprises located on their territory exists in practice, although much is said about this in the Law. It is written on paper, but, judging by everything, the conditions are not yet ripe. In any case, wherever the labor collective councils are trying to take on the resolution of some question vital to the life of the collective, this is not working out very well.

A. Bachkov, general director of the Saratov Cotton Association, presented the following example.

It is very difficult to sell unbleached fabric at a good price. Therefore, the STK [labor collective council] has turned to the USSR Minlegprom with the proposal to build facilities for finishing production here. The party obkom supported this proposal and assured the ministry that everything was in order with the labor resources and limits for construction. However, Minister V. Klyuyev went against collective opinion and gave the order to build the finishing factory...in Novosibirsk. Yet there is neither an available work force nor free construction capacities there... And now they ask me: will the STKs work? If the attitude of the "higher-ups" toward them does not change, no they will not work, no matter who you elect to them!

[N. Shabanov] Pardon me, Aleksandr Mikhaylovich, but I cannot agree with your words "no matter who." If we leave the formulation of the STK to chance, then we will have permanently acting production conferences [PDPS]. For a director who does not want to share his authority, the PDPS, only under a different name, is much more convenient.

[A. Bachkov] Here is why we are concerned for the STK. It is one of the elements of our independence. The Council is strong when it participates in the formulation of plans and in the resolution of all questions of economic management life. If this radical independence is absent, the STK would exist simply as an exercise. And here it would be all the same who would be its chairman, someone who is a director or someone who is not.

[N. Shabanov] Nevertheless, we must be more concerned about the development of democracy. Saratov alone has over 300 STK, and only 66 of them are headed up by someone other than a manager. This is something to think about.

[A. Novikov, journalist from Saransk] The order of election to the STK must be reviewed very seriously, because this democratic procedure is not yet perfected.

Practical application convinces us that we need a competitive basis for the elections. And if even one of the principles established by the Law is violated, the STK will be inactive.

[L. Gushchin, chief of the ASU [automated control system] section, Saratov Receiver-Amplifier Plant labor collective council] It seems to me that if economic accountability were to operate normally at the enterprise, then the collective would have and each individual worker would acquire a proprietary interest in the implementation of what has been outlined. The problem of who will head up the STK will not arise, since the director would have only one vote in any case. Yet as long as the state order plan is being lowered for the enterprise and the director and the councils are answerable for its fulfillment, there will be outside pressure.

[A. Novikov] However, we must not forget the following detail. Today the director receives several supplemental salaries for the fulfillment of delivery agreements. Immediately there is a contradiction between his personal interests and the interests of the labor collective. The director will strive to see that as few contracts as possible are concluded so as to guarantee their fulfillment. The collective, on the contrary, needs a maximally greater volume of work so that its earnings will be high. How can we remove this contradiction? Very simple. The director, like everyone else, must receive money from the salary fund or the enterprise labor wage fund (depending on the form of cost accounting). The better the results, the higher the reward.

[N. Shabanov] The STK will also have to see that the interests of the collective or some group within it do not contradict the interests of society. At our enterprise, for example, the drivers of one of the bus motor pools went on strike and did not take their vehicles out onto their routes. Why? Because neither the economic managers nor the public organizations explained the new labor wage conditions to the people as reflected in the changeover to economic accountability. The opportunists and money-grubbers made use of this, demanding exorbitant wages for nothing.

[P. Myagkov] If there is no real independence for the enterprises, the STK does not know what to do. This is quite understandable. Yet the points of view differ, evidently, because the Law on the Enterprise does not specify how the elections are to be held, how the candidates are to be nominated, how many members there must be, who the chairman should be, and so forth. And, after all, the Law should not have to define this by its status. All this has to be worked out as we go along. Unfortunately, not all the documents called upon to expose the mechanism of action of the Law are available today.

[A. Chepurnov, journalist from Voroshilovgrad] Articles 9 and 24 dealing with the responsibility of the superior organizations and their interactions with the enterprises

especially need to be illuminated. There, specifically, it states that if an unlawful decision is made which is outside the competency of the ministry or which violates the right of the enterprise, the latter may demand partial or total disaffirmation of the adopted decision through court action or arbitration. If a loss has been incurred as a result of fulfillment of the orders of superior organizations, they must provide total compensation for it. However, this principle does not work, although in some places the labor collective councils are trying to protest the decisions which have inflicted loss.

[P. Myagkov] I know that such a document was being prepared. Its primary executor—Minyust [Ministry of Justice]—has defined the order of interrelations and protection of the rights of enterprises based on the Law. However, it has not yet been issued. Therefore, in the juridical plane only the levers of effect of ministries and other superior organizations on the enterprises are being realized. Alas, there is no reverse, completely fair, reaction. Thus, the enterprise's hands are tied.

Yes, Article 24 does state that all the organs of state power bear responsibility for adhering to the principles of the Law on the State Enterprises in making their normative decisions. However, there is no such responsibility. We have only to place our hopes on the order and adherence to the legislation based on the personal qualities of each individual person.

[Comment] Just try to achieve fairness under such conditions! If the STK really wants to work—then it will.

[G. Razzhigayev, first deputy chairman of the Saratov oblispolkom] This question cannot be examined separately from the interrelations of the ministries and labor collectives with the local soviets of people's deputies. Recently I had occasion to work on the development of administrative schemes on the oblast territory, and I reviewed all the appropriate legislative acts most carefully. I asked myself, first of all, whether the soviets of people's deputies answer for the economic and social development of the territories? The documents state that they do. But, tell me, how can they influence this process? Before it happened that we would force the directors to do such-and-such by the administrative-volitional means. It was difficult, of course, but they did it. Today the relations must be built on an economic-management basis. However, the mechanism of mutually beneficial cooperation has not yet been perfected.

[Comment] Why, it was never even discussed anywhere!

[G. Razzhigayev] That is correct. I believe, for example, that capital investments for industrial and social construction, regardless of departmental affiliation, must be allocated for the territory in cooperation with the Gosplan and the ministries. But it is not we who should go the ministries. Rather, they should come to us. The director, preferably together with the STK chairman, should go to the soviet of people's deputies to decide

where and when to build a certain facility. Maybe this construction does not need to be done alone? Maybe it is better to join forces with some other plants? So, let us decide together—soviets with councils.

Furthermore, the payment for land, for labor and power resources must be, in our opinion, differentiated so as to restrain the excessive appetites of certain economic managers. The more funds the soviet authorities have, the more housing, stores, hospitals, kindergartens and schools we will be able to build.

And, obviously, the soviets of people's deputies should review such questions as the output of consumer goods and consumer services—those problems which we must now tackle with both hands. After all, the situation is very difficult now with monetary circulation. Every month we are looking for funds to pay wages. There is not enough commodity coverage, and the level of paid services is low. The Law on the Enterprise obliges the labor collectives to deal with these matters. However, as yet the Gosplan and Minfin have not found a means to interest the plants in this matter. Instead of 90-100 million rubles which were previously obtained in the oblast by means of our pressure, today they have voluntarily coordinated only 8 million rubles of goods and services. There is, as they say, no further to go.

[Question] What is your attitude to the GlavPEU [Main Production- Economic Administration]?

[G. Razzhigayev] In my opinion, the decision to create the main production administrations within the ispolkoms cannot be called successful. New organs and their structure should not be imposed on us in and of themselves. First we must more clearly delineate in a legislative order the role of the soviets of people's deputies and the labor collectives, as well as the role of the party organs. Only then should we think about functional responsibilities and numbers. After all, first we created the GlavPEU, and then we began to give it responsibilities and structure.

In short, today we have an endless number of problems in our territory. And we see our task not in waiting until these problems are solved "at the top" and handed down to us in a finished form, but rather in overcoming the stereotypes of the past and taking on the load of new responsibilities previously uncharacteristic to us.

"To take upon ourselves"—this thought was expressed a number of times during the meeting. However, there were also many demands presented. Drawing a parallel between the Law on the Enterprise and the Law on Cooperatives, many noted that the latter gives many more privileges in solving principle questions. Nevertheless, the rights of state enterprises and cooperatives must be the same.

Why is it that a plant cannot turn down a state order, while a cooperative can? Why is it that at a plant the staff roster and personnel mark-ups are limited by Goskomtrud, but at the cooperatives they are not? Why is the price formation so different for them? Make the plants equal with cooperatives by conditions of economic management, and they too will flourish. In a word, it was stressed that we must see that paradoxical situations do not arise: a plant operates at a loss, then it is handed over to a cooperative and immediately becomes highly profitable.

The economic management mechanism must also work in an automatic regimen, and not depend on the wishes of individuals, even though they may be of very high rank. This can be achieved if we integrate the interests of all—from the highest officials to the worker at his machine tool. And, of course, the Law on the Enterprise must be protected by legal "armor." Any violation of it should not be allowed to go unpunished.

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Kuybyshev Career Highlighted in Reference to Past Mistakes

18200245a Novosibirsk *EKONOMIKA I ORGANIZATSIYA PROMYSHLENNOGO PROIZVODSTVA (EKO)* in Russian No 6, Jun 88
(signed to press 27 Apr 88) pp 17-31

[Article by Tatyana Boyko: "100th Anniversary of the Birth of V.V. Kuybyshev"]

[Text] Time has passed and the economic history of the first decades following October is no longer referred to as being triumphant and without conflict. We are aware that the path to the unknown cannot be traveled without mistakes. We are feeling the consequences of some of these mistakes today. Thus the achievements and errors of those who controlled the rudder of state life during those years are viewed as being very instructive. One of the brightest figures of the period of the initial five-year plans was Valerian Vladimirovich Kuybyshev. Having started his path during the stern school of revolutionary struggle, imprisonment, exile and civil war, he became one of the first commanders of the basically new and planned economy.

"From worker control, we advanced to the VSNKh [Supreme Council of the National Economy (1917-1932)]," wrote V.I. Lenin concerning the Soviet system of administration. The same path was traveled by Kuybyshev: following work as head of the Worker-Peasant Inspection, he assumed the post of "economic executive No. 1" following the sudden death of the chairman of VSNKk F.E. Dzerzhinskiy. Directly in the path of Kuybyshev, this route was traveled by G.K. Ordzhonikidze.

The economic work of Kuybyshev began in late 1920 and it came to an end on 25 January 1935. His accomplishments: member of the Presidium and chief of the Economic Department of VTsSPS [All-Union Central Union of Consumers' Societies], member of the Presidium of the VSNKh, chief of Glavelektro [Main Administration of the Electrotechnical Industry], secretary to the TsK RKP[b] [Central Committee of the Russian Communist Party (of bolsheviks)], chairman of the Central Control Commission, narkom [people's commissar (1917-1946)] of the Worker-Peasant Inspection, deputy chairman of the Sovnarkom and the USSR STO [Council of Labor and Defense (1920-1937)], chairman of VSNKh, member of the Politburo of the TsK VKP(b), chairman of USSR Gosplan, chairman of the Committee for Soviet Control and simultaneously deputy chairman of the Sovnarkom and the STO. He participated actively in developing the party's policies and he successfully combined organizational work with the creative handling of the theoretical problems which confronted the "initial developers of the socialist economy."

Among the Sources of the Planned Economy

Tatyana Boyko, Novosibirsk

Why are we especially attracted today to the versatile activity of V.V. Kuybyshev? First of all, there was his style—the style of a party leader, one who did not tolerate premature and unsound decisions. In each endeavor, he studied the positions taken by all interested parties. Moreover, the thoroughness with which he developed his decisions was not accompanied by bureaucratic red tape. Kuybyshev's relationships with live people were not blocked by mountains of paper, documents and notes. He invariably displayed concern and attention for his personnel and yet he was relentlessly demanding in his work.

And finally, we would like to learn about Kuybyshev's participation in the development of the first five-year plans. Indeed, it was during these years that he was the leader of VSNKh and thereafter Gosplan and it was also during this time that the country's industrialization began. And it was during this same period that we saw the development of administrative methods of control, with address directive planning occupying a ruling position.

Style of Management

In 1920, practically all of the country's linen factories lacked raw materials and fuel. Senior textile-specialist A.A. Nolde recommended that a group of these factories be converted over to self-recoupment and be allowed to sell fabric on the "free" market and to purchase raw materials from the peasants and to procure fuel using the money earned. The leaders of Glavtekstil [Main administration of the Textile Trade] perceived this as a desire on the part of the former baron to draw the national economy backwards towards capitalism. Lenin tasked

Kuybyshev with studying this proposal very thoroughly. Valerian Vladimirovich studied Nolde's report very thoroughly, he listened to reports delivered by opponents and he checked the calculations. A statute on the singling out of a group of flax factories and the system for administering them was developed on the basis of common effort. This document laid the foundation for introducing the principles of cost accounting into Soviet industry. Following certain corrections, it was approved by the Council of Labor and Defense. A.A. Nolde was assigned to serve as chairman of the administration for the flax trust—the first cost accounting trust in our country.

On 12 August 1921, the STO approved the Statute Governing Large-Scale Industry, which authorized the Presidium of the VSNKh to convert independently enterprises over to cost accounting. Kuybyshev, added to the staff of the Presidium of the VSNKh in May 1921 upon the initiative of Lenin, became absorbed in this work. With his participation, such cost accounting organizations as Yugostal [Southern Steel Industry Trust], Khimugol, Rezinotrest [State Trust of the Rubber Industry] and Severoles came into being. Typically, when discussing the conversion over to cost accounting of certain enterprises and branches, the Presidium of the VSNKh often issued instructions calling for the revision of certain points in various documents, in conformity with the thoroughly prepared Statute Governing the Flax Industry.

"Boldness and decisiveness in work, unconquerable faith in the success of his endeavors and a thorough understanding of the tasks at hand were all combined in Valerian Vladimirovich, together with a readiness to accept responsibility for decisions handed down and an ability to see into the future," wrote I.M. Gronskey, a former editor of IZVESTIYA. This surprising combination of various characteristics in Kuybyshev's nature was also noted by the director of the Central Institute of Labor of VtsSPS A.K. Gastev: "He was demanding and uttered his administrative words in a categorical, sparing and stern manner, but anyone who spoke with him could not help but take note of his sincerity and cheerful cordiality. A mere brief and random meeting during work and his friendly smile or joke could only be recognized as an unexpected gift of friendship."

It would appear that these characteristics aided Kuybyshev in solving very difficult problems. One of them was the "incredible amount of bureaucratic and irresponsible confusion," as mentioned by Professor G.O. Graftio, which reigned during the construction of the first Soviet electric power stations. Kuybyshev encountered it directly in 1921 as head of the Main Administration of the Electrotechnical Industry (Glavelektro). Glavelektro was only one of several departments which were responsible for electrification, despite the directive of the Sovnarkom which called for all work concerned with electrification to be combined in one organ. A solution had to be found for all of the departmental problems. But

how? Kuybyshev remained loyal to his habit of viewing all sides of a particular problem. Over a period of 3 months of tense work, Valerian Vladimirovich, jointly with power engineering specialists from the production council which he created attached to Glavelektro, prepared three variants for reorganization. The plans were reviewed on a competitive basis and this made it easier to select the best one.

There was still one other aspect to the operational style of Kuybyshev. The government had to hand down a decision regarding Dneprostroy [State Dnepr Construction Project]—an installation of priority importance. Sometime later, Academician S.G. Strumilin would refer to the country's first five-year plan as Dneprostroy. This would be later. But at the time, many competent hydraulic engineers and metallurgists maintained that the construction of such a powerful electric power station on the Dnepr River was unnecessary and untimely. At the same time, American specialists, to whom the plan was sent for examination upon the initiative of F.Z. Dzerzhinskiy, assigned it a high grade and even offered their services in carrying it out. A final opinion was needed from the VSNKh.

In November 1926, Kuybyshev convened an expanded meeting of scientists, engineers and economic executives. Was it for the usual reasons? Yes and yet there was one curious detail. During the introduction, the chairman of VSNKh placed emphasis upon the fact that the technical aspect of the problem was rather clear and that attention had to be focused on the question as to why it was necessary to build the Dnepr GES [hydroelectric power plant] first of all and not some other installation. "I must warn you that we have here in attendance both the advocates and opponents of Dneprostroy. It was my intent to invite as many opponents as possible in the interest of shedding light upon the various points of view and obtaining the truth in the final analysis."¹ After listening to all of the opinions expressed, VSNKh drew the conclusion concerning the advisability of the priority construction of a hydroelectric power station on the Dnepr, the first stage of the Dnepr Cascade. One month later, the USSR STO adopted a corresponding decree.

"A distinctive characteristic of Kuybyshev was his amazing and encyclopedic knowledge of the country's economy," so read an article which appeared in TRUD Newspaper on 27 January 1935, written by K.K. Striyevskiy, who served at one time as chairman of the RSFSR VSNKh. "He was familiar with the economics of each oblast and each remote rayon and he had a clear understanding not only of the status of a particular branch of industry as a whole but also of each of its elements. Talented, thrifty and a wise economic executive, Valerian Vladimirovich firmly demanded high quality construction and reduced construction costs and he was especially wary of a dispersion of funds."

Thrift. Many strived to apply pressure to the head of the highest economic organ: let him loosen the purse-strings, since he controls millions! Here is a typical episode

drawn from the daily practice of the chairman of VSNKh. In 1928, the management of Sakharotrest stubbornly insisted on it being provided with the funds needed for the construction of new plants. But the question had to do with whether or not the existing capabilities were being employed to satisfaction. In order to obtain an answer to this question, Kuybyshev acquainted himself thoroughly with the appropriate materials and learned: by no means are they being utilized correctly. For example, a method was being employed abroad for drying beets that greatly extended the operational season of the sugar plants. A report was issued on this method by a group of Soviet professors who had made a special trip abroad for this purpose. Their report was shelved. Upon seeing it, Kuybyshev immediately sent a note to all members of the VSNKh Presidium which read as follows: "I recommend that you acquaint yourselves with the attached note concerning the question of beet drying. It is my opinion that it provides brilliant proof of our conservatism in engineering and sluggishness in the mastering of new achievements and at a time when many millions of rubles in savings are knocking at the door. I would remind you that at a time when the authors of the note had already issued their report concerning their trip abroad, we had still not commenced the construction of new plants involving many millions of rubles of expenditures. In handing down my decision not to build new plants, I was guided by instinct at a time when the organs responsible for the development of the sugar industry not only did not prompt me towards making this decision but, to the contrary, they concealed the value of the invention produced abroad in the interest of encouraging the construction of new plants."

The contradictions inherent in the administrative system of control are clearly manifest in this episode. The leaders of middle and lower echelons of administration were not encouraged economically to search for efficient solutions or to introduce new developments, but rather they strived to avoid responsibility and failed to display initiative. Moreover, a large additional workload fell on the shoulders of the higher leaders. "The work and the personnel were held directly in a death grip," wrote Valerian Vladimirovich to his wife. The tremendous workload disturbed him not because it had exhausted his strength, but rather because it forced him into making hasty decisions. And this was not found in the rules followed by Kuybyshev. "He never botched up even the smallest task in the interest of accelerating the handling of a mountain of paperwork," stated eyewitnesses.

Moreover, this cheerful individual considered it a shame to yield to despondency and despair even during the most difficult minutes of his life. People were drawn to him by his simplicity, accessibility and sociability. Kuybyshev constantly replied upon his collective for advice and assistance. Thus it was easier for him to solve many economic problems than it was for other leaders who relied only upon their own infallibility.

Industrialization Rates

In December 1925, the 14th Party Congress adopted the program aimed at industrialization. It was to be carried out using internal resources. How was this to be accomplished? Through reindustrialization, by means of the forced destruction of small rural commodity producers, or through the creation of economic conditions for the accelerated development of agriculture and its gradual cooperation, as proposed earlier by V.I. Lenin?

Many party leaders were aware that "reindustrialization," crude administrative pressure upon the peasantry, a non-equivalent exchange between cities and the countryside, the "dispossession" of middle peasants and extremes in collectivization would inevitably lead to a strengthening of the bureaucratic totalitarian tendencies in the party and state. "Dear Valerian! I am fully confident that we will cope with all of our enemies if we can find and follow a correct policy in administering the country and the economy," Dzerzhinskiy wrote to Kuybyshev in June 1926, 17 days prior to his sudden death. "If we are unable to find this policy and tempo, our opposition will grow and the country will then find its own dictator—the undertaker for the revolution, regardless of the red feathers on his costume."²

N.I. Bukharin, A.I. Rykov, M.P. Tomskiy, N.D. Kondratyev and others maintained that the party was pursuing a policy of "military-feudal exploitation" and "retaxation" of the peasantry for the purpose of achieving excessive rates for industrialization. According to an evaluation by Professor Kondratyev, mutual computations between the cities and countryside on the eve of the first five-year plan were considerably more disappointing for the countryside than those carried out prior to the first world war: the burden of peasant taxation, in the form of taxes and price upheaval, reached 2 billion rubles and their overall well-being was lower by a factor of two than the pre-war level.³ "Our concept held that growth in agriculture and industry could take place simultaneously," stated N.D. Kondratyev during a plenary session of the USSR Gosplan Presidium in 1925, "The developing agriculture is creating a market for industry and, conversely, we maintain that the developing industry is attracting the surplus agricultural population and creating a market for agricultural products. We note then that agricultural development is a prerequisite for the development of industry and we quote Lenin's words that we must commence with the peasantry. By no means do we wish to maintain, as did Kritsman and Groman, that industrial output will inevitably and always grow more slowly than agricultural output. We merely state that the accumulation of capital by industry is a slow process and that an acceleration in this process presupposes growth in agriculture and in agricultural exports."⁴

Bukharin believed that the principal and decisive form of relationship between industry and agriculture must be the market form. The extremes in collectivization, deprivation of the economic independence of kolkhozes, the

spreading of sovkhozes and MTS'S [machine and tractor stations] and compulsory agreements on state purchases of agricultural products (replaced in 1933 by mandatory deliveries at lower prices), he blamed on the abolishment of NEP [New Economic Policy (1921-1936)] and the movement over to the unprepared phase of economic relationships.

The official point of view was different: "The party on the whole, and also Comrade Stalin, held that the peasantry still overpays in prices for industrial goods and underpays in prices for agricultural products and that this excess tax (tribute) cannot now be destroyed even if we do not wish to reject industrialization and that it must be curtailed step by step so that with the passage of several years it may be destroyed entirely."⁵

The rapid restoration of the national economy during the 1921-1936 period aroused a state of euphoria among many party and economic leaders and became a powerful trump card in the hands of the advocates of accelerated industrialization. Included among them was V.V. Kuybyshev. He considered the other approach to be wrong both from the standpoint of the next few years and also from a future standpoint. "History will not allow us to advance quietly," he stated on more than one occasion.

N.D. Kondratyev, I.T. Smilga and other sober-minded individuals emphasized that this was a period devoted to restoring the national economy and that its tail-end would be encompassed by a portion of the five-year plan. However, it was wrong to draw a conclusion regarding the reality of excessively high rates for the five-year plan as a whole. Indeed, the basis for rapid improvements had disappeared. It was based upon considerable supplies of capital in industry and agriculture that had been "immobilized" during the years of the Civil War. Working capital was needed for activating this capital. It was furnished by a bank emission. In the opinion of Kondratyev, it constituted both the strength and the weakness of the improvements realized during those years. "The strength—to the extent that we can refer to it in this manner—took advantage of the market conditions" and could, through the issuing of money, finance the national economy only because the channels for national economic circulation at the time of NEP had disappeared completely, owing to the fact that with the first steps taken in our overall improvements and in improving our commodity turnover an opportunity had appeared for expanding the emission without causing harm to the purchasing power of money. The weakness—since this opportunity was strictly limited and since its limits were easily overstepped."⁶

And Kondratyev believed that they had been overstepped. The reliance upon industrialization was regenerated in the form of super-industrialization, since the capital investments intended for industry exceeded the amount of real savings throughout the country. Savings were being restrained by an erroneous policy being

upheld in the countryside, wherein the "kulak" concept was interpreted too broadly (not as an exploiter of hired labor but as an owner of "surplus" livestock and as being a strong master). Such dispossession of the kulaks undermined the peasant economy. The deficit in savings was covered by an acceleration in the emission of paper money. N.D. Kondratyev assumed that such an emission and an artificially stimulated growth in industry would produce grave consequences by the end of 1925, the most important of which would be a commodity famine.

Taking into account the severity of a commodity famine, A.I. Rykov, chairman of the Sovnarkom and the USSR STO, called first of all for a state of calm to descend upon the market and he proposed that resources be invested in light industry. Also, in addition to the five-year plan, he called for the preparation of a working plan for the next 2 years, during which agriculture would be developed at accelerated rates (a two-year agrarian plan).

It was during a 4 November 1928 session of the USSR STO that chairman of the VSNKh V.V. Kuybyshev answered the requirement for achieving a state of calm in the market: "A discussion of complete balance between supply and demand implies a radical change in the relationship between heavy and light industry and making a cardinal mistake from the standpoint of future development. The disparity between demand and supply is aiding the rapid development of industry, it testifies to growth in the well-being of the population and it is viewed as a stimulating factor for industrialization."⁷ In this instance, the chairman of VSNKh adhered to the widely held opinion at the time that a shortage of goods represents a special advantage of the socialist economy. Indeed, excessive demand does not restrict production but rather it allows it to develop in keeping with the productive forces.

In negating the legality of these views, V.V. Novoshilov, an economist for 33 years and a future Lenin prize laureate, wrote in the second issue of VESTNIK FINANSOV for 1926 that excessive demand does not aid the national economy, but rather it merely creates chaos in the distribution of real income. The distribution of real income ceases to conform to the distribution of monetary income; it is accompanied by diversity in the purchasing power of money (by various areas, stores and even in different hands); it distorts the trend in economic activity, while encouraging numerous unproductive expenditures, unjustified enrichment and speculation. In the opinion of Novoshilov, commodity famine arises only at those times when prices cease to perform the function of an equalizing factor for supply and demand, when they become sluggish and unresponsive to market conditions. It should not be forgotten that a shortage of goods is not an absolute but rather a relative phenomenon—compared to monetary demand. Indeed, goods are issued not in response to a simple requirement for them but rather for money. And a simple increase in production will not eliminate excessive demand.

However, attention was not focused on these serious economic arguments. On 27 October 1928, the leading article in PRAVDA was entitled: "We will continue our socialist offensive." In this article, the author stated: "The party rejects an examination of the rapid rate of industrialization because of the commodity famine, which clearly demands an improvement in light industry at the expense of heavy industry and so forth. The party is fully aware that under the conditions of restructuring the existence of some elements of commodity famine is inevitable. In combating these elements in every possible way, both in terms of means of consumption and means of production, the party openly discusses this problem with the working class and workers and points out the only path to be followed for overcoming the elements of commodity famine—the path for achieving high rates of industrialization."

And what has reality shown?

The second year of the five-year plan ended. In December 1930, Kuybyshev delivered a report entitled "Plan for Socialist Construction for 1931" during a combined plenum of the Central Committee and the TsKK VKP(b) [Central Control Commission of the All-Union Communist Party (of bolsheviks)], where it was stated: "The task for 1929/30 was not fulfilled in terms of a number of important indicators. Industrial output increased not by 32 percent as called for in the plan, but rather by 25 percent. This was a grandiose and unprecedented rate for any country. Nevertheless the task was not fulfilled. Instead of 11 percent, the production costs declined by only 7 percent and as a result the national economy sustained a severe blow. Just as in the past, the quality of the output remains very low. Capital construction was not carried out in the amounts established for industry and other branches. Supply operations were organized in an abominable manner."⁸ The most important breakdowns—the situation with regard to coal and metal, which posed a threat to the plans for 1931 and the final failures in connection with the use of chemical processes. But in his report, Kuybyshev referred to all of these as being local and partial defeats, shortcomings and failures. They did not prevent him from drawing an optimistic conclusion: "We nevertheless are experiencing a tremendous movement forward and one that is so great that we are able to state at the present time that a five-year plan in five years is not a task for us. We must fight for a five-year plan in four years and we can and will complete it in four years!"⁹ Optimism leads to impatience: Stalin raised the task of completing the five-year plan, in the principal branches, in three years and towards this end he demanded that industrial output be increased by 45 per cent in 1931 compared to the figure for 1930 (the five-year plan for the third year of the five-year plan called for 22.1 percent). In the mentioned report, Kuybyshev cited a somewhat lower figure—43.6 percent.

In reality, the increase in industrial output in 1931 amounted to 20.5 percent, in 1932—14.7 percent (the five-year plan called for 23.8 percent and the annual

plan—36 percent), in 1933—5.5 percent (25.2 and 16.5 percent respectively).¹⁰ As reasons for the sharp reduction in rates, the specialists cite in particular the unrealistic nature of the planned goal for 1931 and the arbitrary and fantastic changes in the annual plans instead of a tense five-year plan. The desire to stimulate the country's development, neglect of the principles of economic equilibrium and also the difficulties in mastering new equipment by those who came from rural areas, the forced acceleration of collectivization and hence the deterioration in the agricultural situation all had an effect with regard to non-fulfillment of the principal indicators for the five-year plan on the whole.

Beyond any doubt, there was a historical need for radical modernization of the national economy. "Under the conditions prevailing at the time, this was the only possible path to be followed for both the country and the people," commented M.S. Gorbachev in a report delivered on the occasion of the 70th anniversary of October. But from the very beginning, industrialization proceeded at incredible rates. They were answered by wasteful expenditures of funds, violations of planned proportions and technological requirements, a decline in the quality of operations and output, poor organization of supply operations, violations of financial discipline and accidents in mines and at electric power stations and construction projects. Engineers, planners, supply specialists and economic executives had to answer for this (and at times with their lives).

At the Head of Gosplan

By 1930, the organization of national economic planning had become the principal concern of V.V. Kuybyshev, at which time he was assigned to serve as the chairman of Gosplan in place of G.M. Krzhizhanovskiy. During those years, the principles of NEP [New Economic Policy (1921- 1936)] were demonstrated at accelerated rates—Lenin's economic policy, with a return taking place to the administrative methods of the period of "military communism." In 1930, in conformity with the credit reform, banks were obligated to pay suppliers for all products shipped according to plan, regardless of whether or not the purchasers of the products had money in bank accounts. The equivalence of exchange—the basis for commodity-monetary balance—was practically eliminated. Commodity-monetary relationships displaced the card system of funded distribution and cost accounting became especially formal in nature. The criteria for efficient work by enterprises—profit and profitability—were banned from economic practice. The almost complete withdrawal from enterprises of profit and amortization deductions made self-financing impossible for them and at times even recoupment. The view of a socialist society being a single factory in which the actions of all workers must be subordinated to a single plan-order or plan-law became a dominant one.

During the course of delivering a report entitled "Organization of Planning" before the Plenum of USSR Gosplan on 11 May 1931, Kuybyshev enumerated the

principal shortcomings of the planning organs: isolation from specific economic life, excessive distraction by methodological abstractions, extreme weakness in the planning of equipment, weakness in the elements of rayon and all-round planning, absence of support for a mass working group, planners and local planning organs, weakness in the system of planning organs from top to bottom and the absence of systematic work in behalf of a plan.

The Gosplan chairman demanded "not only that the final results to be achieved be reflected in the plan, but also how this was to be accomplished, what levers were to be employed for fulfilling the plan and how its fulfillment was to be revealed in time and space."¹¹ However, this demand in a large sense turned out to be a desire that was unattainable in the face of a tremendous volume of work and a shortage of information. Even under the conditions which prevailed during those years, when the nomenclature for the products being produced was considerably less than today's nomenclature, Gosplan was unable to provide for a balance between supply and demand in the directives in billions of economic contacts.

Sparing no effort, V.V. Kuybyshev attempted to overcome the "curse" of dimensionality and vagueness with the aid of systematic (from day to day on a year-round basis) work on the plan. Was this realistic? Many entertained doubts in this regard. Yes, Kuybyshev attempted to convince them based upon the fact that at the beginning of a current year the "physiognomy" of the next year was known approximately (rough amounts of capital investments, principal capital, what enterprises were to be placed in operation, degree of saturation with machines and others). "The overall framework for the 1932 plan," he stated during a Plenum of USSR Gosplan on 11 May 1931, "we outlined for the most part in January and February. Life can introduce many changes into this plan and yet the framework is at hand. Within each sovkhoz, kolkhoz and plant and in transport, this skeleton can be supplemented by elements drawn from active life and in October or November we will have an overall national economic plan. Only such systematic work makes it possible to make technical modernization a principal concern of the planning organs. The use of scientific and engineering achievements in a plan and the participation of the masses in this plan makes it possible to truly prepare a regional section for this plan."¹²

However, experience has shown that even if a directive plan is composed in advance (by 1.5-2 years), we still may not obtain an acceptable level of balance in the national economy. In order for an enterprise to compose and send to the planning organs requests for materials and component parts, it must have an approved production plan. But this plan thrives only when all of the requests for the products of a particular enterprise come together in the center. A vicious circle repeated millions of times! A heavy payment for it—increasing supplies of raw materials and semi-finished goods in the warehouses of enterprises.

Moreover, a directive plan by its very nature always bears the burden of the past, since the computations are based upon report data and do not take into account the possible improvements associated with NTP [scientific and technical progress] and uncertainty caused by the varying abilities of collectives to achieve the established goals.

Kuybyshev attempted to overcome these contradictions by attracting skilled specialists from outside the Gosplan system to work on the development of plans. He viewed this as a possibility for convening scientific conferences on some of the more important problems. Such conferences became an important aspect of the technical-economic validation for the second five-year plan. It began with the All-Union Conference on the Distribution of Productive Forces, which opened on 15 April 1932 (USSR Gosplan obtained authorization from the government for conducting 24 such all-union conferences, not counting departmental ones).

The conference was confronted by three important tasks. "First of all—to mobilize and bring together all knowledge concerning our natural resources and natural conditions and economic activity and to subject it to critical evaluation," wrote V.V. Kuybyshev in the May issue of the journal *PLANOVOYE KHOZYAYSTVO* [Planned Economy] for 1932, "so as to be able to select, for economic development during the second five-year period, favorable and effective points and rayons for the application of industrial strengths. Secondly, a need exists for developing a rough draft for the distribution of national economic branches and their mutual all-round coordination. Finally, having agreed upon the limits, the plan, specialization and the scales for the development of inter-regional complexes, the conference must create a framework for an inter-regional division of labor on the territory of the USSR, while taking into account those parties with whom the local planning and economic organs could proceed with the development of specific plans for the five-year plan, while not fearing the possibility of authority being in conflict with the overall plan for the territorial organization of the national economy during the second five-year period. Despite certain deficiencies, the conference fulfilled these principal tasks."¹²

Kuybyshev mentioned the territorial section as being one of the principal conditions for a full-value national economic plan. He was convinced that an all-round planning method was impossible in the absence of such a section, which with the passage of time would become the principal one. He viewed the combined use of all of the territory's natural and production potential as one of the principal advantages of a planned economy, thanks to which any construction could be planned from the very beginning as a powerful combine, with its development being carried out mainly from the standpoint of the economy as a whole.

The program-special approach (in modern terminology) was manifested most fully during the creation of the Ural-Kuznetsk complex—the country's second coal-metallurgical base. The idea of creating this complex was

advanced as early as 1918. The plans called for combining the coking coal of the Kuznetsk Basin with the iron of the Urals, thus opening up an expanse for developing the economy.

A tremendous amount of experience was accumulated here in organization and administration. For all practical purposes, the chairman of Gosplan, V.V. Kuybyshev, controlled the organization of this complex. Success was achieved to a large degree as a result of the use of effective administrative methods. The work was carried out in many areas and at large construction sites by representatives of the government who had been granted extensive powers. All new installations were erected in accordance with a well thought out and strictly controlled program. Transport operations were developed together with the rapid development of the coal industry and ferrous and non-ferrous metallurgy. A large construction industry came into being and the first chemical plants of the coal-tar and chemical industry were built. Siberian machine building began to form based upon its own efforts in metallurgy. Branches of the light and food industry and farming were developed for the purpose of satisfying the increasing requirements of the complex's population. More than 40 percent of all capital investments were employed for the overall development of the territory—for the infrastructure. The complex was created on a rapid basis.

Kuybyshev, having been head of Gosplan during the years devoted to consolidating the administrative system of control could not help but take note of the manner in which it conflicted with socialist ideals. The command-administrative methods systematically brought about an increase in the size of the bureaucratic apparatus and the appearance of a layer of affluent people whose interests quite often were not compatible with those of the workers. Thus Kuybyshev proposed that the long-held notion of planners representing a "special caste" be decisively rejected—"why would a machine worker with a narrow horizon concern himself with overall planning or why should planning work be removed from the quiet atmosphere of offices?" It was his hope that the coordination of planning work in the center and at various areas, by attracting into the planning process broad layers of workers, would produce success within the framework of the administrative system in overcoming the trend towards bureaucracy. "Planning brigades, which were tasked with intra-production planning and participation by the masses in all state planning work, had already been created at many enterprises," stated Kuybyshev during a plenum of USSR Gosplan on 11 May 1931. "With adequate direction on the part of the planning system, these planning brigades will become the creators of healthy bolshevist plans and organs for ensuring their fulfillment."¹⁴

But these hopes were not destined to be realized. All attempts to formally attract workers to planning, including ignominiously dead "constantly operating production conferences," failed despite the efforts made to

preserve the administrative system of control. At the same time, the planning departments and administrations of enterprises, main administrations and ministries, all of which had defended the interests of "their own departments," received tasks which were a little easier and more resources for use in behalf of these tasks. Directive address planning resulted in the appearance of a wasteful "expenditure" mechanism. There was a broad layer of bureaucracy—distributors of resources, officials, planners and individuals who were unfamiliar with the needs of the people. Today, in a new twist of history, we are trying to restore the Leninist principles of a new economic policy and we are aware that a guarantee for success in carrying out the radical economic reform is the genuine democratization of society and the development of production and social self-government.

Valerian Vladimirovich Kuybyshev lived slightly more than 47 years. He was a revolutionary, a Leninist and a commander of the first five-year plans. He possessed qualities which the party values very highly at the present time: a business like attitude, competence, responsibility, honesty and an informal relationship with the masses. "So long as the struggle for a new society continues and it will continue for a long period of time, there can be no discussion regarding an accurate daily schedule or guaranteed recreation for communists," Kuybyshev frequently stated, "The communists must always lead and they must have no privileges but only obligations."

Footnotes

1. ISTORICHESKIY ARKHIV [Historical Archives], 1958, No 3, p 44.
2. O.R. Latsis. "Tireless Builder," ZNAMYA, 1984, No 1, p 188.
3. S.G. Strumilin. Selected Works, Vol. 2, Moscow, Publishing House of the USSR Academy of Sciences, 1963, p 268.
4. L. Piyasheva and economist Nikolay Kondratyev. SOTSIALISTICHESKAYA INDUSTRIYA, 1988, 14 Jan.
5. 16th Conference of the BKP(b). Stenographic report. Moscow, Gospolitizdat, 1962, 746.
6. From a report by N.D. Kondratyev at the Institute of Economics (Russian Association of Scientific Research Institutes of Social Sciences [1923-1930]) on 11 March 1927. "On the Nature of Our Economic Improvements." Quotes from the selected works of S.G. Strumilin, Vol. 2, p 230.
7. Archives of the USSR SNK and SNO. Quotes drawn from the newspaper ZA INDUSTRIALIZATSIYU, 1936, 25 January.

8. B.B. Kuybyshev. Articles and speeches. Vol. 5, Moscow, Partizdat, 1937, p 15.

9. Ibid, p 16.

10. For a more detailed analysis of the rates during the first five-year plan and an analysis of the situation during those years, see: O.R. Latsis. "The Problem of Rates in Socialist Construction," KOMMUNIST, 1987, No. 18, pp 79-90.

11. V.V. Kuybyshev. Articles and speeches, Vol. 5, p 208.

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INDUSTRIAL DEVELOPMENT, PERFORMANCE

Economic Acceleration Requires Modern Machines, Equipment

18200231 Moscow EKONOMICHESKAYA GAZETA in
Russian No 27, Jul 88 p 21

[Article by S. Kheynman, doctor of economic sciences:
"Components of Acceleration"]

[Text] The restructuring of the management system, transfer of enterprises to full cost accounting and self-financing, and "disassembly" of the mechanism of deceleration are the most necessary, but insufficient, conditions for realizing the strategy of acceleration. At any level of production automation, of course, results depend on the person activating the production potential. The quality of output also depends on workers' attitude toward their work. However, a significant improvement in it cannot be attained if there is no appropriate machinery and if production organization does not change properly.

Basis for Quality

A significant improvement in the quality of output is the most important characteristic of economic growth and the most important rule of advance along the path of acceleration. Ensuring an appropriate technical base is the key and main prerequisite for the accomplishment of this task. Any organizational measures—development of quality control systems, introduction of state acceptance, and so forth—will not give a significant effect if appropriate technical conditions are not created in advance. For this there should be the necessary set of finishing equipment in the production apparatus of basic sectors—metallurgy and machine building.

In machine building the following are available per 100 lathes (according to 1983 census data): 31 grinders (for comparison: 66 in the United States) and 4.5 trimming

and finishing machines in the USSR (15 in the United States). Ferrous metallurgy does not have the necessary equipment for finishing rolled metal products and is short of lines for the output of sheet and thin-sheet rolled metal products and cold-rolled sheet and of equipment for finishing the surface of rolled metal products. In the textile industry there is a shortage of finishing equipment and in woodworking, of drying and impregnating equipment. This also applies to diagnostic and control equipment. The indicated situation determines the low competitiveness of domestic machinery at foreign markets. Agriculture, the food industry, and appropriate transport are insufficiently equipped with refrigeration devices.

Furthermore, the quality of output depends to a considerable degree on the quality of the means of labor with which it is produced. Therefore, along with accuracy, reliability, and durability it is necessary to single out and take into account in practice the group of criteria specific for the means of labor:

- technological properties of a technical device, that is, the possibility of producing it conveniently and efficiently;
- ergonomic properties of machinery ensuring a complete safety and optimal maintenance of labor processes;
- a high level of standardization of units and parts;
- reparability indicating to what extent it is convenient to replace every unit subject to repair;
- ecological cleanliness of machinery and its outfitting with all the necessary cleaning devices guaranteeing preservation of the environment.

Without the solution of the mentioned problems a new quality of economic growth cannot be attained.

Exactly on Time

The time factor plays the most important role in large-scale modern machine production. Numerous production links forming a single complex system function efficiently only with a strict observance of time parameters. Otherwise, an attempt is made to provide oneself with everything that is necessary on one's own. Thus, "subsistence farming" and commodity stocks amounting to hundreds of billions of rubles appear among producers.

In recent years Japan and following it the United States have been changing over to the system of material and technical provision for production according to the principle "exactly on time." Raw materials, supplies, accessories, and semifinished products arrive at the place, where they are to be used, exactly at the time when they

should be put into production. There is no need to have vast commodity stocks and big production areas, on which they are placed, are freed.

This is the first result, to which a proper evaluation of the time factor should lead. There is also another—shortening the time of the production process itself.

An acceleration of social and economic development should be expressed not only in an increase in the rates of growth of output volumes, but also in an acceleration of the production process itself and in the saving of production time. At present, however, in the domestic industry a systematic recording of these kinds of indicators is almost absent. According to fragmentary data, in the total length of the production cycle technological time occupies 30 to 35 and in a number of cases 15 to 20 percent and even less. Interoperational lying and waiting for raw materials, supplies, semifinished products, transport, technical control, and so forth account for the rest.

As a result, stocks of incomplete products worth many billions accumulate at enterprises, the rate of circulation of working capital is lowered, and a substantial amount of it is frozen. Inefficient routes of intraplant (intershop and intrashop) transfers play a considerable part in this. As a rule, a study of these routes has not been organized and work on streamlining them is not done.

The criterion of shortening calendar production time and the length of the production cycle should play the key role in the development of variants of production technology and organization. It should be equally initial not only in industry, but also in agriculture. Both the productivity of production resources and labor productivity depend on an efficient fight for shortening calendar time.

The time factor has another very important aspect. Considerations of a time nature hamper production specialization, which costs our economy a great deal. Machine building and other plants are almost confident (they have grounds for this) that suppliers will not keep to delivery dates and will let them down. Hence the strong resistance to specialization among ministry managers. Production "at one's own place" and "for oneself" externally is the most reliable variant. However, it leads to a lag in our machinery for decades. Apparently, the time factor should be organically included in management and reporting processes.

Every batch of products should be delivered on schedule and to the necessary address. Of course, articles shipped not on time should also be paid for. However, it is absolutely necessary to see to it that their value is not taken into account in the volume of output determining the amounts of bonuses and the results of economic activity of the supplier.

From Where Are Undesirable Novelties Taken

It is quite obvious that the production and introduction of new machinery should be accompanied by an outstripping formation of an environment, which would make it possible to use this machinery efficiently and effectively. Otherwise, novelties will not give the desired effect. For example, the task of expanding the mass production of personal computers and equipping schools, enterprises, and institutions with them is now set. However, in order that these computers may be used efficiently, there is a need for an outstripping development of an information network, which will be able to "feed" them. Without such a network computers will be only expensive toys.

The same can be said about an extensive production of robots. It is absolutely necessary to form in advance conditions for their efficient utilization, that is, to establish and equip work places and all the means of communication of every robot with the production environment. Without this expensive modern machinery will not pay for itself and will prove to be a source of losses. Developing new machinery, it is also necessary to envisage the possibilities for its subsequent modernization and introduction of improved parts and units into it.

When developing new machinery, an increase in its efficiency as compared with the preceding generation is the most important criterion. Either expenditures per unit of the obtained effect should be lowered, or labor and material resources should be saved and an ecological effect should be attained. There can be no other criterion of evaluating the advisability of production of every new type of machinery. Meanwhile, developers of new machinery disregard these most important requirements today.

Where and How Much Do We Lose?

To be sure, many remember the well-known school problem of the basin, into which water flows through one opening and flows out through another. Obviously, the attempt "to pour in new water" so long as an opening, through which it flows out, is not closed, to put it mildly, is not very promising. The same is in the economy: In order to increase volumes, it is necessary to begin with the elimination of sources of losses.

At present the country's national economy incurs substantial losses connected with the lag in the production infrastructure—transport, communication, material and technical supply, container, warehouse, elevator, and refrigeration facilities, and the business service industry. According to estimates by economists, these losses reach 6 to 8 percent of the national product, that is, are estimated at tens of billions of rubles annually.

Highways, whose length and quality sharply lag behind the growing needs of society and similar indicators of other developed countries, represents the weakest link in

the production infrastructure. The increase in the length of hard-surface highways annually averaged 23,500 km during the 1970's; 17,600 km in 1981-1985; 15,000 km in 1986. As you see, the rates of construction dropped.

Unfortunately, the USSR State Committee for Statistics in its handbooks does not publish data on the state and dynamics of warehouse, elevator, refrigeration, and container facilities, nor on losses of the national product. It is known, however, that the situation is also extremely unsatisfactory here.

The big volume of losses of the produced product has not only a negative effect on economic development, but also on people's moral state. The realization that a significant part of the product created with their labor is lost and cannot be used by society demoralizes workers and the attempts (unfortunately, highly successful) to classify the data on losses will not cure the ailment. Anaesthesia is needed during surgery, but not instead of it.

Therefore, the creation of an open and expanded recording of the actual volume and structure of losses is the main condition for the fight against them. Such recording will ensure the goal of investments and their most efficient structure. It seems that **an outstripping growth of capital investments in the creation of and increase in material prerequisites for reducing losses and only after this (and with due regard for this) the allocation of funds for ensuring the further growth of the production volume should be the most important principles of the investment policy.** It seems that these principles should become the key principles in the development of the concept of the 13th and subsequent five-year plans.

It should also be kept in mind that vast volumes of losses, which the Soviet economy incurs at present, exist under conditions of an obvious convertibility of these losses into investments. The loss of grain, vegetables, and fruits forces us to import them. At the same time, we spend a large amount of freely convertible currency. Losses of mineral fertilizers, cement, and other materials lead to the need to invest substantial sums in an increase in their production volumes.

Work on reducing losses should begin with a clarification as to where and how much we lose.

The investigation of losses in the economy should not be limited to an analysis of direct losses of the national product. Losses connected with the unrealized capabilities of machinery and production technology and organization also play a significant role. They are especially significant in such sectors as power engineering, metallurgy, machine building, chemistry, petrochemistry, the forestry complex, and so forth. It is necessary to perform appropriate calculations and to prepare publications on these problems.

Not To Embellish!

Truthfulness in evaluating the state of the economy and dynamics of its basic parameters is another extremely important—and by no means the last in its significance—rule of advance along the path of accelerating the social and economic development of society. It should be said that very often this rule is not observed.

For example, overstating prices of new machinery, which often is not more efficient than old one, creates a semblance of high rates of growth of machine building output. The same also occurs with cooperated deliveries, whose inclusion both in the supplier's and the recipient's output also "increases" the volume and rates of production growth.

The dynamics of production volumes is overstated markedly in connection with the existing price formation practice, in which the State Committee for Prices sets too high prices of received equipment and materials.

Thus occurs the "making up" of the results of activity. This practice, becoming customary, eliminates incentives for improving every production unit.

At the present stage of our development social guarantees by no means should guarantee a "status-quo" for lackadaisical and incapable managers and executors, as well as for ineffective and not very promising production units. It is necessary to finally change over to the selection of the best and to the elimination of the worst and the incapable.

In our opinion, such are the basic components of acceleration and the basic "rules of advance" along the path of the radical reform.

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REGIONAL DEVELOPMENT

Belorussian Experience in Quality Control, Gospriyemka Profiled

From the Editors

18200239 Moscow *STANDARTY I KACHESTVO* in Russian No 6, Jun 88 p 75

[Text] Implementation of the radical reform of economic management in the country, formation of the new economic mechanism, expansion of democracy, and development of the self-management of enterprises and associations have given rise to the objective need for restructuring state supervision of standards and measuring instruments. Within that context the search for new forms and methods of organizing the activity of state oversight bodies must be directed toward achieving an intensive impact on raising the technical level and quality of the product. If oversight activity is to fit logically

into the new economic mechanism being created, it must unfailingly combine adherence to the interests of the entire state with protection of the rights of specific consumers.

The selection of articles published below speaks about experience of a number of regional bodies of USSR Gosstandart in the development and practical implementation of such new forms as intensive state oversight, support and practical assistance to enterprises in carrying out "quality" programs, and granting the right of self-monitoring to progressive enterprises that have achieved a stable level in the quality of the products they produce.

In publishing the first selection of articles on the restructuring and intensification of state oversight, the editors invite all specialists to take part in discussion of the problems raised and in shedding light on progressive know-how.

'Quality' Program

18200239 Moscow *STANDARTY I KACHESTVO* in Russian No 6, Jun 88 pp 75-77

[Article by G.V. Gotovko, Belorussian Center for Standards and Metrology: "On Organizing Monitoring and Support of 'Quality' Programs in Belorussian SSR"]

[Text] The target-program methods of planning became widespread in Belorussia during the 11th Five-Year Plan. In the republic at present target programs are being carried out to raise the technical level and quality of products—"Quality" programs drafted and carried out at all levels of management: the republic—the sector or branch—the region—the enterprise.

The Belorussian Republic Administration [BRU] of USSR Gosstandart is the head organization for these programs. It has accordingly been assigned the functions of monitoring progress in carrying out the assignments of the "Quality" program and of supporting them. An important part of organizing oversight over the programs was to establish a straightforward procedure for drafting them whereby the "Quality" programs of ministries, departments, and enterprises producing the most important products were for the sake of coordination to go through expert evaluation and clearance in the BRU of USSR Gosstandart and BSSR Gosplan. This measure had great importance, since it made it possible to perform practically all the assignments and measures in the republic "Quality" program through the "Quality" programs at lower levels. Many difficulties had to be encountered in the course of this effort. It must be said that none of the programs submitted for clearance from the BRU of USSR Gosstandart (there were more than 50 of them) was accepted the first time. Expert evaluation ascertained that the assignments and indicators envisaged in them did not orient enterprises toward a radical rise in product quality and fulfillment of the republic "Quality" program. For example, for certain products

the plans for 1990 call for achieving the level of foreign models of 1985, and some programs envisaged improvement of secondary indicators of the technical level, not those with respect to which the product fell short of the best world designs, etc.

Once this important stage of the effort was completed, the question arose of how to monitor thereafter progress in performance of the assignments of the "Quality" programs already in place. In view of the experience of guaranteeing performance of the republic comprehensive "intensification" program for the period 1986-1990, the decision was made to call upon territorial organs of USSR Gosstandart to monitor "Quality" programs, and beginning 1 January 1987 state products acceptance components as well. A procedure for monitoring and support of "Quality" programs by authorities of USSR Gosstandart located in BSSR was drafted and approved to that end.

This document established the same requirements for all territorial organs of USSR Gosstandart in monitoring territorial programs, which could be detailed so as to take into account the specific nature of the regional system of oversight.

The republic "Quality" program called for analyzing fulfillment of assignments on the basis of the following:

- the results of monitoring the performance of ministries, departments, and head organizations of sectors concerning the "Quality" program;
- information arriving from state product acceptance components;
- the results of state oversight of enterprises;
- regular state statistical reporting;
- information on product certification in the republic;
- and the information of the head organizations of branches and sectors.

The diagram [not included in this translation] shows the scheme for oversight and support of the republic "Quality" program.

The list of the assignments and measures of the programs of ministries, departments, and enterprises to be monitored was developed so as to take into account the structure of the republic "Quality" program. The following specific measures and assignments were to be monitored:

- output of products in the superior-quality category and with improved quality bearing the code letter "N," high-quality foodstuffs, and standard agricultural products;
- improvement of the principal indicators of the technical level of the most important products;
- performance of measures to raise the technical level and quality of the product, application of progressive technology, and mechanization and automation of production processes;

- organization of the production of new industrial products and their certification in the superior-quality category;
- withdrawal of outdated products from production, termination of outdated manufacturing processes and their replacement by progressive ones.

Fulfillment of "Quality" programs is monitored periodically as part of state oversight exercised by territorial organs of USSR Gosstandart or systematically by state acceptance components.

State oversight includes analyzing the internal consistency of the enterprise plan and the assignments of the program for the respective year, and progress in fulfilling the program is checked. Should cases of nonfulfillment of the assignments of the program be discovered, the reasons for their occurrence are clarified.

State product acceptance components, aside from monitoring progress in fulfillment of the assignments of the program, also conduct expert evaluation of the level at which enterprise programs have been drafted. (We should also note the large amount of assistance which state acceptance components furnish in monitoring the republic "Quality" program. Most of them see the program as an effective means of improving product quality.) The BRU of USSR Gosstandart and state acceptance components are now conducting a joint effort to monitor the state of development of new products and organization of their production in 1989 and 1990 as well as to determine the possibility of their certification in the superior-quality category at the end of the 12th and beginning of the 13th Five Year Plan.

This kind of organization of activity to monitor fulfillment of the republic "Quality" program does not allow a single assignment or measure to escape attention.

Twice a year the report of the BRU of USSR Gosstandart on progress in fulfillment of the republic "Quality" program is sent to the party Central Committee, council of ministers, and gosplan of the republic. Bulletins are prepared much more frequently on fulfillment of the programs of the republic's regions, sectors and branches, and enterprises. The effort of enterprises to radically raise product quality and thus progress in fulfillment of the assignments of the program have been repeatedly taken up in the Commission for the Republic "Quality" Program.

About 3 years have passed since the program was drafted. Economic conditions and product quality requirements have changed over that time, but so has the program. At the beginning of 1987 the republic "Quality" program had been corrected to take into account policy-making documents of the party and government, planning targets of sectors and branches, and new normative-technical documentation. Assignments were envisaged for associations and enterprises of machinebuilding in producing products to meet the

world level, higher requirements were established for union-republic and republic ministries and departments concerning production of products in the superior-quality category, products with improved quality bearing the code letter "N," etc.

The strenuous and purposive effort being conducted by the BRU of USSR Gosstandart and its components and by ministries and enterprises to carry out the assignments of the republic "Quality" program is supposed to guarantee achievement of the main goal—a radical improvement of the quality of the products produced in the republic. By 1990 the relative share of products in the superior-quality category must be 70 percent of the volume of products subject to certification.

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Increasing Gospriyemka's Efficiency

18200239 Moscow STANDARTY I KACHESTVO in Russian No 6, Jun 88 pp 81-83

[Article by P.V. Yanus, senior state acceptance engineer at the PO "Minsk Tractor Plant": "Program for Improving the Effectiveness of State Acceptance"]

[Text] The activity of gospriyemka began on 1 October 1986 in the PO "Minsk Tractor Plant." Here is what tractor plant personnel themselves have said about its effort:

"...We came to understand at the plant that on the matters of quality gospriyemka did not intend to keep quiet nor to bow and scrape before 'his majesty' the gross. If necessary, it would call upon the most powerful levers—economic levers. And this in fact happened later on: there were six times when representatives of extra-departmental inspection resorted to those stringent measures." (L. Selitskaya, worker, in the plant newspaper TRAKTOR, 10 February 1988.)

"In the 40 years of the plant's existence we had become accustomed to think that our 'Belarus' tractor was the best in the country, if not in the world. Restructuring removed everyone's rose-colored spectacles, and gospriyemka helped us to realize that there were many defects in the tractors. We became stricter and more exacting toward ourselves—in our evaluation, in what we looked for." (M. Serafimovich, equipment adjuster in the second machine shop of the Minsk Tractor Plant, OGO-NEK, No 50, 1987)

Together with the association's collectives gospriyemka made a great effort that made it possible to halt the adverse processes leading toward a drop in the technical level and quality of tractors, to achieve an improvement in the organization of production and adherence to the technology and to set up an effective barrier to voluntaristic decisions on questions of guaranteeing the required level of quality of the tractor and its assemblies and

parts. In 1987 alone more than 10,000 changes in production engineering documentation were made under pressure of gospriyemka, the GSKB [state special design office], and the plant's own staff in order to correct departures from the requirements of standards and to improve the stability of the technology and the quality of the product's manufacture.

An analysis shows that the main obstacles to raising product quality in the association were the stereotypes of utter permissiveness and irresponsibility for jobs assigned that were formed in the long years of the stagnation. Many workers became accustomed to justifying their inactivity and lack of principle by referring to "objective causes." That is why it is no accident that over a lengthy period at least 27 percent of the tractors were not accepted by gospriyemka on the first submittal, and in spot checks defects were found in 40-70 percent of the parts that were checked.

Many aspects of further improvement of product quality were discussed on 22 February of this year in an expanded party assembly of the gospriyemka components during examination of the set of interrelated measures entitled "Basic Directions for Development and Improvement of the Effectiveness of Gospriyemka Over the Period 1988-1990." There were many factors that made these measures necessary, the main one among them the substantial increase in export deliveries of tractors, including deliveries to the advanced industrial countries of Europe and America.

A thorough comprehensive analysis showed that to guarantee the reliable and efficient operation of tractors in various climatic zones many things had to be changed in the operation of the association and it had to be oriented toward fulfillment of consumer requirements. This in fact forced us to think about ways of improving the effectiveness of the effort of gospriyemka.

The party meeting approved the measures that had been drafted and that were aimed at solving the following problems.

Analyzing More Deeply the Effectiveness of the Activity of State Acceptance

The gospriyemka staff was set the task of strengthening orientation of the association's personnel toward improvement of specific indicators of the technical level and quality of the tractors being produced (above all, those indicators which do not meet the requirements of standards and then those which determine the competitiveness of the tractors in those countries which are prospects for their export in the period 1988-1989).

To that end, provision was made to conduct an economic analysis of the results of the association's operation, along with indication of the plant's actual losses because of substandard manufacturing of parts and poor technical inspection and also of possible losses which

gospriyemka personnel prevented by correcting unauthorized changes in design and technology, substitution of materials that detracted from the quality of parts, assemblies, and the tractor as a whole, which lowered labor productivity, which resulted in overconsumption of supplies and raw materials and other losses both in production and in operation.

Since the association is already operating in its 2d year of full cost accounting and self-financing, this effort is taking on particular importance.

Improvement of Inspection for Product Quality

The immense responsibility placed on gospriyemka is driving us to broaden the scope of quality inspection both of technical documentation of both suppliers' technical documentation and products and also of the finished tractors conducted in the process of assembly, testing, packaging, and final acceptance. What is more, gospriyemka is striving to inspect the quality of all crucial parts and assemblies. But daily output is such that we do not have the staff to substantially increase the amount of quality inspection. That is why the program approved by the party assembly envisaged a number of measures aimed at doing everything in the association to develop inspection and testing of tractors under conditions close to operating conditions, to automate and mechanize inspection by using measuring systems, to create diagnostic routines and stations, and to use statistical inspection methods everywhere. Provision was also made to develop inspection of the metrological support of production and on that basis to define specific directions for equipping inspection operations with up-to-date measuring and testing instruments. All of these efforts are to be done jointly with the association's specialists.

Improvement of State Product Acceptance

One of the most important tasks of gospriyemka is to guarantee strict enforcement in the association of the requirements of GOST 26964-86 "Rules of State Product Acceptance. Basic Provisions." Under those rules acceptance is possible only when the product being inspected meets the established requirements according to the data of approval tests and submittal tests, when the tractors being produced have displayed favorable results in routine, periodic, and type tests, and when a new product has successfully passed qualifying tests. A great deal has already been done in this direction, but shortcomings such as the low level of technical support for testing, incomplete running of tests, and often juggling the results have still not been altogether overcome. From our standpoint the problems of product tests can be solved effectively only if the head organizations for state tests are transformed into state testing centers independent of manufacturers.

The increase in the volume of export deliveries, introduction of the certification system, and the ISO Series 9000 standards, which have now taken effect, have imposed many complicated problems on gospriyemka; in solving them, particular attention will be paid to improving inspection by automating it and computerizing it.

Development and Improvement of the Monitoring of the Association's Effort Related to Quality Matters

The work of gospriyemka has shown that the old stereotypes and foot-dragging mechanism are exceedingly alive in the domain of product quality. For instance, checks run in 1987 showed that the most important provisions of the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Measures To Radically Improve Product Quality" were either not being implemented at all or were being implemented partially and slowly. In practice, neither the developers—the GSKB's—nor the technical inspection service are restructuring their work. Many staff departments and subdivisions of the enterprise still take as their main reference point the plan, which needs to be fulfilled at any price, even at the expense of quality.

In view of this circumstance, the program adopted calls for gospriyemka to master the methodology and practice of state oversight of standards and measuring instruments. The practical activity of gospriyemka now includes the planning of inspection, the drafting of the technical assignment for the check, thorough preparation for the check, and training of those who conduct the check. Checks already occupy the principal place in the work of gospriyemka representatives. In 1987 more than 2,000 checks were run (by the "spot check" method). More than 500 personnel of the association were made financially accountable for production of substandard products. On the representation of gospriyemka many were called to administrative accountability by commissions of rayispolkoms. These measures motivated personnel of the association to change their negative attitude toward the problem of quality and to undertake to solve it.

Much that is new in the work of gospriyemka has resulted from extension of its influence to the stage of drafting normative-technical documentation for new products (adoption of Point 2.3 in RD 50-612-86). The first checks have shown that the organization and conduct of these efforts on the part of developers are in need of substantial improvement.

In the effort to solve the problems of making extradepartmental inspection more effective, particular attention is being paid to measures to reduce and prevent a growth of the flow of paper between gospriyemka and the association. To that end a reference information system is to be created and personal computers will be used.

Improvement of Gospriyemka's Relations With the Association and Other Organizations

In relations with the association's managers, gospriyemka representatives have achieved observance of laws and decrees, requirements of standards and technical specifications, metrological standards and rules, and also performance of measures agreed on with them to correct deficiencies discovered. At the same time, state inspectors have been learning about devotion to principle and persistence in their effort.

At the February (1988) Plenum of the CPSU Central Committee M.S. Gorbachev said: "We must not back off from our principles, comrades, whatever the pretext. According to Lenin, the most correct policy is a principled policy."

This is exactly how gospriyemka representatives are striving to operate, but unfortunately they are not always achieving success in this. Often very strong pressure is put on them from various quarters. There are times when not everyone is able to stand firm and protect his decision. That is why a system is being set up to give advance notice to local party authorities—the party raykom and gorkom, the association's top management and trade union organizations, and also regional components of USSR Gosstandart and organizations of USSR Gosagroprom on the actual state of tractor quality, on matters that need to be dealt with, about necessary assistance to gospriyemka, and so on. The plan for the information effort in 1988 has already been compiled; progress in its fulfillment is being constantly monitored by the gospriyemka leadership. Under this plan, information is also furnished to the press—in the plant, the city, the republic, and at the union level. In this way, gospriyemka achieves glasnost concerning the state of

quality of the product being produced, reports on violations of standards and technical specifications, and thereby mobilizes the efforts of the communities to solve the most urgent problems.

Personnel Training. Study of Progressive Know-How

Experience has shown that the general technical knowledge acquired in their past work by the present personnel of gospriyemka is manifestly inadequate. A high level of competence is needed not only in the domain of quality inspection and production technology, but also in organization and management, along with the knowledge and ability to use progressive domestic and foreign know-how.

Gospriyemka has been given a great deal of help in training its personnel by a branch of the Rostov Institute for Improvement of the Qualifications of Supervisory Personnel and Specialists of Minselkhosmash; this branch is located on the grounds of the plant. All gospriyemka personnel have gone through training according to a special 60-hour program we worked out jointly. Only then were they allowed to work independently. Now gospriyemka specialists are being trained—state inspectors for oversight of standards and measuring instruments. They are studying the theory and practice of running checks within state oversight procedure. Classwork is combined with participation in checks run under specific assignments. The students have access to consultation with experienced state oversight personnel of the Belorussian Center for Standards and Metrology.

In conclusion, we should note that in the party assembly party members ordered the party bureau and director of gospriyemka to follow up and to carry out the program that had been approved and to make provision for it in quarterly and annual work plans.

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FORESTRY, TIMBER

Khabarovsk Kray Timber Industry Progress Reviewed

81442990a Moscow LESNAYA PROMYSHLENNOST
in Russian No 6, Jun 88 pp 1-2

[Article by V.F. Pominov, deputy head of the Department of Forestry and Wood Working Industry of the Khabarovskskiy Kraykom: "Entering the Decisive Stage of Restructuring"]

[Text] The opening of the 19th All-Union Conference of the CPSU, a great political event in the life of our party and people, is approaching. The difficult period of restructuring which our country is living through requires a thorough, comprehensive and timely analysis of the processes taking place. The all-union conference will examine the implementation of the program outlined during the 27th CPSU Congress for accelerating socio-economic development and it will discuss the tasks of the party organizations for strengthening the processes for renewing our life and its further democratization.

During the important period devoted to restructuring and mastering the new managerial methods, the Khabarovskiy Kraykom will strive to intensify party influence over production and implementation of the radical economic reform. Special attention is being given in this regard to the forestry branch, which is one of the kray's leading branches. Together with the party organizations of enterprises of the forestry complex of the kraykom, the efforts of the collectives are being directed towards achieving more complete and thorough utilization of the forestry raw material resources. Towards this end, the use of forests is being regulated and the production of goods made from the waste products of timber logging and wood working is being increased.

The center of timber logging has now shifted to the northern and eastern regions of the kray and in the southern regions timber cuttings are being carried out in keeping with the limits established for the cutting areas. The structure of the timber logging operations conforms to the strain structure of the available felling areas: the volume of cedar cuttings is considerably lower than the computed amount and the fund of larch trees, the proportion of which is approximately 40 percent of the available felling areas, is being developed fully. In his speech delivered during a ceremonial meeting in Vladivostok in July 1986, the General Secretary of the CPSU Central Committee M.S. Gorbachev underscored the need for utilizing the tremendous raw material potential of the Far East for the construction here of enterprises having a completed cycle, in the interest of obtaining "most of all—the final products." In the Process, USSR Minlesprom [Ministry of the Lumber Industry], as pointed out by M.S. Gorbachev, "is obligated to convert over decisively to the complete processing of wood." Real steps along the path to carrying out this task have been the development of the Amur TsKK and the Khor

Biochemical Plant and other capabilities for the thorough chemical and chemical-mechanical processing of wood. Recently, at the Amur LDK [sawmilling and woodworking combine], capabilities were introduced into operations for the production of 80,000 cubic meters of DSP [wood laminate]; this will make it possible to use annually up to 3 million cubic meters of low grade wood and the waste products from timber logging and sawmill operations.

At the same time, the kray's available reserves have not been utilized fully. The mere raising of the level of sawmill operations to the planned capabilities could furnish an additional increase in output on the order of 450,000 cubic meters of lumber annually and this would be equivalent to the construction of a new and large sawmill enterprise. This is why the mobilization of labor collectives for the purpose of increasing the production of timber products through the improved use of the production potential already created has become a chief concern in the work being carried out by the party organizations. In the kray party committee, for example, an examination was undertaken of measures for improving the use of sawmill equipment within the Daldrev Association, for raising the production of lumber at the Amur LDK to the planned level and for making approximately 350,000 additional cubic meters of secondary wood raw materials and waste products from timber logging and woodworking operations available for economic use, such that by the end of the current five-year plan all available waste products will be undergoing complete processing. The decisions handed down calling for the creation of timber processing complexes are being carried out: three such complexes are already in operation in the kray—Khor, Mukhen and Koppinskiy.

In their work concerned with directing the restructuring of the forestry branch, the party organizations have begun making greater use of the creative potential of scientific, engineering-technical workers and specialists and they are stimulating the human factor. This has accelerated noticeably the solutions for many production problems.

Thus, specialists L.F. Goncharuk, V.S. Simonov and A.V. Ryabukhin of the Dalorglestekhmontazh Association developed and introduced a system for planned preventive maintenance and for the servicing of units used in the production of technological chips within the Urgalles Association. This is making it possible, despite an extended operational period, to maintain the productivity of 24 units at the planned level. At the Mukhen Timber Combine, a creative group under the direction of chief engineer B.A. Fedun introduced, within a brief interval of time, a semi-automatic line, based upon the use of a strip-cutting machine, for the processing of defective wood with full use being made of the available waste materials. At the Dormidontovka Timber Mill, upon the initiative and with the direct participation of Ya.V. Benin (the plant's chief technologist) and Yu.A. Marmozy (Dalorglestekhmontazh), a highly productive

round-sawing machine was installed for improving the technology for sawmill flow. As a result, a considerable increase was achieved in the production of lumber. Creative groups are performing active work at the Bikin Timber Mill, which is headed by chief designer V.M. Koltakin and deputy director N.S. Vereshchagin and at the Innokentyevka Timber Mill, headed by chief engineer B.A. Sychev and senior foreman Yu.A. Klochikhin.

Improved results are being realized from temporary creative collectives of scientists and production workers, who are working on the use of non-traditional types of wood raw materials. In particular, important work has been performed in this area by DalNIILP workers N.S. Lysenko and L.P. Azarnina and also by O.I. Begunkov of the Khabarovsk Polytechnical Institute. They found a method for producing plywood from yellow birch, which earlier was used only for fuel. For the purpose of utilizing felling area waste products, DalNIILP scientific workers Yu.S. Grafskiy and B.V. Moiseyets developed a technology for obtaining essential oils from spruce and fir trees, oils for which there is a great demand among the kray's population. Based upon works by A.A. Selyugi and G.V. Markova (DalNIILP), a sector is being created at the Tunguskiy DOK (woodworking combine) for the production of feed additives for cattle from saccharified wood bulk obtained from birch and other deciduous strains.

A great amount of work has been invested in the production restructuring process by the party committee of the Amur TsKK [cellulose-cardboard combine] (secretary V.S. Skopov), director of the combine V.D. Butenko and chief engineer G.V. Tregubov. Following the introduction of a more improved technology for the production of nutrient yeasts, their production increased by a factor of 1.6, or by 5,000 tons annually. This combine, which had lagged behind earlier, began to operate in a stable manner and succeeded in coping with its plan in terms of its principal indicators.

At the same time, not all of the leaders, specialists and party workers are aware of the profound all-encompassing sense embodied in the concept of restructuring. Many of them have still not determined their place in it and have assumed a waiting and passive position. Thus the kraykom, the party organizations in the timber industry regions and the enterprises have increased the amount of attention being given to the selection, placement and training of personnel. Special importance is being attached to suppressing the desire on the part of some leaders to transfer responsibility for the unfavorable status of affairs to other shoulders and to conceal by means of "objective" factors their own lack of discipline, sluggishness and passive attitude. In many instances, extreme measures have had to be employed because of the above—leaders have been changed, with more energetic youth being assigned to their positions. Thus, B.S. Kovalyuk recently became the director of the Khor DOK, V.A. Sulgin—of the Dormidontovka Timber Mill

and A.G. Skubayev—of the Bikin Timber Mill. The work at these enterprises began to improve rapidly coincidental with their arrival on the scene.

The work carried out made it possible to achieve certain positive results. In 1987 the volume of wood hauled exceeded the 1985 level by 360,000 cubic meters, with this increase being achieved mainly as a result of an improvement in the utilization of available capabilities. Compared to 1985, the production of technological chips increased by twofold, nutrient yeasts—by a factor of 1.5 and cardboard—by a factor of 1.6. At the same time, we have still not achieved a radical restructuring of the forestry branch, especially in connection with the efficient and complete utilization of wood. The conversion over to cost accounting and self-financing has still not brought about profound changes in many of the enterprises. Two thirds of the kray's associations and enterprises are not coping with the plan for hauling wood and three fourths—with the production of lumber. In 1987, they undersupplied the country by a large quantity of timber products.

In the interest of correcting the situation that has developed, the kraykom is channeling the work of the communists towards strengthening live organizational work in the labor collectives and carrying out more strict checks upon and exercising control over the carrying out of all decisions handed down. At the same time, in studying the work of the forestry branch, we note that only 40 percent of the wood being procured in the kray is being processed and that the woodworking branch, in terms of its production structure and technical equipping, is lagging considerably behind other regions. For every 1,000 cubic meters of wood hauled, our enterprises are producing two times less output than the ministry as a whole and they are failing to produce many highly effective products—water-resistant plywood, laminated wood panels, cardboard packaging materials and others. This is having an adverse effect on production efficiency and on timber exports.

It is our opinion that this situation has developed mainly as a result of the attitude that has taken root in USSR Minlesprom and USSR Gosplan towards the Far East as a source mainly for timber raw material resources. Just as in the past, the residual principle is being employed for the development of woodworking—only one fourth of the capital investments allocated for the kray's timber industry enterprises was employed for this purpose in 1987. This created serious discrepancies in the development of the timber complex and it raised considerable difficulties in forest exploitation operations. Under conditions involving the exhaustion of forest raw material resources, the kray's enterprises are continuing to procure only highly valuable coniferous wood, rejecting all of the remaining types.

Today, in conformity with the Long-Term State Program for All-Round Development of the Productive Forces of the Far Eastern Economic Region, the Buryat ASSR and

Chita Oblast, adopted last year by the CPSU Central Committee and the USSR Council of Ministers, the situation is changing rapidly. In particular, large capital investments are being allocated for the construction of new enterprises, housing and socio-cultural and domestic installations. This naturally requires an increase in the capabilities of construction organizations in the Far East, those which are expected to carry out the principal volume of work. However, for certain obscure reasons, Soyuzlesstroy and the Capital Construction Administration of USSR Minlesprom have still not addressed the needs of the kray. Over the past 2 years, Khabarovsklesstroy has for all practical purposes not received any new equipment and it is being only poorly supplied with material resources. Even during 1988 it was allocated only 70 percent of the planned material resources and 15-40 percent of the construction machines and mechanisms expected. If the program for developing the kray's timber complex is to be carried out, radical measures

must be adopted aimed at raising the Khabarovsklesstroy Association to the level of planned contractual operations.

In recognizing their responsibility, the party organizations of the kray's timber industry enterprises are applying all of their efforts towards strengthening the restructuring processes and mobilizing the labor collectives in the interest of improving the use of the forest raw material resources and successfully carrying out the tasks of the 12th Five-Year Plan and the raised socialist obligations adopted in honor of the 19th All-Union CPSU Conference.

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1988

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ENERGY COMPLEX ORGANIZATION

Minneftegazstroy Roundtable on Self-Financing, Sector Development

18220091 Moscow STROITELSTVO

TRUBOPROVODOV in Russian No 5, May 88
pp 14-25

[Roundtable conference proceedings, prepared by participant V.M. Agapkin, Deputy Director of VNIIPKtekhorgneftegazstroy and doctor of engineering sciences, and A.A. Shmidt: "A Roundtable—Science Based on Economic Accountability"; participants and affiliations listed at end]

[Text] "Let's explain in the journal: the institute extends engineering consultation services to construction organizations. I don't doubt that the institute will get orders worth millions of rubles."

"What you propose is not science, it is an office for propaganda and selling of knowledge. Scientific creativity and economic accountability are different things."

"Economic accountability is good where people are engaged in standard developments and in introduction. It will strangle fundamental research, without which even the possibilities of applied development dry up."

"A different approach should be taken to the various types of scientific and engineering activity in order to encourage fundamental work and rapid introduction."

"Economic self-sufficiency will come out of its drowsiness and will enable people who are skilled and have initiative to put life into what has been thought up. We are now burying our ideas in piles of directives."

"Put yourself face to face with production and the institute will not support you so much."

"But all the same, the greater part of scientific research has economic accountability bases. Economic accountability will give new thrust to development of the industry's science."

These and many other problems were raised at the roundtable to which the journal's editorial board had invited scientists, Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] staff workers, and production workers.

G. I. Shmal, the journal's chief editor and First Deputy USSR Minister of Construction of Petroleum and Gas Industry Enterprises, conducted the roundtable:

The industry has persistently built up its scientific potential. Right now the science and engineering complex numbers eight NII's [scientific-research institutes], two design institutes and eight design-development organizations, and here we must mention the GIVTs [Main

Computer Data Center] and a network of computer data centers of the main administrations and trusts, the Neftegazstroytrud [Oil and Gas Construction Work], NOT [Scientific Organization of Work] Center and standards-research centers, and Orgtekhstroys [trusts for the industrialization of construction work]. More than 10,000 scientists, engineers and mechanical engineers work here. Among them are 20 doctors and 370 candidates of the engineering sciences.

Last year the volume of scientific-research, design and development-test work was 50 million rubles. The economic benefit from scientific developments exceeded 100 million rubles.

Nevertheless, we are expecting more from science today. When you examine production concerns in depth and in detail, you see that the interests of scientific organizations often are cut off from the trusts' and enterprises' concrete needs, and, what is more, the production workers themselves do not always recognize the value of collaboration with science.

The yield from each bit of scientific research must be raised and those forms of mutual relationships of science with production that will yield the greatest benefit must be found.

L. M. Chernyak: Actually, the existing economic mechanism does not ensure the desired benefit from science. In cases where it is not specific developments that are paid for, an organization's financing has been guaranteed, and the gross-output principle for defining the wage fund and the bonus fund operates, highly intellectual work of the best specialists is poorly stimulated, the expenditures and results of scientific developments are commensurate from a formal point of view, and the yield from the industry's science is not great.

V. M. Pavlyuchenko: A new economic mechanism and new terms for management are required for speeding up scientific and technical progress.

The CPSU Central Committee and USSR Council of Ministers decree about converting scientific organizations to full economic accountability and self-financing was aimed at intensifying scientific activity and, in particular, that of the branches of the economy. The decree says that scientific organizations, along with production enterprises, are socialist producers of goods and, basically, their operation should be based on the principle of full economic accountability and self-financing. We should convert to the specific financing of concrete scientific-research and design-development work under contract with the clients interested in these operations—instead of financing the upkeep of the organizations.

The role of contractual relationships must be raised radically in science. The contract must be established as the basic document that regulates the relations of scientific organizations with the client for the scientific and engineering output, including ministries and agencies.

A. D. Khaytun: It must be determined here right away, just what is commodity output in science? In technology this can be an experimental model or a machine prepared for series production. And in the area of sociology, economics and organizations, what is commodity output? But we are getting ready to conclude contracts for scientific output. And who is the judge of what is or is not a commodity?

A commodity should have customer value. The customer value in construction is protected by SNiP's [construction norms and regulations], GOST 's [All-Union State Standards], and standards. But what is customer value in the scientific sphere?

S. K. Boreyko: Completed scientific-research, design and technological operations and services performed in accordance with the requirements specified in an economic contract are regarded as scientific and technical output.

A. D. Khaytun: Since science is the creation of what is new, then during the conclusion of an economic contract the scientific collective should know better than the client the scientific outcome. While if the client knows it better, then he does not need to order anything from the institute. Or he will order in this form: bring, give, and so on.

S. K. Boreyko: That means that a scientific organization should present its output well. It should prove that the work recommended will be suitable for the enterprise.

V. M. Agapkin: The value of scientific and engineering output is determined by production requirements. As long as the trusts and enterprises are themselves not based on economic accountability, it will be difficult to talk about economic accountability in science and about customer value of scientific and technical output. Right now trusts are "assimilating" the money allocated by the ministry for science orders, but upon their conversion to economic accountability each ruble spent on science should give economically accountable income. There will arise in its own way an industry market for scientific and technical output, where it will be quickly determined whether it is a commodity and what its value is. Emergence of the contrary economic accountability interests of the customer and the performer is important for success in the reform of science's administration. Already several times new systems for payment for work and other stimuli for science workers have been introduced. The state covered the costs, but the expected yield

was not obtained. Science's effectiveness has not grown as we would like. So it is important that economic accountability cover all the industry's activity, including science.

M. P. Ring: It seems to me that economic accountability in science is not that full economic accountability and self-financing which today is called upon to function in the area of material production. There cannot be full economic accountability in the literal sense of the word in science: neither in academic, nor in VUZ, nor in branch-of-industry science. An economic agreement is not a source of financing. If an economic agreement has been defined by a basic document that regulates the mutual relations of the performer and the client, this means that it will be a channel for financing developments from various sources, including both the budget and centralized funds.

S. K. Boreyko: The deadline for converting to full economic accountability and self-financing of all the industry's subunits is 1 January 1989. Such organizations as Orgtekhstroy trusts and institutes that are part of the main administrations should convert to the new status 1 July 1988, inasmuch as our main administrations are already operating on economic accountability.

A. D. Khaytun: I propose that the center of gravity for preparing science for conversion to economic accountability be shifted to working out the substantive aspect of scientific output: what a commodity is, what customer value is, who will receive scientific output, how it is evaluated, and so on.

V. M. Agapkin: It is important to choose principles correctly while preparing for conversion to economic accountability. Since the principles have not been defined, it is not necessary to strive to clarify all the details and all the minutiae of the operation of NII's and KB's [design bureaus] based on economic accountability. Particular solutions will easily be found later if an overall model of economic accountability of scientific organization is constructed. Not everyone shares such an approach but if it is not followed, the problem, in my view, will become insoluble. From the practical point of view, this signifies a loss of strategic scope, an unjustified submersion in detail. Fascination at the given stage with details usually leads to new principles being easily eroded and replaced by the old ones, changes are bureaucratized and dragged out, and their effectiveness proves to be low.

G. I. Shmal: The industry's NII's have prepared a number of documents on the industry's activity under economic accountability, and there are recommendations for defining a state order, contractual relationships, and contractual price. Insignificant experience in subunit operation under full economic accountability still has not been analyzed in depth, and, what is more, there has been no interpretation of this experience.

I think it will be useful for us today to exchange opinions on the most important problems.

The State Order

O. M. Ivantsov: Minneftegazstroy formulated its policy for the branch's scientific and engineering development on the threshold of the current five-year plan. This has been reflected in two nationwide scientific and engineering programs, one on trunk pipelines, the other on outfitted-module construction, as well as in six of the branch's comprehensive special-purpose programs. In essence, the programs cover all aspects of the industry's activity, including the social aspect.

Originally it was proposed that the goals of these and other programs should be promulgated by a state order. But this picture is looming: in 1988, out of the total volume of research and experimental-design work, which is assessed at 34.5 million rubles, the share for these programs is 17.7 million rubles, or more than 50 percent. It is doubtful that the ministry must sign agreements for such an amount of work with the institutes and KB's. This is not the magnitude, it is not the essence of the economic-accountability relationships with science about which the CPSU Central Committee and USSR Council of Ministers decree speaks concerning the conversion of scientific organizations to full economic accountability and self-financing.

The share of the ministry's orders should be reduced. However, one should not go to the other extreme. There are developments which, if ordered, are not within the capabilities of some one construction organization. There are developments needed by the industry as a whole but not needed by a specific trust. For example, the construction norms and regulations prepared by VNIIST [All-Union Scientific-Research Institute for the Construction of Trunk Pipelines] or the SNIIP's for pipeline construction. The given standards document is dear, everyone needs it. It is clear that such developments fall within the sphere of the state order. Another example. VNIIPigidrotuboprovod [All-Union Scientific-Research Institute for the Design and Testing of Hydraulic Pipelines] is developing a basically new system for transporting coal-water suspensions over pipelines. Who will undertake the financing of such developments during the first stage? The coal industry is not responsible for transporting coal, nor is the main consumer of coal—USSR Minenergo. What enterprise at present is concerned about the effectiveness of transporting coal over pipelines, and even more with providing for direct combustion of the pulp being pumped?

This is an interagency task and therefore should proceed until a definite date as a state order.

Or what is to be done with the research intended for the long term, whose results will, in the final analysis, shape a new potential for the industry. Obtaining profit from such scientific output is set back in time, often for an

indefinite period. Exploratory work can also yield negative results. Orders for such developments are not within the capabilities of the various trusts or even the main administrations. What is more, the results of the research should be important for the whole industry and perhaps even for a number of industries. Evidently, such operations should fall within the scope of the ministry's orders.

V. A. Savenko: There is work that yields a benefit not just in our industry but also in related branches of the economy, that is, it has nationwide significance. We can determine this part of the work. Furthermore, there is work that covers industrywide tasks. We can also determine that portion. Then the operations of the regional plan, which concerns several main administrations that are at work, for example, in the North. Finally, there is scientific research that is oriented just to a trust's problems. Pursuing this differentiation, the structure of orders can be determined: from GKNT, the ministry, main administrations or trusts. This is a task of the central staff and it must be solved right away. The state order should introduce stability into the work of NII's, since an exclusive orientation on trusts will lead to NII's and KB's slipping down to a lower level and being deprived of the opportunity to establish a backlog of completed work for the future.

V. M. Agapkin: Economic accountability calls for the construction of NII activity based exclusively on contractual relationships. But this principle is subjected to a severe test when the higher organization is a partner of the NII. If it is assumed that the state order is mandatory and a substantial part of the plan, which is determined exclusively by higher organizations, then contractual relationships do not exist. The independence of the organization and, simultaneously, its responsibility are narrowed. Of course the higher organization should have levers for making a centralized start, but this should not be done by preserving old forms and calling them a state order for show.

The state order should be the same as a contract, but, unlike the contract, it is paid for through funds from centralized sources, by means of which the possessing higher organization thus gets the opportunity for economic supervision over the scientific developments. The state order, because it is a large, long-standing stable order, should be suitable for an NII and a KB and become the subject of a competition among possible fulfillers. In order to impart great determinacy and stability to the relationships that affect state orders, additional forms can be used, for example, long-term agreements or other other organizational contracts.

S. I. Baksheyeva: VNIIST has discussed the problem of the state order. But in our view, operations carried out in accordance with a state order should be determined by the ministry. The ministry, in issuing a state order for the solution of the most important scientific and engineering problems of the industry, should apply a sufficiently

simple and accepted mechanism for the economic and organizational relationships between the ministry and the NII's and KB's, and also between the developers and production workers.

State orders should be advantageous for NII's and KB's, with not only a guarantee of payment and the provisioning of resources but also with guaranteed delivery of resources for the fund for economic incentives.

Since a definite time gap exists from the moment of completion of the development to the introduction of its results into production work, apparently it is desirable to reimburse the expenditures for NIOKR [scientific research and experimental design work] from the ministry's centralized fund. The part of the funds for economic incentives for NII's and KB's to accomplish the work must be transferred from this same fund, based on a definite standard. The remaining portion of the funds for economic incentives for NII's and KB's should be obtained from the production organizations in accordance with agreed prices at the time of turnover of the scientific and engineering output.

A. I. Grigorov: The state order should increase the organization's profitability. This should be prestigious work.

M. P. Ring: Problems of industrywide and interindustry significance and those that are included in comprehensive state specific-purpose programs as a nationwide scientific and technical backlog should be part of the work done as a ministry assignment by means of a state order. Such a backlog, as the whole history of science indicates, not only in our country but also abroad, should be created in the branch. One must not count only on the fundamental research of academic institutes and VUZes.

One can "go broke" that way. So the share of resources of the centralized fund spent on our own long-range scientific and technical backlog will become an important indicator for the industry. This is not a steady amount, it can vary with time, depending upon whom the state order is sent to.

The state order and the economic agreement need not contradict. The state orders that the main administrations issue today and will issue in the future directly presuppose the use of economic agreements. These are those same agreements that are concluded by main administrations with their institutes. The main administration emerges as the spokesman for the branch's interests.

But here is one peculiarity which today remains unclear, confused, unresolved. I understand the institute representatives who say that the state order should be profitable. In order to achieve this, the state order should

foresee both the accumulations and the deductions. All this must be foreseen in the contract price. Fulfillment of the state order should be commissioned at the contractual price and no other.

However, an agreement represents the relationships between parties having

equal rights. And so when one of the parties is a main administration and the other is its institute, then it is possible for the main administration to do the dictating here. Will the institute argue?

The state order is a more convenient area of application for competitive developments. The competition for doing work on the state order can be announced through the journal. And let the various institutes or other scientific and engineering collectives propose their developments of an engineering task. The client can select the development advantageous to him. The basis for concluding a large contract that interests the institutes can be solved by the competition commission which determines who will get the assignment to do the work under the contract.

L. M. Chernyak: In January of this year a temporary statute on the interrelationships of clients and performers and the procedure for turnover and acceptance of the results of scientific research and experimental design work which has been performed in accordance with state orders was approved. This document regulates the procedure for issuing and coordinating state orders within the ministry and the rights and obligations of the contracting parties. This is a first attempt to regulate the relationships between clients and performers. Previously they, in essence, were not regulated. The institutes did not bear economic responsibility for the quality of their designs and for their deadlines, and, simultaneously they were not stimulated properly for especially important work that was carried out at a high level.

Right now the institutes should be such shape that it will be advantageous to them to carry out developments with high quality by the appointed dates.

In January-February, we began to formulate the first state orders and we encountered the fact that the economic administrations and the institutes were poorly prepared to solve this complicated problem. Previously, everything was done especially formalistically. It was sufficient to put together the two or three lines of the titles of the projects, and this was considered the basis for doing the work. At the end of the designated period a weighty tome was often brought forth, and this was considered issuance of the final product.

Right now it is necessary to formulate with precision a methodology for doing the work, establish the requirements for all the stages and the responsibilities of the participants, set the targets for the research, make up a list of the factors and peculiarities to be considered,

stipulate the conditions for the client's participation in discussion of the results and the form of their presentation, and so on. Everyone felt responsibility with this approach.

Formulation of the first orders indicates that we have begun to think through more accurately the final result that we want to receive.

V. M. Pavlyuchenko: Is a state order a mandatory or not a mandatory part of the plan? The Statute on the State Enterprise states that state orders are issued by a higher organ and can be placed on a competitive basis; they are mandatory for inclusion in the plan. It has been determined juridically that the state order is, in essence, a law.

I think that a state order must be formulated on a competitive basis, after the creation of conditions that will make it more advantageous for the organization than an order of a cooperative or an individual enterprise. However, the obligation for including a state order in the plan provokes clear contradictions. As long as a contradictory statute exists, apparently we can motivate our enterprises with the state order by providing it steadily with resources. This should be the basic advantage of state and industry orders.

As for the statutes developed in the branch about formulating a state order, they require improvement. The responsibility of the ministry or higher organizations toward an internal institute has not been determined, and the problems of incentives have not been resolved.

The creation of costly models of, for example, a rotary excavator or welding equipment, is of branch importance. This is the branch order, and it is financed by the branch.

All-purpose construction equipment is the concern of the branch which produces it. It should produce competitive machines. We hope that the imposed settlement of the branches that produce the equipment will soon be ended. And we can select whom to buy equipment from: Minstroydormash [Ministry of Construction, Road and Municipal Machine Building], Minavtoprom [Ministry of Automotive Industry], or other entities.

Each organization that develops the newest of equipment should use the state order. Existing equipment should be improved through the expenditures of the branch that produces the equipment.

The Contract Price

V. M. Agapkin: The opinion is widespread that the contract price is the same as the budget-estimated quotation, corrected by the amount of any sort of markup. But this is no longer the contract or the estimated price. Here, as before, price plays only an accounting function,

it strengthens the expenditures mechanism. The establishment of a rigid algorithm for determining the contract price signifies in practice the preservation of economic accountability relationships. We must strive not for regulation of the procedure for setting the price but for developing a market for scientific and technical output, where the actual price is determined by the customer, by the ruble that has been earned by an economically accountable construction trust.

G. I. Shmal: I think that it is legitimate to ask also about list prices for a scientific product. For what kinds of scientific activity is it possible to have list prices? When shall we have standards for expenditures for scientific output? Without this it is difficult to construct economic accountability relations.

V. M. Agapkin: I agree. It is false to think that the situation alone will lay down the price. Some average outlays, including those in the form of list prices and standards should be considered, but they should comprise the base, which the contractor and the client can reject in an agreement on the contract price, considering everything that accompanies the peculiarities of the given concrete transaction. It seems to me that base prices and standards can be created for the branch. Such standards have been developed by VNIIPKtekhorgnفتهgazstroy; they are based on the existing level of outlays.

But still it is precisely the contract price that considers the value of the work. If this is not taken into consideration, the customer for scientific output can be put in a position where the value of this output is not great for him but he must cover all the developer's outlays. Take another case: the work requires small outlays, but its value for the customer is great, yet the recompense for it is insignificantly small.

A. D. Khaytun: There is a general principle: if it is possible to give a list price for some work, that means that it has been done previously, that is, it has moved from the ranks of the scientific to the ranks of that which has been designed.

V. N. Zinovyev: Let's take the orders. Strictly speaking, we have not yet had a monologue on PPR [planned preventive maintenance]. Many Orgtekhstroy trusts, and, what is more, trust services, can do PPR. Right here there will be verification of the value of our work. It is possible for quality and the standard to win out. Price lists are convenient for such output.

A. I. Grigorov: The ministry has attempted to make list prices binding.

Price lists should be used with caution. At times they do not fulfill their functions. This is an iron ceiling that impedes the creative process.

A. D. Khaytun: Contractual relationships with the trust do not present difficulties. It is clear that what an economically accountable trust will get for its money is that the developers will give him a scientific commodity: a document, a machine, an idea. There is another matter about the state order when it is given by people who are not pecuniarily bound with the developer. Let us suppose that 1 million rubles is paid out, but not from the wage fund. The most important question is: how to protect the state's interests? The pricelist cannot be used here, because the state order is a large new topic. Expenditures can be calculated but not the results.

In my view, a procedure must be established. Our institute proposed to create a group of independent experts who will respect equally the interests of the ministry and scientific organizations, and whose decision as to cost and result will be binding on all. The arbitration court has experts of that type.

In formulating a price for a state order, it is necessary to develop not a pricelist, nor an algorithm, but a procedure for coordinating the interests of the state, the clients, and the economically accountable scientific institute.

M. P. Ring: This is only playing with words, that the price is worked out by agreement of the parties. A base is needed for a contractual price. And this base should include three elements: prime operating costs, accumulations, and deductions. These elements and their proportions should be present in every contract.

As for the pricelists, they indeed are not extended to integrated operations, only to the elementary ones that make up the work. But the sum of these operations will not bring us to contractual prices. One must not mix these things up.

V. M. Agapkin: One must consider the reality that in construction there are unified appraisals. In creating an illusion of order, they cannot and will not be able to cope with the expenditures approach. The value of a construction product does not reduce down to the manipulation of isolated items.

S. I. Baksheyeva: An analysis of the cost of a scientific-technical product produced by VNIIST over a period of 7-8 years has indicated that it varies over a great range—from 5,000 to 500,000 rubles. The cost of developing engineering-standards documentation has a narrower scatter. We want to make estimated standards based on them. All the remaining work should be calculated.

A. D. Khaytun: Not one foreign scientific firm gives the client a calculation. It says: the results will be such-and-such, your profit such-and-such, and our price such-and-such.

S. I. Baksheyeva: We do not intend to discuss the calculations with the client. We work out in the calculations the share of expenditures for the main stages of the

operations. We will present to the client our share and the share, for example, of the other organization, let's say, the SKB and so on, and right away we are negotiating about how our work will be paid for. If the work is carried out ahead of time, the client pays in full, and where there is a delay the client reduces the price.

The ministry must establish stable standards for deductions from profit received for the share that belongs to the NII's and KB's, and also the individual, and not the weighted-average standard of profitability for each NII and KB. This will actually reflect the effectiveness of the work and will not let part of the earned profit be transferred to NII's and KB's that do not operate productively enough.

A fine-tuned intramural management mechanism also is important. A high level of planning, computations and accounting for expenditures on NIOKR is necessary. Economic accountability among subunits within the producing facilities of a scientific-research organization is needed.

L. M. Chernyak: I want to support M. P. Ring's opinion: the contract price should have a precise economic basis. It should be based on expenditures, and it should consider the institute's accumulations and deductions and the economic benefit. A mechanism which would allow us to make such calculations is necessary. There is no such mechanism yet.

The branch must establish handbook (bench mark) prices, taking into account the cost of similar developments and the labor expenditures of the science workers.

N. Yu. Yaskova (VNIIPKtekhorgneftegazstroy): It is not necessary to try to insist on some rigid form for determining the contract price. Since many will agree that scientific and engineering output is diverse, as are the relationships with the clients, then also the forms for determining the contract price should be diverse. I can name at least these forms: standard prices (determined by mutual agreement), the price of the benefit (determined as a function of the economic accountability benefit from using the scientific and engineering product), the price of the "expenditures-benefit" (determined on the basis of the developers' outlays and the standard for the economic accountability benefit for the customer), the price of the outlays (determined on the basis of calculation and the standard profit), the price of the "participation in the client's profits" type (determined according to a fixed percentage of the deductions from the client's profit for the stipulated period), and others.

S. K. Boreyko: We must not forget that we are in an initial period. It can happen that we cannot carry out the state order for the agreed price, because the total expenditures turn out to be higher than the funds allocated. We are not transferring to economic accountability this year. But in a future year we will have large funds for incentives for orders and for increased prices thereof. The

situation that manifested itself during the conversion of organizations and enterprises to economic accountability within the limitations of the adopted five-year plan is being repeated.

The establishment of economic standards are of no little importance. We have the Gosstroy norms. We have studied them thoroughly and we considered that they have been compiled hastily: they are practically identical for 39 trusts. The standards must be refined for our organizations.

I think that the main source for forming the institutes' funds in the starting period should be a reduction in the prime production cost and the agreed price. For the most part direct agreements must be used, but the state order is not excluded.

V. M. Pavlyuchenko: According to the indicated CPSU Central Committee and Council of Ministers decree, the prices for scientific-research, design-development and technological operations, experimental output, and scientific and technical services should be agreed on by the science organization and the client before work starts, as a function of the required effectiveness and the quality and the period for performing the operations. I agree with S. K. Boreyko that in the first stage, in various cases the state order will have to be carried out through the developers' available means. The science organization will be compelled to search for internal reserves, to seek additional sources, but the orders nevertheless will be carried out. There are, of course, contradictions here, but we will not ignore them when formulating orders for this year and next.

1988 Is a Transitional Period

V. M. Pavlyuchenko: The ministry's staff, jointly with chiefs of the main administrations, has solved the problem of distributing funds for financing scientific developments in 1988. It was decided to transfer these funds to the main administrations, which will be the lead organizations for introduction.

G. I. Shmal: The main administrations or some group of trusts will be responsible for the directions that are defined for the branch's development.

V. M. Pavlyuchenko: They will undertake the role of the clients, and centralized funds will be transferred to them this year.

V. N. Zinovyev: The economic-accountability relationships with the main administration will be formulated by the state order?

V. M. Pavlyuchenko: This will be determined by an arrangement between the institute and the main administration, which will be the lead and the introducing organization. In the transitional period, we will develop the principles of full economic accountability.

A. B. Rubinshteyn: I consider that it will be more suitable during the first years of operating under economic accountability (at least prior to 1990) for the EKB [Experimental Design Bureau] for Reinforced Concrete] to have a substantial share of the branch order. Later it can be reduced, but right now the industry as a whole still is not ready enough for transfer to economic accountability. Right now we are working with several dozen clients, and at each step the picture is one and the same: there are industry interests, and there are the interests of individual subunits of the ministry. For enterprises engaged in the manufacture of mobile buildings it is more important that they be as inexpensive as possible and that less labor expenditure be required, and the question as to how this object will behave in operation does not bother them. The construction and installing administrations are motivated to obtain output with a maximum of preparation at the factory.

This difference in requirements necessitates an industry approach, that is, the presentation of a branch-of-industry order. It is important, in my view, that it be comprehensive.

If the branch order includes just the development proposed for the mobile buildings and does not examine them in regard to the problem of the appropriate rebuilding of the construction-industry enterprises that produce them, we will not get the necessary benefit.

There is the problem of competitive development. Who must finance an integrated development if not the branch? Box modules, for example. They were developed by various organizations. Right now a definite decision to settle on the 672-series box modules has been adopted. Glavsibkomplektmontazh [Main Administration for the Installation of Outfitted Modules in Siberia] or any other client will scarcely be able in the near future to finance several organizations in order to develop these designs on a competitive basis, but the branch can undertake it.

S. I. Baksheyeva: VNIIST is right now experiencing a complicated transitional period. We are anxious this year. The institute can convert to the new system on 1 July. We consider the correct decision is to transfer the money to the main administrations with which we are to conclude contracts this year. True, we do have work whose execution will take several years. We will probably use the new format in drawing up agreements for the work that carries over into 1989.

We have now completed developments that must be introduced. We would like to conclude contracts for turning over such developments through funds allocated for technical assistance. The money obtained for these developments will go to incentives for work planned for fulfillment in the second half of the year.

Many supporting organizations, including Gosstroy organizations, have been working under full economic accountability since 1 January 1988. We can now conclude contracts with them. Therefore, we have developed a principle for planning the calculated accounting for scientific and engineering output.

V. S. Vaynshteyn (VNIIPgidrotruboprovod): It is necessary to be well prepared for transferring science to economic accountability. The first and the main step in this preparation is that we must convert quickly to the new management terms. Without this we will fall into the area of nonobjective analysis, that is, we will discuss categories, concepts and terms without examining the social and scientific relationships themselves.

L. M. Chernyak: I do not consider B. S. Vaynshteyn's opinion correct, that it is necessary to convert right away to economic accountability and then to find out what it's all about.

How do I envision the stages of the transitional period? The first step is the preparation of a set of nine methodological documents for the industry. Among these papers, the recommendations on internal economic accountability in laboratories and sections of an institute are of great significance. We have all spoken here about the institute as an entirety. But the institute consists of scientific collectives and various individuals who produce scientific output. Without organizing economic accountability at the level of the various collectives that are formed for carrying out a definite project and without allocating a wage fund to it, and without an incentive for the final result, we shall not get an organization that will account for expenditures for the current economic-accountability activity at the institute. Economic accountability will be pure fiction. The second stage is discussion of the draft of the preparatory documents. Third is that of bringing them to the workers of the appropriate institutes, KB's, and Orgtekhstroy trusts. Right now we and the institutes talk different languages at times.

At the end of December the Ministry asked several managers of scientific organizations to transfer them to economic accountability as of 1 January 1988. We considered that they were not ready for operation under the new conditions, and I consider that experience has confirmed this. In order to gain experience, one or two institutes must first be transferred to full economic accountability.

S. K. Boreyko: The institutes have expressed the desire to convert to the new conditions as of 1 January 1988. The fact that they were not ready for this became clear in the first quarter. This concerns both the formulation of state orders and the concluding of contracts. It is good that we had profit reserves that enabled us to create advantageous conditions prior to 1 April, so that this preparatory work will be completed. Moreover, the question of which economic accountability model to operate

under—the first or the second—requires thorough investigation by NII and KB collectives. Not just specialists but precisely the whole collective should participate in the study of this question. Much depends, both today and in the future, on the solution of this problem. I consider the dates adopted for converting groups of organizations—1 July 1988 and 1 January 1989—justified. This has enabled industrywide documents that have been developed to be discussed.

V. M. Pavlyuchenko: It is agreed with S. K. Boreyko that, by 1 July, 30-40 percent of the organizations will be able to transfer to the full economic accountability environment: institutes, Orgtekhstroy trusts and so on. If we will be able to do it by 1 January 1989, definite experience will have been accumulated.

The Tasks of Administration

G. I. Shmal: Many of our institutes at present carry out poorly the functions of prime organizations. Under economic accountability, these functions can be complicated. The prime organization should coordinate the activity of the scientific subunits.

M. P. Ring: The question about the role of primary organizations today has not been provided for juridically. The ministry has the potential itself to fill the existing gaps. Coordination should be done by the concluding of general contracts. The coordinating institute is the leading actor and, through a system of collaborative contracts, it can supervise other science collectives by economic methods.

V. M. Pavlyuchenko: Questions of coordinating the activity of institutes in the Chief Engineering Administration have been discussed. It was decided that the prime institute concludes the general contract. It selects its own subcontractors and is counted with them for economic accountability.

G. I. Shmal: At present the activity of Orgtekhstroy trusts is being poorly coordinated. There are 18 in the branch. On the average each numbers 200 people. Some of them which have experimental production have 700-800 people. This is a great potential. Under economic accountability their potential must be set in motion most effectively.

A. M. Mikhaylichenko: A system for evaluating the desirability of new developments is needed. Last year our trust was asked to try out a new flux and then give recommendations on its cost. It proved to be more costly than the flux we were using. In this case, the indicators of the welding process—speed and productivity—were practically unchanged. And, what is more, the quality of the product was the same. It happened that the trust, if it converted to the new material, would lose about 0.5 million rubles per year. Industrywide, this would be 20-50 million rubles.

The industry has no organ that evaluates preliminarily the benefit of an innovation.

Yu. F. Losev: Our machinebuilding plants are engaged basically in making test models. This element in the chain—scientific development to series production—right now requires great time expenditures. Analysis has indicated that the manufacture and output of a test model take more than a year more than planned. Today, when plants have converted to economic accountability, the situation has not changed. The plants have concluded contracts for the delivery of serially produced equipment, but not one contract has been concluded for the scientific development and manufacture of test models.

V. M. Agapkin: A system for economic control which would cover the whole activity—from the appearance of a requirement for the output of the institutes to work with the trusts for introducing a development into practice, right down to the fulfillment of economic accountability design, jointly with production enterprises—is needed. This system is seen as follows:

The institutes create a mechanism for the constant discovery and analysis of requirements for scientific and engineering output. This refers not so much to the current state of affairs as to future requirements, the strategic situation. One must know what technologies, systems of machines, and forms and methods for organizing production will be effective in the future. Further, it is necessary to design the organization of scientific research and design development in order to be ready to meet the demand for these technologies, systems of machines, schemes for mechanizing operations, and methods and forms for organizing production within the required time and in the required volume. At present this work goes on spontaneously, but with conversion to economic accountability, skill in guiding research correctly and in picking up strategic changes will determine the fate of the institute and its usefulness for the branch.

The nature of thematic planning is being changed, from the principle of "for the goal" instead of the existing principle of "for the possibilities." This will become real and living because the mechanism for study of the state of affairs, which provides for the forming of long-term goals for the institute's activity, begins to operate, and the necessary means for change in the scale, structure and types of activity will now be in the hands of the collective.

This sequence happens: study of the demand for scientific and engineering output, including demand in the foreign market; the forming of a goal for the institute to create new types of scientific and engineering output, an expansion of services, and the assignment of what has been created previously but which is favored by a demand for its output; the development of programs for achieving the indicated goals; and the planning of activity, including planning of changes in the institute's

structure, retraining and augmentation of the personnel force, restructuring of the materials and equipment base, and cooperation with other NII's and KB's and introducing enterprises.

A system of economic and juridical support for scientific research and design development is being created that will round out the planning system. It calls for contract and claims work, credit-granting and financing operations, the realization of developments, the advertising thereof, and communication with the customer.

Such a scheme is of a "marketing in science" nature. It will enable the builders' changing needs to be discovered and influenced and these requirements to be provided for.

The Role of the Scientist and Preservation of the Intellectual Principle Under Economic Accountability Relationships

V. M. Agapkin: Sometimes economic accountability is simplified to the point where it is proposed to transform institutes to an association of workers' collectives based on the collective contract. The main things in science are creative stimuli, and economic relationships should intensify them, not replace them. I think that a creative, moral beginning should be determining. There should not be oversimplification and mindless uniformity in the administration of science. Economic accountability should be assigned a befitting place, incomparably more so than previously, but not through social methods and not at the expense of good methods previously built up.

V. K. Kashin: Given today's system for organizing science, we have a certain protectiveness of the scientist's interest: stability of pay and stability of structure. Economic accountability does not give such protectiveness. A situation can arise wherein an individual science worker turns out to be not included in those operations that will bring the organization money. He cannot participate in one of the projects being carried out. What is to be done here? Should we dismiss him? Or he will be counted, but who will pay his wages? These questions still have not been investigated yet.

Or another thing. Democratic principles traditionally have existed and still exist in science. There are the scientific councils, whose functions include questions of the awarding of scientific degrees and competitive hiring. Under economic accountability, a new formation will appear—the working collective council. And in a scientific organization there should and will be a hierarchy of councils: at the institute and section levels. Who now will solve the problem of the acceptance of a scientific worker through competition: the scientific council or the working collective's council? And if a project is being studied in a section, then the section itself should decide which staff worker it needs. Or will this be decided by a certifying commission?

In converting to economic accountability, we should not lose that scientific potential that we do have. Measures for stimulating creative activity can increase its effectiveness but, on the other hand, it can also lead to losses that are not always justified, especially from the standpoint of long-term goals. One must give this consideration.

O. M. Ivantsov. In converting the branch to economic accountability, the responsibility of the scientist to the production collectives grows. He must be entrusted with conducting research whose results should ensure effective activity of the client organization.

Right now the prime scientific-research institutes, as well as other institutions that are called upon to promote technical progress, do not bear proper responsibility for the fate of innovations. Restructuring in science, primarily in the area of the administration of scientific and engineering progress, is needed not only from the economic but also from the psychological point of view. High morale, objectivity, patience in discussions, and the democratic qualities of the scientist acquire special value.

V. K. Kashin: There is a certain peculiarity in the production of scientific output. On the one hand, this process does not reduce the amount of scientific potential (as occurs with other types of resources) but increases it. On the other, the growth of scientific potential will be more effective if the prerequisites for its expanded reproduction are supported—not only work for a specific result but also participation in conferences, teaching, raising skill levels, and the possibility of working on a backlog of accomplished work, the value of which cannot always by far be defined and measured. And in science there are types of work that can be thoroughly computed but they do not create new knowledge. Conversion to economic accountability should not be conducted just toward momentary advantages.

G. I. Shmal: There are many unresolved problems. We invite the readers to take part in the discussion so that by the time all scientific subunits convert to economic accountability, they will be prepared theoretically to the maximum.

Participants in the Roundtable:

Shmal, G. I., First Deputy USSR Minister of Construction of Petroleum and Gas Industry Enterprises

L. M. Chernyak, Deputy Chief of the Main Economic Planning Administration, candidate of economic sciences

S. K. Boreyko, Chief of the Finance Administration of Minneftegazstroy

A. D. Khaytun, Section Chief of VNIIPKtekhorgneftegazstroy, doctor of economics sciences

O. M. Ivantsov, Deputy Chairman of the Scientific and Technical Council of Minneftegazstroy, doctor of economics sciences and professor

V. M. Agapkin, Deputy Director of VNIIPKtekhorgneftegazstroy, doctor of engineering sciences

M. P. Ring, Institute of the State and Law, USSR Academy of Sciences

A. I. Grigorov, Deputy Director for Science of VNIIST

V. A. Savenko, Manager of Laboratories of VNIIST

V. M. Pavlyuchenko, Chief of the Main Engineering Administration of Minneftegazstroy

V. N. Zinovyev, Director of VNIIPKtekhorgneftegazstroy

A. B. Rubinshteyn, Chief Engineer of the EKB for Reinforced Concrete, candidate of engineering sciences

A. M. Mikhaylichenko, Manager of the Welding and Erecting Trust

Yu. F. Losev, Chief Mechanical Engineer of the Administration of the Chief Welder

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ELECTRIC POWER GENERATION

AES Workers Exhorted to Take Chernobyl Lessons to Heart

18220092a Leningrad LENINGRADSKAYA PRAVDA
in Russian 19 Jun 88 p 2

[Interview with V.M. Sedov, Director of the All-Union Design and Scientific-Research Institute for Comprehensive Power-Engineering Technology (VNIPIET) and Corresponding Member of the USSR Academy of Sciences, V.A. Kurnosov, Chief Engineer of VNIPIET and doctor of engineering sciences, and A.P. Yeperin, Director of the LAES [Leningrad Nuclear-Power Station imeni V.I. Lenin], candidate of engineering sciences and winner of the Lenin Prize and state awards, by A. Ozhegov: "In Order to Preclude the Improbable"]

[Text] The residents of Sosnovyy Bor recently observed the 15th anniversary of their town, the birth and development of which has been continuously associated with

the Leningrad Nuclear Power Station imeni V. I. Lenin. The first phase of the LAES yielded current at the end of 1973.

Today you leaf through quite a few yellowed pages of the country's newspapers and sense all over again the hot breath of an enormous construction project and the joy and pride of the creators of Europe's largest nuclear-power station. "Work, Peaceful Atom!", "The Reactor's Voice," "Masters of the Atom" and "Streams of Electricity"—from the very titles in publications of the time it is not difficult to get an idea of their nature and content. Articles and reports express admiration for the nuclear giant's might: "Five Volkhovskaya GES's on One Shaft!"

True, and then, although in a small space, lines were found about ecological protection and the safety of an AES located about 100 kilometers from Leningrad. The opinions of high scientific authorities, Academician A. P. Aleksandrov and Chairman of the State Committee for Nuclear Power A. M. Petrosyants in particular, were cited. They confirmed that the system for the safety and protection of the AES incorporates multiple redundancy and is exceptionally reliable.

Since then no little current has flowed out in "electrical rivers" from the LAES, which industriously and reliably serves the city. Nuclear power has gradually become ordinary for us and has entered our lives and work like, in the words of the poet, the running water turned out by the slaves of Rome.

However, on 26 April 1986 misfortune erupted—the accident at the Chernobyl station. Chernobyl's echo was painful and the Leningraders hearts responded with compassion, but it caused anxiety and apprehension: just how safe is the Leningrad power station? For RBMK-1000 channel-type reactors of great capacity—just like those at Chernobyl—had been installed there.

This question, judging by the editorial board's mail, even today has not lost its sound of urgency at all.

Newspaper readers ask what lessons have been extracted after the accident at the Chernobylskaya AES, and what specifically has now been done and is planned to be done at Sosnovyy Bor in accordance with the decision of the CPSU Central Committee Politburo, which "suggested that USSR Minatomenergo [Ministry of Nuclear-Power Generation] and other ministries and agencies concentrate efforts on providing for the complete safety of nuclear stations"?

Director of the All-Union Design and Scientific-Research Institute of Comprehensive Power-Engineering Technology (VNIPIET) and Corresponding Member of the USSR Academy of Sciences V. M. Sedov, Chief Engineer and Doctor of Engineering Sciences V. A.

Kurnosov, and Director of the LAES, Candidate of Technical Sciences and winner of the Lenin Prize and state awards A. P. Yeperin answer this question.

V. M. Sedov: It makes sense to recall at least briefly what happened at Chernobyl's fourth power unit at the time of the accident. There was not and there could not have been a nuclear explosion. A steam explosion occurred because of a rapid buildup of the reactor's power.

The sharp increase in power was the result of multiple impermissible errors of the grossest kind by personnel who performed an unofficial and unsanctioned experiment on the operation of one of the turbogenerators, including switch-off of the reactor's automatic emergency protection. Moreover, an operator had removed from the reactor an impermissibly large number of the absorber rods that regulate the reactor's power.

Thus, a completely improbable confluence of circumstances was necessary for the accident to occur.

V. A. Kurnosov: I happened to supervise the group of our institute's scientists and specialists who developed the "sarcophagus" for burying the destroyed power unit and to participate in building it. We saw with our own eyes, not on television, at Chernobyl the consequences of the explosion, the grief and distress of thousands of people. "What were the scientists thinking about, how could such a thing be permitted?" the local residents asked us. What could we say to the people? To plead that the RBMK [uranium-graphite channel-type reactor] is one of the most reliable and safest reactors and that irresponsible experimenters had "abused" it, and that after the crudest violations of the safety rules it had gone "out of control"? Yes, that's it! But nevertheless the explosion had occurred! That means that everything should be done to see to it that never, anywhere, should this improbable confluence of events be repeated. In brief, it had to be answered with deeds.

The deepest and most comprehensive analysis of what had occurred was conducted. Participating in this work were Ye. P. Velikhov, vice president of the USSR Academy of Sciences, Academicians V. A. Legasov and A. P. Aleksandrov, and other leading scientists of the country. They came to an extraordinarily important conclusion, which was later confirmed by MAGATE [International Atomic Energy Agency] experts: the Chernobyl accident had not caused any previously unknown phenomena to occur in the nuclear reactor.

Speaking incidentally, the results of the scientific consultancy objectively refuted the current judgments of certain scientists (nonspecialists in reactorbuilding or nuclear power-engineering technology) that the analyses for nuclear stations that had been made up until then had not been performed satisfactorily and unjustified simplifications were permitted in them, and that an inadequate emergency protection system had been

devised. Another matter is that in our century of burgeoning scientific and technical progress and dynamic development of nuclear physics and power engineering, any design, even the most improved one, alas, quickly becomes obsolete. And if the RBMK design is assessed from the standpoint of today, then this reactor, it would seem, cannot any longer be acknowledged to correspond completely to the latest achievements of science and technology, and to the requirements, which are growing by far, in the area of nuclear power-engineering technology. Therefore, a modernization of the systems that provide for reactor-operating safety has been performed on all RBMK reactors, including those at the Leningrad AES.

V. M. Sedov: It was precisely to the achievement of this goal that the main set of measures developed after analysis of the Chernobyl accident has been directed.

However, we would not like the reader to have the prevailing impression: they say, previously the RBMK's at LAES were scarcely completely safe, and only after the Chernobyl tragedy did the scientists decide at last to bring them up to standard quality. Therefore, without delving especially into scientific intricacies, I would like to emphasize: the high reliability and hardness of reactors of this type are achieved by moving the fuel assemblies with nuclear fuel into separate fuel channels (TK's). Placement of the nuclear fuel in separate TK's sharply reduces the probability of a major accident, each TK having its own water supply and being capable of being monitored or repaired without shutdown of the reactor outside a planned period. Not for nothing are channel reactors used not only in the USSR but also in Great Britain, Canada and other countries.

A. P. Yeperin: In order to further improve the RBMK's at the LAES, additional stationary neutron absorbers were installed in them. Now 81 absorber rods, which are constantly in the core, have been added to each reactor. Tending personnel simply are not in a position to withdraw them and thereby remove the reactor's "brake." It would take potential violators four days of continuous work to do this.

Protective control systems have been modernized. Now, in an extreme situation, 12 seconds are enough to unload into the core rods that will extinguish the neutron flow. It is planned later to install a system of high-speed automated equipment that will do all this in two seconds. It is now being tested.

Rapid, uncontrollable reactor runaways and strong surges of power in any situations are completely precluded at the LAES. And this means that matters will not lead to an accident during the most unlikely confluence of circumstances. The reactor will be shut down in time.

In order to prevent even the possibility itself of the occurrence of any accident, it is planned to introduce reactor protection against low or high levels of water

consumption, and against high power distortions. In our plans is the erection of a tank system for emergency cooling of the reactor, new control panels, and further modernization of the systems for control and protection. Next year we shall begin to replace successively the fuel channels with calibration of the graphite cells.

Changes have already been introduced in the operating rules for controlling the equipment of the power units. Station personnel have undergone retraining and their skill levels raised in special courses. Right now, each LAES worker is undergoing recertification.

Any sort of unauthorized tests of the power units is strictly prohibited. Operations connected with stopping the reactor or with changing its power are conducted only with the participation of LAES's chief engineer and the USSR Gosatomnadzor [State Inspectorate for Nuclear Safety] inspector.

It is certain that all our nuclear station's power workers have learned bitter lessons from the Chernobyl accident. We always remember and recognize fully what a great responsibility is invested in us, LAES workers. However perfected the equipment entrusted to us may be, reliability and a high level of its operation depend upon the tending personnel, their knowledge and skill levels, their discipline and their conscientious attitude toward the matter entrusted to them. The administration and party and social organizations are working now at inculcating these qualities.

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Rostovskaya AES Construction Progress

18220092c Kiev *RABOCHAYA GAZETA* in Russian
29 Jun 88 p 8

[Article by V. Gradishchuk, erector-welder of the Pripyat Installing Administration of Yuzhteploenergmontazh [Trust for the construction of Heat and Power Engineering Installations in the Southern Regions] (Rostov Oblast): "Help for Rostov's Builders"]

[Excerpt] The second force of the Pripyat, Chernobyl and Tripol erecting sites is approaching the end of construction of the Rostovskaya AES's million-megawatt power unit.

11409

Operational Experience With 750 kV Transmission Lines

18220084b Moscow *ELEKTRICHESKIYE STANTSII* in Russian No 5, May 88 pp 69-73

[Article by V.V. Burgsdorf, doctor of engineering sciences, and T.B. Turskaya, engineer, of VNIIE (All-Union Scientific-Research Institute for Electric-Power Engineering): "Experience in Operating 750-kV Electric-Power Lines"]

[Text] Study of experience in operating overhead electric-power transmission lines is of great scientific and practical importance, since it permits consideration of

all the diverse operating conditions as a system, which cannot be accomplished fully by theoretical analysis or modeling.

In essence, operational studies of line operation comprise an experiment which is supplied on the scale of a large electrical grid as a whole. They are especially interesting for lines of a high voltage class—750 kV, where effective steps are being taken to raise their reliability. This article generalizes five years of experience in 750-kV line operation, which corresponds to 18,000 km/years of observations, that is, enough for substantiated conclusions.

In determining the operational indicators, all cases were considered of automatic line tripping out, which are carefully recorded by the TsDU [Central Dispatcher Control] of the USSR YeS [Unified Electric Power System], after which the factors that caused each tripping out in the power systems are found. If they have not been established directly, then the weather at the time of tripping out is examined. In cases where a thunderstorm was observed at the time by the nearest weather stations, the tripping out can with great justification be attributed to the storm, but in the case of rain, fog or snow where the temperature is about 0 degrees C, to the flashover of moistened insulation. Obviously, with such an approach,

the number of flashovers for the indicated reasons could not be underestimated. If the tripping out occurred during weather conditions favorable for operation of the line, then it was ascribed to a group of unexplained causes. There are not many cases in general, less than 10 percent of the total number of cases of tripping out, so they could not have an influence on the final conclusions.

Data obtained in the USSR were compared with the operation of 750-kV lines in Canada, using data of the Canadian Electrical Equipment Association [1], which did extraordinarily valuable work in a detailed study of failures of power transmission lines and equipment in 110-750 kV grids.

This comparison was of special interest, since it was possible to judge more completely the basic principles and opportunities for increasing the operating reliability of 750-kV power transmission lines and their various elements.

Table 1 shows the parameters of the flow of failures over five years of 750 kV operation in the USSR (per 100 km per year) for the four main groups, and also the corresponding Canadian data for 5.5 years, which cover experience in operating 750-kV lines for 33,500 km/years.

Table 1
USSR

Group	Causes of tripping-out of lines	Average parameter of flow of failures, 1/100 km/year	Distribution, Percentage	Canada	
				Average parameter of flow of failures, 1/100 km/year	Distribution, Percentage
1.	Damage to lines	0.162	37	0.355	42
2.	Damage to substations	0.145	33	0.31	37
3.	False action of protective relay	0.055	13		
4.	Personnel errors	0.072	17	0.18*	21
	Total	0.434		0.845	

*Incorrect action of protective relay and control

Table 1 considers all automatic tripping-outs of lines, that is, those occasioned by their own failures, failures of substation equipment that involve tripping out of the lines, and tripping-outs associated with incorrect work of protective relays and personnel errors. Attention is called to the fact that a little more than one-third of all cases of tripping out are based on damage to the lines themselves. The reliability of 750 kV lines undoubtedly is very high, much better than that of 500 kV lines. It is characteristic, moreover, that almost two-thirds of tripping-outs of 750-kV lines were occasioned by various failures at substations.

The protective relay worked correctly in 87 percent of the cases, which corresponds approximately to the operating experience of grids of 220- 500 kV. Incorrect actions of personnel comprised a large portion of the tripping-outs. The causes of tripping out of lines are examined in more detail below.

Tripping-Outs Because of Damage and Flashovers on the Lines. The causes of failures of 750-kV lines in the USSR and Canada are cited in table 2. Breakdowns, according to experience gained in operating 500-kV lines in the USSR, are shown there for comparison [2].

Table 2

Group	Cause of tripping out	Average parameter of flow of failures, 1/100 km/year		
		750-kV lines	500-kV lines, USSR	
		USSR	Canada	
1.	Defects of erection, manufacture and operation of the lines	0.022	0.075	0.097
2.	Sleet, wire dancing, and so on	0.006	—	0.063
3.	Thunderstorm	0.032	—	
4.	Flashover of insulation during normal operation	0.017	0.185	0.023
5.	Strong winds	0.033	—	0.05
6.	Others (load surge, fire, and so on	0.022	0.02	0.09
7.	Unexplained causes	0.028	0.075	0.15
	Totals	0.162	0.355	0.542

The reliability just of 750-kV lines in the USSR is marked by one tripping out per 660 km per year, while in Canada the figure is one per 300 km per year. The growth of tripping out in Canada is associated with numerous insulation failures (higher than in the USSR by one order). These are explained by the wide use of porcelain insulators, the failure rate of which was very high (especially the heavy types) [3]. The use of glass insulators on new 750-kV lines in Canada has helped to increase their reliability. Damage to insulator strings in Canada was linked also with the shooting of insulators. If tripping out of Canadian lines because of insulator failures is excluded, their reliability becomes close to that achieved in the USSR.

The flow of failures on 750-kV lines in the USSR is one third that on 500-kV lines. A close correlation will probably be achieved in Canada with better quality of insulators. The failure indicator for 500-kV lines was established by an extremely careful study of the 10 years of experience in operating them; the study generalized the data for 236,000 km/years of operation [2], which can be viewed as completely typical.

The reliability of 500-kV lines is assessed as being high, especially in comparison with that of lines of lower voltage. However, 500-kV VL's [overhead lines] have worse indicators for all breakdown causes, especially in relation to resistance to atmospheric effects (thunderstorm, sleet, dancing and wind), and worse quality in the erection and operation of the various elements.

The high indicators for 750-kV line operation are an outstanding achievement of world science and engineering.

During the period reviewed, there were no breakdowns from sleet on 750-kV lines in the USSR or Canada, but they cannot be excluded, since sleet breakdowns have taken place outside the period in question.

There was one grave accident in Canada on operating lines. The sleet's weight reached 15-35 daN/m, that is, 1.5-fold to 2.5-fold the load capable of breaking an AS-520/27 wire. As a result, numerous breaks of wires

occurred and 16 supports at each of two parallel lines broke. Great overloads were observed where the lines went up a hill with grades of 340-480 meters. After the accident the line was partially reinforced by reducing the intervals and by converting to wire with 40 percent greater strength, and partially by transfer to sections with lesser grades. There were no accidents after this.

In the USSR a guy wire broke from a clamp because of heavy loads from wet snow, followed by a strong wind (30 meters/second). It had not been fastened carefully enough. As a result, the support fell. The accident progressed no farther.

Thus, sleet accidents on 750-kV lines are connected either with extreme loads or with defects of a construction or erection nature which manifested themselves during large sleet deposition and wind.

Ensuring reliable attachment of guy wires to clamps is an important prerequisite to normal operation of the supports. Extreme loads for 750-kV lines, which are marked by high strength, are possible on very locally defined segments of the route, special attention to which must be paid during design. There were no other cases of damage because of inadequate strength of 750-kV lines in the USSR, nor abroad. The resistance of these lines to climatic effects undoubtedly is high.

Little data has been recorded about dancing on 750-kV lines. Flashover in the middle of a span between conductors and a cable, breaking of a shackle that has a defect, uncoupling of a string which attaches the transmission line to an anchor support, and the uncoupling of seven spacers and abrasion of a part of the fastening of the string to the support are known.

Flashover between a cable and conductors, which are displaced along the horizontal by 4.8 meters and along the vertical by 14 meters in relation to the cables, can occur when the amplitude of the dancing with half-wave is 13-13.5 meters, that is, equal to the sag of the wires.

Such great oscillations during the whole operating time for 750-kV occurred only once, and it was of short duration: the APV [automatic closing unit], it is true, proved to be unsuccessful, but then the line was connected to the arm and worked normally. This enables the conclusion that the distances between conductors and cables were chosen correctly and flashover from dancing is possible only in extremely rare cases, and under extreme conditions, and their probability can be assessed as once per year for 25,000-30,000 km of lines.

The number of spacers that have come uncoupled during dancing is not great. Other damage also was isolated, but measures to preclude uncoupling of strings or spacers undoubtedly should be worked out.

In considering the large mass of conductors of 750-kV line phases, the danger of wear of the part that fastens the string because of dancing is greater here than on 500-kV and 330-kV lines. Dancing dampers should be installed where failures have been observed on 750-kV lines.

There were no tripping-outs of lines because of fatigue damage. The fact that many 750-kV lines were developed as many as 20 years ago allows the conclusion that protection by groups of paired spacers provides for effective suppression of vibration and suboscillations.

All the tripping-outs caused by wind occurred because of flashover from the transmission line on two anchor-angle supports in areas with weak winds. There were no other such flashovers at other supports. This testifies that mistakes made during installation of the transmission lines led to the flashovers. Such instances, naturally, were isolated. The number of breakdowns because of strong wind were low also in Canada.

The number of thunderstorm tripping-outs of 750-kV lines was less than half of those on 500-kV lines. The height of the supports and the duration of the thunderstorms were greater on 750-kV lines than on 500-kV lines, so the latter's vulnerability was considerably higher. As a result, the thunderstorm resistance of 750-kV lines is proving to be 3- fold to 3.5-fold greater than for 500-kV lines. Reverse flashovers on superhigh-voltage lines with the ordinarily used groundings are practically excluded and they can be ignored, so dangerous direct

impacts on the wire on 750-kV lines occur 3-fold to 3.5-fold less often than on 500-kV lines. This is achieved through reliable shielding angles of the cables in relation to the wires on all 750-kV lines (15 degrees) and considerably higher impulse voltage endurance of the insulation, under which the share of dangerous lightning flashes with breaks is sharply reduced. The hypothesis about greater vulnerability to thunderstorm accidents as a result of increased vulnerability of the 750-kV line wires to the effect of the higher working voltage, which promotes the forming of counterleaders [4 and 5], has not been confirmed.

The reliability of protecting 750-kV lines from thunderstorms is high enough, it is marked by one tripping out per 3,000 km per year, and it completely confirms the known principle of a substantial rise in the level of the lines' resistance to storms with increase of their working voltage.

Flashovers from wet insulators at the working voltage occurred during fog, rain or snow at an air temperature of about zero. The total number of such incidents was not great and was even somewhat lower than on 500-kV lines. On the average, one tripping out per 6,000 km per year occurs because of wet strings. This indicates that the insulation for the 750-kV lines was chosen correctly.

It is of interest to assess the degree of danger of a break of single- circuit strings on superhigh-voltage lines. Such strings are used only on one 750-kV line, where there were no cases of breaks. However, experience in its operation (1,800 km/yr) is not sufficient. There is reliable data on the operation of single-circuit 500-kV strings. Analysis of experience in operating 175,000 km-yr of these lines indicated that cases of breaking are rare, on the order of once per year per 25,000 km, that is, little more than 2 percent of the total number of failures where there was damage to 750-kV lines and less than 0.8 percent for 500-kV lines. The desirability of using single-circuit strings on 750-kV lines requires, however, special study.

Tripping Out on the Lines Caused by Failures at Substations. This group of tripping-outs is more numerous. Detailed data about the causes of breakdowns are shown in table 3. The parameters of the flow of failures relates to one end of a 750-kV line, that is, to one connection.

Table 3.

Group	Causes of tripping out	USSR		Canada	
		Parameter of flow of failure, 1/1 connection per year	Distribution, percentage	Parameter of flow of failure, 1/1 connection per year	Distribution, percentage
1.	Reactor damage, including that linked with introducing oil and oil leaking	0.065	17	—	—
2.	Switch failures	0.025	6.3	—	—

Table 3.

Group	Causes of tripping out	USSR		Canada	
		Parameter of flow of failure, 1/1 connection per year	Distribution, percentage	Parameter of flow of failure, 1/1 connection per year	Distribution, percentage
3.	Damage of:				
	-voltage transformer	0.025	6.3	0.136	28
4.	-current transformer	0.05	12.6	0.0052	1
5.	-disconnectors	0.008	2	0.1178	24
6.	-lightning arrester	0.008	2	0.0157	3.2
7.	-coupling condenser	0.008	2	—	8
8.	-traps	0.015	4	0.0026	0.5
9.	-on buses	—	—	0.0183	3.8
10.	Incorrect relay operation	0.074	19	0.18*	37
11.	Incorrect action by personnel	0.107	27		
12.	Others	0.008	2	0.0131	2.5
	Total	0.359	100	0.49	100

*Incorrect operations of protective and control relays

The fact that, as a result of various failures at substations, each 750-kV line in the USSR is tripped out once in 2.5 years, and in Canada once in 2 years, that is, much more often than as a result of flashovers and damage to the lines themselves, invites attention.

Reduction in the flow of failures at substations is of very great importance for increasing operating reliability of 750-kV lines and the grid as a whole.

The overall operating indicators for the lines of the USSR and Canada are close, as are the breakdowns caused by incorrect action of protective and control relays. As for equipment damage, in the USSR it is associated primarily with the reactors, current and voltage transformers, and switches, while in Canada it is linked with voltage transformers and disconnectors. Cases of damage of the other electrical equipment are identical in both countries. Practically all the reactor damage relates to the old design of the first period of 750-kV transmission line construction. Modern reactors are operating normally. Increase in the reliability of current and voltage transformers and switches, in combination with reactors, will enable the tripping-out of 750-kV lines because of failures at substations to be halved.

The Canadian experience indicates that this problem can be solved successfully. At the same time, the share of damage of domestic voltage transformers and disconnectors in the tripping-out of 750-kV lines is not great, and in this area there is an indisputable advance over the Canadian grids.

It is very important to curtail cases of incorrect operation of protective relays and incorrect actions of installing and operating personnel, with which almost one-third of the cases of 750-kV line tripping-out are associated. The development of a set of measures on this question is an urgent task.

Possible Effectiveness of APV on 750-kV Lines. Automatic repeat reclosing has always been viewed as an effective means for increasing power-grid operating reliability. With increase in voltage, the total number of cases of tripping out of power transmission lines is reduced, and the specific share of factors that cause failures in the operation of lines also is redistributed. It is important to evaluate the percent of cases where APV on 750-kV lines can be successful.

Data from the 750-kV power-line operating experience examined above were used for this analysis.

Where lines break down because of mechanical damage (groups 1 and 2, table 2), APV cannot be successful because of the nature of the damage. During thunderstorms, the line permits rapid switching under voltage, and breakdown can occur only as a result of incorrect operation of the automation. It is difficult to assess the possible effectiveness of APV for cases of tripping out that relate to groups 4-7 of table 2, since various combinations are possible here. It follows from the data of operating experience that APV proves to be effective here in about half of the cases of tripping-out of this type. As a whole, the number of successful APV's during breakdowns on 750-kV lines can be somewhat more than 50 percent. Little more than half of the cases of line tripping out because of breakdowns of connections (table 3) is associated with equipment damage, when APV cannot be successful. It turns out, however, that it is useful during incorrect operation of a protective relay, personnel errors, and spontaneous tripping out of circuit breakers. In all these cases the line permits rapid setting to voltage and, consequently, APV can be successful in almost 50 percent of the cases of tripping out of lines because of breakdowns at connections.

Thus, on high-voltage lines, 750 kV in this case, the share of line outages that can be quickly ended by switch-on is

reduced. However, APV remains an important measure for increasing power-line reliability and in 50 percent of the cases of line tripping out they can be rapidly brought to voltage.

Conclusions

1. Electric-power lines of 750 kV possess very high reliability, considerably higher than do 500 kV lines. Cases of tripping out on them are isolated, about one case per 650 km per year.

2. Thanks to the high level of insulation and reliable shielding of the wires with cable, the resistance of 750-kV lines to thunderstorms is much higher than for 500-kV lines.

3. The insulation for 750-kV lines has been chosen correctly, and cases of tripping out when the insulator strings are wet are very rare.

4. Lines of 750 kV oppose well the effects of sleet and wind. Grave accidents are possible only at very large overloads or defects of manufacture or installation.

5. There have been no cases of breakdowns on 750-kV lines because of fatigue damage, and breakdowns due to dancing are isolated. These are associated with deficiencies in the manufacture or installation of the fittings.

Distances between conductors and cable that have been adopted for 750-kV lines are adequate and practically exclude flashovers between them.

However, the danger of abrasion of the fasteners of the strings during dancing requires attention.

6. A major portion of the breakdowns on 750-kV lines are linked with breakdowns at substations caused by equipment damage, incorrect operation of the protection, and personnel errors.

Work must be done to improve some types of equipment and protective relays and to raise responsibility for installation and operation. This will permit the operating reliability of 750 kV power lines to be increased another 2-fold to 2.5-fold.

7. Despite the small number of cases of 750-kV line tripping out, the use of APV can raise 750-kV line reliability considerably. More than 50 percent of all lines tripped out can be rapidly put into operation.

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PIPELINE CONSTRUCTION, OPERATION

Improving Pipeline Construction at Yamburg
18220094 Moscow STROITELSTVO
TRUBOPROVODOV in Russian No 5, May 88
pp 27-29

[Article by R.D. Gabelaya, VNIIST [All-Union Scientific-Research Institute for Pipeline Construction]: "Improvement of the Technology for and Organization of the Construction of Intrafield Pipelines at Yamburg"]

[Text] The basic method for laying intrafield pipelines at the Yamburg gas and condensate field (GKM) is on the surface. During erection, such constructional members as pile supports, compensators for temperature deformations and others, as well as thermal insulation and electrical heaters, are specified. At present, because of the complexity of designing these pipelines, the organizational and technological level of building them is still not high enough. Cleaning and the anticorrosion insulation of pipelines of small diameter and of metal piles, the arrangements for thermal insulation, and the welding of pipelines are carried out manually.

Construction is being conducted by other than flowline methods, and there is no close coordination of operations between the welder-erectors and the other brigades, since they are under different trusts.

The industrial-organizational level of erecting intrafield pipelines at the Yamburg GKM can be raised if the advantages of industrialized construction and the flowline organization of operations are realized to the maximum and existing progressive operating solutions are used to the maximum.

Above all, highly mechanized pipe-stockpiling bases should be erected. At the bases, weld the pipes in sections and apply the protective coatings, fabricate the pipe components and parts, the compensators and the surface pipelines supports, and insulate them. The pipe-stockpiling bases that are now operating are primitive, poorly built and do not support high work quality.

In order to convert to the flowline method of construction, integrated intrafield pipeline construction flowline groups (PTP's) of three types must be formed, specialized on the mission principle: for the construction of underground pipelines, surface gas-pipeline arrays, and surface water lines with electrical heating. Formally, such flowline groups exist today, but the basic principles of flowline-group operation—straight-through flow, rhythmicity, and synchronization—have not been realized. These can be achieved if all the brigades (or teams) of the flowline group will be administratively subordinated to a single construction organization and the monthly wage of the blue-collar workers of all brigades and of the engineers and technicians will be a function of finished output—of the pipeline laid and secured at the designed grade level. The figure shows an exemplary organizational operating scheme for the flowline construction of a surface gas-pipeline array with pipe 530 mm in diameter.

In order to support uninterrupted operation of such a flowline group, operating backlogs of accomplished work should be set at optimum, in accordance with the calculations.

Already today there are progressive operating solutions that have been worked out that can be used at the Yamburg GKM: the joining of small-diameter pipe by resistance welding and brazing, the buildup of sections into strings on the route by the pull-through method, thermal insulation of pipe based on extrusion, and so on. The technology for the pull-through method was authorized by Departmental Construction Norms (VSN 219-87), provided that impermissible scratching of the pipes is averted.

When laying pipelines in the multiple-strand version, erection should be done simultaneously. During the testing of such pipelines by internal pressure, it is recommended that the ends be aligned, which greatly reduces the time taken.

An important operation is preliminary stretching of the inverted-U shaped compensator for assembly and welding of the closing joint. For this purpose it is desirable to use a hydraulic jack with a set of adapters. High-quality assembly of the joint is possible only where there is strict fixing of the stretched compensator until conclusion of the welding of all layers of the weld, in order to avoid the appearance of microcracks.

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Pipeline Testing Experience in Far North

18220093 Moscow STROITELSTVO

TRUBOPROVODOV in Russian No 5, May 88
pp 26-27

[Article by I. V. Borisov, VNIIPKtekhorgneftegazstroy [All-Union Scientific-Research and Design Development for the Technology and Industrialization of Construction of Oil and Gas Industry Enterprises]: "Peculiarities of Tests of Intrafield Pipelines in the Far North"]

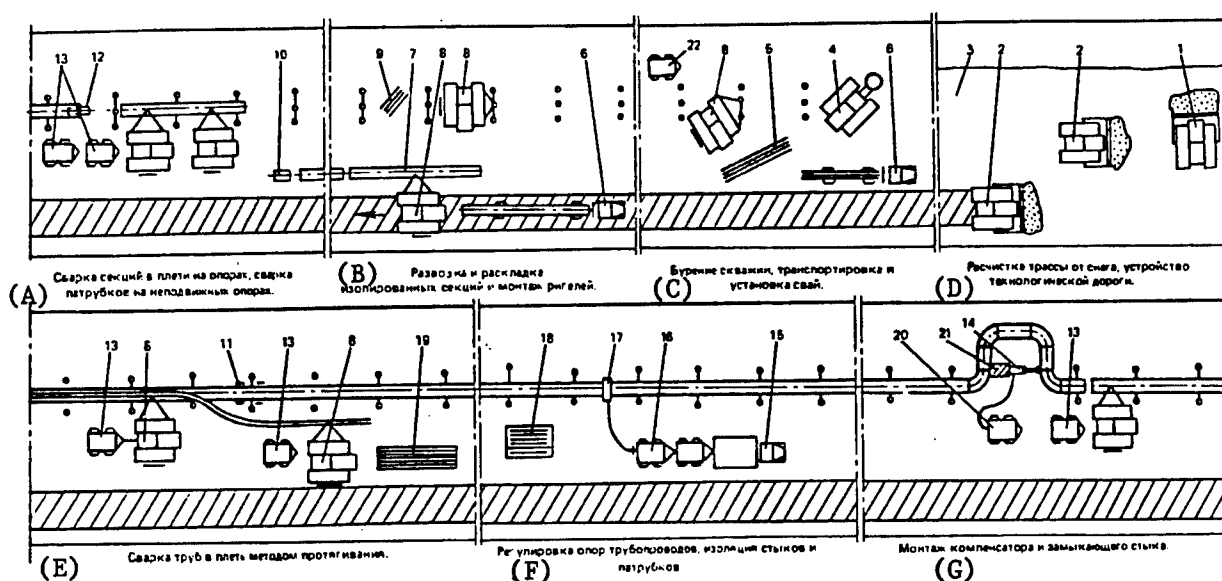
[Text] Among the currently known methods for testing pipelines for strength and seal tightness is the hydraulic method—the safest and most economically desirable. With hydraulic tests, the testing medium is given the required pressure, and the time for filling the line with the pressurizing liquid is reduced.

But despite these advantages, a number of problems are encountered during hydraulic tests in the Far North, the main one being icing up of the pipeline cavity. Therefore, tests of pipelines of small diameter and short length during the winter are conducted with liquids with low freezing temperatures—solutions of potassium chloride, methanol, glycol and others.

Underground and surface thermal-insulated pipelines 219-530 mm in diameter can be tested in preliminary fashion with heated water, but this method requires change of the traditional technology and the development of new methods for thermal calculations that consider the mobility of heat exchange during the initial period of the test.

"Recommendations and Measures for Conducting Hydraulic Tests of Trunk Gas Pipelines Being Tested at Below-Zero Ambient Temperatures" have been worked out by VNIIGaz [All-Union Scientific-Research Institute for Gas] jointly with VNIIPKtekhorgneftegazstroy.

In accordance with these recommendations, it was desirable to clean out pipeline cavities at the Urengoy gas-condensate field with the use of cleaning devices. Hydraulic tests of the pipeline arrays should be performed only in the summer; in the winter the arrays are tested pneumatically, or with gas from high-pressure wells.



Key:

1. Powerful bulldozer
 2. Bulldozer- planer
 3. The route road
 4. Drilling installation
 5. Piles
 6. Pipe carrier
 7. Insulated section
 8. Pipelayer
 9. Crossbars
 10. Connecting pipes
 11. Temporary support
 12. Internal centering mount
 13. Welding unit
 14. Stop insert
 15. Truck with tools
 16. Power plant
 17. Electrical tool for dressing the weld zone
 18. Thermal insulating material
 19. Insulated pipes
 20. Pumping station for hydraulic jack
 21. Hydraulic jack
- A. Welding of sections into lengths on supports, and welding of connecting pipes on fixed supports
- B. Delivery and laying out of insulated sections and mounting of crossbars
- C. Drilling of holes and transporting and installation of a pile
- D. Clearing the route of snow and arranging for the work road
- E. Welding pipe into strings by the pull-through method
- F. Adjustment of the pipeline supports and insulation of the joints and connecting pipes
- G. Erection of the compensator and closing joint

Cleaning of the cavity of gas-pipeline arrays of the Yamburg gas- condensate field should be carried out with metal scrubbers. Super-Pig (USA) model piston separators, which are made out of polyurethane with straight two-sided disks can also be used.

During the winter the gas-pipeline arrays should be tested pneumatically, in the summer hydraulically, without passage of cleaning devices. The pressure during hydraulic tests of gas-pipeline arrays is 14.0 MPa, inhibitor pipelines 1.75 MPa. In testing gas-pipeline arrays

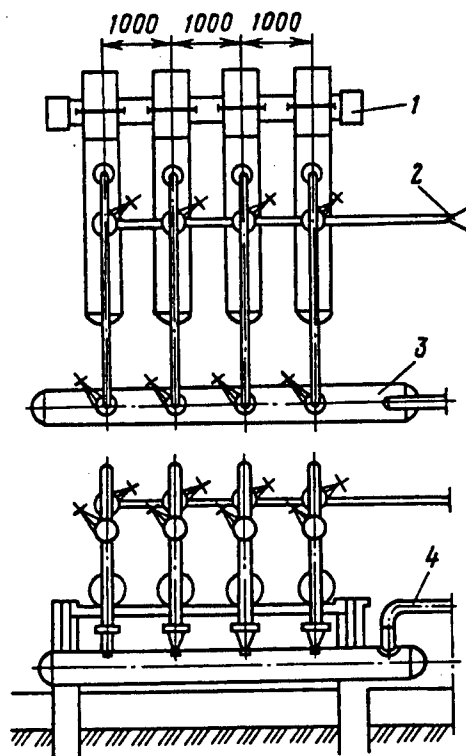
that have been laid on the surface, it must be considered that the safeguard zone of the pipeline being tested is increased 1.5-fold.

VNIIPKtekhorgneftegazstroy has developed a model PPR [work plan] for cleaning the cavity of and testing intrafield pipelines in the Urengoy and Yamburg fields, and various variants for replacing the gas with the use of the inhibitor line of the array being tested have been examined. An assembly has been developed for the repeat use of the medium tested in cases of inadequacy in the amount of water for the tests (see figure).

Before starting hydraulic tests, purging arrangements for removing the water after the tests should be installed in the lowest places for laying the pipeline being tested.

In choosing a water intake, the hydraulic parameters of the water source must be assessed first. Water is taken in from a specially excavated pit and is joined with the water source by a cofferdam.

In performing tests of arrays in the winter, an insulating layer with polyurethane-foam shells for the filling and pressurizing arrays and the draining pipes are specified, to protect the pipelines and the cut-off fixture from freezing. Cock assemblies, the purging arrangements, the valves, gate valves, taps and other pipe fixtures are insulated with mats made of dispersed-basalt fiber. The cut-off fixtures for the connections for the filling and pressurizing units should be manufactured in modular form and covered with a canopy that is heated inside by thermoelectric piles. After completion of the tests, the cut-off fixture of the lowering lines must be freed from the water. Special earthen settling basins, which should be backfilled after completion of the work, are dug for discharge of the pressurized water.



Off-the-Shelf Assembly for Repeat Use of the Product Key of Testing of Underground Gas-Pipeline Arrays

1. Support.
2. Pipeline for feeding water for the pressurizing unit
3. Header.
4. Pipeline for feed of water for the filling-up unit

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11409

LABOR

Overtime Work Activity Needs To Be Held Down
18280090 Moscow IZVESTIYA in Russian
6 Aug 88 p 1

[Article under the rubric "Statistics and Our Commentary" by Yu. Rytov: "Why Do We Work After Work?"; first paragraph is source introduction]

[Text] USSR Goskomstat [State Committee of the USSR Supreme Soviet on Statistics] has prepared a report on work time utilization and personnel turnover within the country's economy. Specifically, it is noted here that last year in industry and construction the losses of work time due to unauthorized absences from work, downtime and absences authorized by management were the equivalent of having 123,000 people absent from their jobs every day. During that same period overtime work in those same sectors reached an amount equivalent to the hiring of an extra 240,000 people every day.

I do not know how it is with you, respected readers, but recently I have hardly come across anyone who has free time at his disposal. Who now has a working day of the prescribed eight hours? Who now has two full days off and plans, as they call it in the West, his weekend (rest time from Friday to Monday).

Drop in at any ministry on a Saturday. Busy people are scurrying along the corridors, telephones are ringing in offices, on all floors there is the usual workday hustle and bustle. And what about enterprises? At the end of the month they work on Sundays. As for Saturdays, there is nothing to say: they are making up for time lost on weekdays.

Yes, above all, they are making up for lost time. Because the losses of work time are incredibly high. Last year only 93 percent of the maximum possible fund of work time was utilized. In construction, on the railways and in motor transport the figure was 95 percent. In agriculture it was 89 percent. In commerce and public catering it was 93 percent.

At the same time, it cannot be said that labor discipline is slipping in our country. In 1986 alone the losses of work time in industry and construction were reduced by one third. However, in 1987 there was slippage again—mainly due to the failure of enterprises and organizations to make preparations for winter. In industry, downtime increased an average of 21 percent per worker, and in construction it increased 44 percent. In general, due to absences (authorized and unauthorized) and downtime, 91,000 industrial workers, 32,000 construction workers and 29,000 railway and motor transport workers were not present at their jobs every day.

Unauthorized absences are understandable. This is, alas, our long-standing illness. Even now nearly one-quarter of the work time losses in industry are caused by unauthorized absences—the visual evidence of our excessive liberalism and tendency to look the other way.

Intra-system downtime is also understandable. Unfortunately, the national economy has not yet acquired that smooth operating rhythm, which would make it possible to keep people busy throughout the day in a steady (and planned) way. This caused the loss of 7.8 million man-days in industry last year and 3.2 million man-days in construction.

But the statistical report contains a surprising graph for authorized absences from work. According to this graph, 9.5 million man-days were lost in industry (and in a completely legitimate manner!), and 2.5 million man-days were lost in construction. Is this liberalism too? More likely it is neglect of our consumer services sphere, whose units seem to operate according to the convenience of the people employed in them. And each of us knows from personal experience that sometimes a domestic situation arises (for example, a person must wait at home for a tradesman or apply for documents during office hours) and a person asks to be excused from work for a quite respectable reason. Yes, bureaucratism costs us dearly. Here are estimates. In industry authorized absences amount to 38.9 percent of the total amount of work time losses. In construction the figure is 30.3 percent. In agriculture it is 44 percent. But it is the workers in consumer services, commerce and public catering who ask for more time off work: they account for more than 60 percent of the total losses.

Have we listed all the ways in which work time is lost? No, not all. What about illness? And caring for the sick? Every worker takes an average of 8.5 "absent" days for these reasons every year.

Finally, the statistical report contains the figures for one more item of work time loss, and that is personnel turnover. And turnover is showing an obvious tendency toward growth. In industry it amounted to 11.6 percent in 1986, and it was already 12 percent in 1987. In construction the figures were 16.6 and 18.9 percent respectively. On sovkhozes they were 10.6 and 12.4 percent. In commerce and catering they were 14.5 percent and 15.8 percent.

But let us return to the work time losses. Whatever the reason for them it is obviously necessary to make up for them somehow. And last year overtime work amounted to 48 million man-days in industry and 15 million man-days in construction. That is how we punish ourselves for our disorderliness, our lack of organization and our inability to arrange matters competently.

What conclusion can be drawn from this situation? Can we in principle sharply reduce work time losses, on the one hand, and, on the other hand, just as decisively reject overtime work? Or are downtime and overtime invariable attributes of our economy?

In principle we can and we must. Because it is equally harmful to spend time on the job without working, and to work overtime without an opportunity to rest and regain one's strength. And one cannot fail to see that the new economic mechanism is called on to play a large organizing role here. In fact, noticeable positive shifts have been demonstrated this year. Contract discipline has improved and the rate of growth in labor productivity has grown. And these are reliable signs of greater organization, a more business-like attitude and greater concern for the utilization of work time.

Unfortunately, overtime work has not yet been reduced. And—let us look the truth in the eye—it is hardly likely to be reduced in the near future. After all, we not only need to reach the plan targets, but we also need to pay off old debts, to make up for what was missed in the first two years of the five-year plan.

So for now we will have to make do without weekends.

8543

Gosplan Officials on Ways To Combat Second Economy Abuses

18280079a Moscow *PLANOVOYE KHOZYAYSTVO* in Russian No 6, Jun 88 pp 112-117

[PLANOVOYE KHOZYAYSTVO editorial staff questions USSR Gosplan officials on "shadow economy" abuses: "On Negative Developments in the Economy and Overcoming Them"; first paragraph is source introduction; last paragraph is source summation]

[Text] The editorial staff of the magazine *PLANOVOYE KHOZYAYSTVO* received a letter from A. Kudrashov, an engineer in Moscow. He writes: "Lately, the phrase 'shadow economy' is encountered frequently in periodicals. Judging by the content of the articles and notices which have been published, the phrase refers either to illegal activities entailing criminal liability (for example, taking bribes for the assignment of apartments, selling stolen gasoline or building materials, speculation in scarce goods, and so on), or to instances of negligence or bad management, cleverly exploited by all sorts of dishonest people with mercenary motives. One can surmise that such developments cause appreciable losses to the state and society. The question is, whether such negative developments are being analyzed on a national scale and whether economic type measures are being taken to eliminate them?" Believing this subject to be of interest to many readers, the editorial staff of the magazine turned to specialists for answers to a number of questions.

[Question] To what extent is the given problem being studied?

[Answer from T. Karyagina, doctor of economic sciences and sector head at the Scientific Research Institute for Economics (NIEhI) of USSR Gosplan] First of all, on the crux of the problem: we cannot but recognize that "shadow" economic developments are occurring in our country. Their significance is determined not only by their scale, but also by those economic consequences which have a negative influence in the social sphere. These developments testify to the presence of a number of violations of the system by which our economy functions.

Naturally, data on the extent of the "shadow" economy is not reflected directly in official statistical records. For this reason, we used materials from complete or selective budget inquiries and sociological surveys of the population, and also data from legal organs and other sources. In summary, the totality of shadow services is made up of a number of elements: secret earnings by individual workers at state enterprises in the nonindustrial sphere; the amount which the populace pays for services over and above the established rates; and payment for services which should be provided without charge (for example, surgical operations in medical institution hospitals, the services of attendants, nurses, masseurs and so on, and so forth). We also regard as part of the shadow services work which people have done but for which the service to the public does not meet the profile of their primary activities.

According to our calculations, on the whole, payment for such services totals about 14-16 billion rubles per year, 10-12 billion of which represents a clear loss to the national economy resulting from shortcomings in the economic system.

[Question] What direction must we take to perfect the economic system in order to eliminate this type of abnormal development?

[Answer from T. Karyagina] In our view here, the main thing is to be decisive in developing the economic initiative of the workers. A substantial broadening of services through cooperative and individual forms of labor activities will allow for legalization of many services which were formerly "shadow" production services and will lead to the improvements in the quality of service, owing to which all sorts of surplus payments and tributes flourished. The introduction of lease and family contracts in the state sector of the service sphere will help in turn to curtail the volume of concealed earnings.

We must also undertake to develop more decisively and more broadly additional fee services—for example, education in a second, or if a person wishes even a third specialty, at public expense without any limitations, and

creation of in-patient, fee clinics (economically accountable) and out-patient clinics for diagnosis and treatment with more comfortable accommodations and better food.

Of course, the issue of prices and rates for services is also very important. It is clear that there must be greater differentiation and flexibility in prices and rates depending on the quality of the services.

[Question] Illegal activities for which criminal liability is stipulated are no small part of the so called "shadow" economy. In what way do they manifest themselves?

[Answer from A. Yakovlev, doctor of law, professor and sector head at the State and Law Institute of the USSR Academy of Sciences] Theft of socialist property is somewhat more distinctive in the economic sphere. One could mention specifically inferior quality, non-standard or incomplete production output, account padding or other accounting distortions, private employer activity and commercial middlemen, speculation, defrauding buyers and customers, extortion, working in prohibited businesses, and a number of other crimes. Official misconduct (abuse of power or position, bribery, and so on), in cases where it is committed in connection with or apropos of the functioning of economic matters, is also placed in the economic crimes category.

[Question] What is the reason for the tenacity of economic crimes?

[Answer from A. Yakovlev] The bureaucratic structure, created for departmental and administrative management of the economy, stands in the way of building and consolidating an effective mechanism, capable of guaranteeing intensification of production. Criminal parasitism, a direct means of misappropriation of state property frequently using fictitious accounting and control, also stands in the way. Indeed, bureaucrats and rogues are two sides of the same coin. In slowing restructuring, the bureaucrat first of all preserves the access to criminal "tributes" and, secondly, prevents the swing toward highly effective socialist enterprise. Cardinal restructuring of matters in the economic sphere is directed precisely at liquidating this situation.

It should be noted that regulation of the prices of goods produced is a serious factor which should contribute to the struggle against criminal behavior. Inadequate growth in labor productivity, and the weakening of the real purchasing power of the ruble connected with it, lead to a disconnect between the real prices for a number of goods and services and their economic basis, and this in turn will lead to the collection of significant sums from consumers to the benefit of goods and services workers who have been drawn into criminal activity.

[Question] What do you see as the decisive factor in overcoming economic criminal activity and, also, the shadow economy as manifested in its present form?

[Answer from A. Yakovlev] The economic interests of every labor collective, cooperative, kolkhoz, sovkhoz, and industrial enterprise are evident in their ability to get adequate rewards, profits, and legal income from honest work and directly oppose social parasitism—embezzlement, industrial pilferage, theft and bribery. It is very important that wholesale trade in the means of production become a reality in industry on a large scale. We must develop commodity production more rapidly and practice trade by contract pricing more widely on kolkhozes, sovkhozes, and personal plots and in the cooperatives; then there simply will be no place left for the criminal profits of speculators and extortionists.

What are considered to be the most distinctive features of the shadow economy in the area of housing construction, allocation and payment, and what is being done to combat them?

[Answer from D. Khodzhaev, a deputy department chief with USSR Gosplan] Not infrequently, officials involved in the allocation of housing, the registration of citizens for better accommodations, and the allocation of sites for individual housing construction use their official positions for mercenary goals. This is not only a question of the direct, criminally punishable bribing of officials, but, more often, the resolution of problems by means of the "you help me and I'll help you" principle.

Extracting unearned income by subleasing state-owned spaces, collecting money illegally during housing exchanges, and the availability of a group of "brokers" are other forms of shadow economics. The severity of the housing problem is even greater because there is a housing shortage, and this is fertile ground for shadow economics and abuses. We need a substantial change in the basis for the allocation of housing to those who need it to improve the living conditions of our citizens. It is precisely toward this end that the fundamental reform of economic management and conversion of enterprises to economic accountability, self-financing and self-payment which are being carried out in this country are directed. As a result, according to preliminary calculations, as early as the 13th five-year plan, the amount of housing opened up at the expense of these economic incentive funds will more than double in comparison to the current five-year plan.

Centralized capital investments will be directed only at ensuring new housing construction for workers, primarily in regions of Siberia and the Far East, at moving people from dilapidated unsafe houses, and at providing for invalids, pensioners, and several other categories of citizens.

The resolutions of the CPSU Central Committee and the USSR Soviet of Ministries which were adopted this year are directed toward development of individual and cooperative housing construction and also envisage increasing housing by a factor of two roughly.

In this way, whereas in the last five-year plan about 70 percent of the new housing which was opened up was built at the expense of state centralized capital investment, in the 13th five-year plan housing's share will be reduced to about 30 percent. The greater part of these houses will not be assigned but will be earned, both by the labor collectives of enterprises, associations and kolkhozes and by the individual citizens taking part in individual and cooperative housing construction. In this same way, the possibility of negative developments associated with the assignment of housing will be reduced by a significant degree.

Giving all citizens who so desire the broad opportunity to invest their own savings freely in building or obtaining housing will be an important factor in the struggle against the shadow economy associated with housing construction.

Now, all baseless limitations on or prohibitions against individual and cooperative housing construction have been abolished, credit conditions have been eased significantly, and a new form of housing cooperation has been introduced—acquisition (purchase) of houses by the housing cooperatives of enterprises, organizations and local soviet ispolkoms.

Finally, there is yet another way to fight the shadow economy: work to perfect the method of allocating, using and paying for housing. By this I mean the strengthening of state and, especially, public control over the monitoring of social equity and legality in the allocation and utilization of housing; the resolution of these problems under widespread glasnost with the active participation of labor collectives and public organizations, the creation of favorable opportunities for assigning comfortably situated, smaller sized apartments to those people who have excess living space, and the regulation and facilitation of exchanges of housing accommodations on a state (economic accountability) or cooperative basis.

Beginning with the 13th five-year plan, all forms of deductions (in kind) for housing space from enterprises and organizations which are paying too much under the share-participation system to the means of housing construction will be abolished. The formulation of plans for new housing will be carried out according to stable standards of economic activity in a territory and the enterprises located there. The development of methods to determine these standards is a serious task facing USSR Gosplan.

We intend to establish a differentiated rate of payment for apartments based on quality, level of outfitting, finishing touches and level of comfort. For families living in separate apartments, we intend to convert to a system of payment based on overall living space, and we intend to create economic levers to encourage people to avoid excess living space so we can use it to accelerate resolution of the housing problem.

[Question] More frequently than anything, the shortage of many consumer goods and the unsatisfactory work of the USSR Mintorg and Tsentsosoyus enterprises are among the reasons for the existence of the shadow economy. How do you plan to eliminate shortcomings in the important social sphere?

[Answer from A. Neshitoy, a deputy department head at USSR Gosplan] The shortage of consumer goods is a consequence of our failure over a period of many years to maintain a sound economic ratio between growth in production of the aforementioned goods and the monetary income of the population and between the level of labor productivity and wages.

The new management system in industry, the agro-industrial complex and state trade and, first and foremost, the introduction of full economic accountability, self-financing, and self-management establish objective prerequisites both for overcoming negative developments in the industrial sphere and for circulating the accelerated accumulation of consumer goods production and for consolidation of monetary circulation.

For the first quarter of 1988, the rate of growth of commodity production and turnover was 7 percent and 5.6 percent respectively. At the same time, in light industry, the pressure of the gross output approach to formulating production plans and the orientation of production toward some abstract, average consumer without considering the specific interests of different consumer groups and their income still have not been ruled out. Contractual relations in trade were not commercial and business like, and even in April, 1988 an agreed upon campaign still had not been concluded.

The industrial branches of group "A", upon whom falls the predominate share of the cultural and personal and domestic type commodities manufactured in this country, are doing poorly at overcoming the attitude toward them that they are second rate.

To increase economic incentives for enterprises to produce goods which are not in their product mix, we intend to increase the material bonus fund, to leave a part of the turnover tax at the disposal of the enterprises, to pay premiums for exceeding the volume of state orders and the control figures for contracts with state trade, and also to create mutually advantageous conditions for establishment of a wage fund for production of consumer goods and basic products.

In 1987, the quantity of the most important types of food-stuffs put on the market was 5 percent greater than in 1986. This year on the whole, the bread and bread product needs of the population are being satisfied. The quantity of confectionery items for sale will rise by 4.6 percent, margarine by 6.3 percent, and fish products, meat and milk products (including purchases by consumer cooperatives at agreed upon contract prices) by 3 percent. The supply of fruit and vegetable products to

the population will be improved. On the whole, however, the situation with regard to supplying food-stuffs to the population still remains extremely tense. The managers of economic organs in a number of the country's rayons still have not overcome the inertia of outdated thinking and subservient approaches to filling the market with food-stuffs (and even other goods). Instead of developing initiative and efficiency, they continue to turn to the central organs for help. For example, this year the government, USSR Gosplan and USSR Mintorg received requests from the Azerbaijan SSR for supplementary deliveries of canned fruits and vegetables and confectionery items, and from the Kirgiz SSR for vegetable oil, canned fruits and vegetables, macaroni products and yeast. In the Uzbek, Kazakh, Georgian, Azerbaijan, Kirgiz, and Tajik SSRs, the Penza and Rostov oblasts of the RSFSR, and the Voroshilovgrad and Odessa oblasts of the Ukrainian SSR purchases of animal husbandry products declined and the supply of these items to the population worsened.

We are a long way from fully exploiting the potential of personal, subsidiary agriculture and individual and cooperative work. As of 1 January, 1988 there were 13,900 different types of cooperative in this country, employing a total of 156,000 people. They sold 350 million rubles worth of goods (or services), but of course this is an extremely inadequate volume. On average, each cooperative had 11 workers and produced 25,000 rubles worth of goods (or services).

[Question] But are there not more than a few serious shortcomings in the work of the trade organizations themselves?

[Answer from A. Neshitoy] This is true. The USSR Ministry of Trade, Tsentsosyuz, and their provincial organs, and the Councils of Ministers of the union republics are not showing the necessary aggressiveness and initiative; are not exerting their influence over industry to expand output of a varied assortment of high-quality goods; and have become accustomed to the shortcomings in the trade service and ineffectiveness in the organization of food resources. Consumer demands are not very well known in the trade organizations and goods are frequently in short supply when the resources necessary for their production are available. Thus, according to data from an inquiry by USSR Goskomstat, while there was a sufficient quantity of flour in stores in the cities of Novosibirsk, Cherkessk, and Miass, and in a number of populated points in the Kaliningradskaya, Bryanskaya, and Arkhagelskaya oblasts and in the Mordovskaya ASSR, there was no rye bread or rye-wheat flour for sale in the first quarter of 1988. In the countryside, demands for bakery goods, pastries, rolls, and sugar and dietetic products were not being satisfied.

The plan to sell local building materials and substandard materials (in "Do it yourself" stores) was fulfilled less than 50 percent in 1987. The situation is not improving this year while, as estimates show, commodity turnover from these sources could increase to 1 billion rubles per year.

While there is a severe shortage of a number of goods, especially meat and milk products, the trade system allows products to spoil. In 1987, during spot checks, 6 percent of the poultry, sausage products and cheese, about 4 percent of the butter and meat products, 12.6 percent of the potatoes, and 7.9 percent of the vegetables on the market were condemned.

The USSR Ministry of Trade and its provincial organs take a passive position with regard to the development of plant trade by the industrial branch ministries and also commission trading in industrial goods. By the beginning of 1988, the country had 791 plant stores, making up less than 1 percent of the total number of state stores. These stores sold 3 billion rubles worth of goods (1.2 percent of the commodity turnover of state trade stores).

In 1987, there was practically no increase in the turnover of commission trade in non-food products (excluding passenger cars). All growth occurred only as a result of commission sales of passenger cars, which had more than a two-thirds share of the turnover. The vast reserves from expanding this type of trade, in essence, are not being exploited.

[Question] Even during times when building materials were still not available on the open market on a large scale, one could watch various buildings spring up quite suddenly outside town. Materials were delivered by various methods, often illegal ones. Today, how is the public supplied with building materials for erecting houses and garden sheds, or for repairing them and so on?

[Answer from M. Aleksandrova, senior expert at USSR Gosplan] First of all, in 1986 there was a sharp turnaround in organizing the sale of timber and building materials to the public. Marketable stocks rose and it was determined that volumes would satisfy public demand in 1987 and 1988. True, demand for several items was not satisfied fully (wood-fiber and particle board panels and baths), but significant growth in their marketable stocks in comparison with 1985 was forecast.

In the first quarter of 1988, the quantity of timber and building materials put on the market was greater by a factor of 1.3 than in the first quarter of last year.

Some buyers experience difficulties both in purchasing needed materials and in getting them delivered, since the trade and transport functions are not connected (these are different "services" and the trade system does not have sufficient means of transportation at its disposal). There are also many complications in obtaining such materials as bricks, gravel, sand, crushed rock and other materials which are distributed in the outlying areas.

The material and technical base for trade in timber and building materials is in a state of neglect, as usual, in a number of republics. The majority of the timber trade base, and the stores which they do have, do not have

sufficient warehouse space or sheds for receipt, storage or distribution of timber and building materials. Store space provided to the state trade system on 1 December, 1987 was 53 percent of the norm.

Industrial enterprises are granted the right to sell materials and products which they have to the public for building garden plots, garages, and other structures, with payment made through the enterprise's cash office. According to data from USSR Goskomstat, the sale to the public of commercial production by-products, timber, and building materials totaled 202 million rubles in 1987. Besides this, 200 million rubles worth of commercial production by-products were sold through the retail network of the state and cooperatives trade system. By the end of the five-year plan, the amount of commercial by-products sold to the public is expected to double.

Measures have been taken to ensure immediate delivery of timber and building materials to the market, improvement of their quality and variety, organization of delivery to the public, and the rendering of other services. Materials will be put on the market according to seasonal public demand—15 percent of yearly stocks in each of the first and fourth quarters; 35 percent in each of the second and third quarters.

[Question] We frequently hear about abuses connected with "over pumping" of state gasoline in the tanks of passenger cars. How can we eliminate this negative practice?

[Answer from N. Simonenko, USSR Gosplan subdepartment chief] Refueling of automobiles, motorcycles, motor-scooters, motorboats, and other equipment belonging to individual drivers is another shadow-economy problem. There are several ways to resolve it.

The first way is to increase the marketable stocks of gasoline in conjunction with the growth in the number of vehicles. To do this, we must find additional gasoline resources. Work is under way to convert freight trucking to diesel. Whereas in 1975, freight vehicles with diesel engines hauled only about 24 percent of the freight, by 1990 this number will grow to 60-62 percent. In recent years, we have worked intensively to convert motor vehicles to a gas-type fuel. All this will allow us to increase noticeably the marketable stocks of gasoline. In the first quarter of 1988, we sold 30 percent more gasoline for motor vehicles than in the same period last year.

Work in resource conservation is another way to solve the problem. From 1974 through 1987, USSR Gosplan approved the yearly plan norms for motorvehicle gasoline expenditures by primary consumers. Over this period, 1 million tons of fuel was saved by reducing the norms each year throughout the country. Often, however, the fuel saved by reducing the norms was "eaten up" by inflated reporting of ton-kilometers and the gasoline was squandered as usual.

Beginning in 1988 with the introduction of the state enterprise law, the system of approving norms in the yearly plans was changed. At the same time far from all of the enterprises made the transition to the new management methods, so neither prices nor rates were brought into line with the demands of the economy. In this way, the old methods of influencing an enterprise to economize were abolished but the new methods still had not been switched on in full force. This does not help us to eliminate gasoline theft. For this reason it is important right now, as quickly as possible, to coordinate progressive norms for the expenditure of material and fuel energy resources, prices, rates, and economic standards so that each liter of gasoline goes for state needs and is not "spent on the left".

[Question] Does not the level of work organization in the motor transport enterprises hinder measures to regulate gasoline usage?

[Answer from V. Saraykin, USSR Gosplan subdepartment head] Prior to the transition of public motor transport enterprises to the new management methods, the primary planning indices were the ton and ton-kilometer, by which the activities of both the transport economy and the Ministry of Transportation in general were evaluated. Depending upon how they fulfilled the plan, a system for stimulating the material incentives of engineering and technical workers in the transport enterprises was drawn up.

Enterprises which have made the transition to full economic accountability and self-financing develop and approve plans by volume of freight carried (in tons) independently. Their performance is evaluated on how they fulfill their contracts.

The approved economic standards which, in part, determine the size of the material incentive fund from profit have become the main financial and economic activity of the transport enterprises. This stimulates a reduction in costs, including costs for fuel, the expenditures for which are 16 percent of the overall production cost pattern and more than 45 percent in material costs.

Introduction of the "tonnage per hour payment" indicator provides an opportunity to establish a standard plan for the driver, and to employ an periodic bonus system of payment for his work and to ensure a more accurate accounting of actual transport work completed.

[Question] The press often expresses concern about the state of affairs in the sphere of fee services provided to the public because of the slow improvement in the material and technical base and the disproportion between the demand for services and what is offered. It is precisely in this sphere that the manifestations of the shadow economy are clearly visible. What specifically is being undertaken in the area?

[Answer from V. Aleshin, USSR Gosplan subdepartment head] We have worked out a system of economic and organizational measures directed at broadening the scope and improving the quality of personal services. As an experiment, a number of enterprises from personal services ministries and administrations were converted to working under a system of economic independence. Although there was no sharp improvement in their work in the first two years, the drop in the growth rate of the volume of services stopped, services for which the public paid began to grow quickly, the enterprises' profits rose, and labor productivity rose. In 1987, in the union republic personal services ministries, the volume of services increased 7.3 percent over 1986. In the first quarter of 1988, it grew by 7 percent against the level in the first quarter of last year. The public demand for personal services, however, still is not being adequately satisfied. Development of such services as repair of shoes, clothing, radioelectronic devices, everyday machines and instruments, dry-cleaning and laundry continues to lag.

In recent years, public demand for services to repair and build dwellings, provide better finishing touches to apartments, layout garden plots, and build garages and parking areas for cars. Poor quality and the long period required for completion of repair and building work forces the public to turn for help to private individuals, whom they pay for these services, according to rough estimates, more than one billion rubles per year.

At the present time, the material and technical base of the personal services building and repair organizations is being strengthened and their supply of resources is being improved. Contract organizations of the building ministries, the construction and assembly and construction and repair organizations of other ministries, and also all ministries and departments having a departmental housing fund are getting accustomed to completing public orders. These measures permit us to specify a yearly increase of more than 30 percent in repair and construction services at the public expense.

[Question] On the whole, the picture is not a happy one, but what do you see as the basic, key factors for decisively improving the situation which has arisen?

[Answer from V. Aleshin] In the first place, the widespread implementation of new forms of labor organization and incentive which have been proven in practice. For example, conversion of tailor shops, personal service shops, and other personal services subunits to a form of contract work (collective and individual economic accountability contracts), under which the amount of payment is fixed, subject to a compulsory payment to the enterprise, with the remaining amount being divided among the workers depending on their part of the work. This will increase the economic responsibility of the

labor collective for the final results of the work, prompt both more complete satisfaction of the public's personal services demands and also improvement in the quality of cultural services.

We know that there are many criticisms of the quality of personal services. In 1987 alone, there were 136,000 complaints and protests. Of that number, 45 percent were for exceeding the time allotted to complete order, 31 percent were for poor quality of service, and 9 percent for failure to accept orders. Implementation of contract forms of labor organization and incentive in the personal services enterprises will allow us not only to increase the volume of personal services to the maximum, but also to raise the quality of cultural services as well.

We are forming cooperatives to improve services to the public, to win the citizens' widespread support for services, and to develop their initiative under the personal services enterprises. Their number is growing monthly, and totaled 5,300 at the beginning of this year. While the volume of their earnings totaled 6.1 million rubles in the first six months of this year, in the second half of the year it already had grown to 86.5 million rubles. The effectiveness of the cooperative form of labor organization and payment is obvious, however, the geographical distribution of cooperatives is extremely uneven.

It is clear from these specialists' answers that the elimination of negative developments, some of which have been designated the "shadow economy", is a complex problem. Economic and planning organs, associations, enterprises, soviets of peoples' deputies, legal organs, and scientific organizations must take an active part in solving it.

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Finance Minister Interviewed on Co-op Tax
18280089 Moscow OGONEK in Russian No 29,
16-23 Jul 88 pp 4-5

[Interview with Boris Ivanovich Gostev, USSR minister of finance, by Alla Bossart, in Moscow: "The Iron Curtain of the Tax"]

[Text] Extensive development of the cooperative movement was named in the report of M.S. Gorbachev, general secretary of the CPSU Central Committee, at the 19th All-Union Party Conference as one of the main directions for the radical economic reform. But there are still quite a few obstacles encountered on the road of this socioeconomic initiative.

The Ukase of the Presidium of the USSR Supreme Soviet on Progressive Taxation of Cooperative Members was signed 14 March 1988. I will recall the gist of it.

Cooperative members pay a 13-percent income tax along with other categories of the population so long as their total income does not exceed 500 rubles. Beyond 500 rubles the tax rate is 30 percent, plus 50 percent over 700 rubles, plus 70 percent on income beyond 1,000, and all of 90 percent on every ruble over and above 1,500.

The USSR Minyust, committees of the Supreme Soviet, and agencies joined with Minfin in preparing that document. But the initiative of progressive taxation came from the USSR Ministry of Finance, and Minfin specialists also did most of the drafting. That is why we called upon Boris Ivanovich Gostev, USSR finance minister, for an interview.

The minister does not take days off, and so I entered the office of this high official at the appointed time on a Saturday.

Why Is a Progressive Tax Necessary?

Correspondent: Boris Ivanovich, please explain why a progressive tax is necessary.

Minister: This amounts to confiscation of certain superprofits. We have categories of people who receive too high an income. And in a socialist society high differentiation cannot be allowed. The disproportionate earnings of cooperators arouses legitimate resentment on the part of the workers, who work a hard 10-hour day and earn 200 rubles a month. Economics, after all, is a complicated business. Our average wage—205 rubles—corresponds to the level of labor productivity that has been achieved.

Correspondent: During restructuring those responsible for the distortion of our economy have been found. Even now we cannot take our lag as a fatal inevitability. It is, of course, easier to curtail the cooperator than to compel the state sector to change more rapidly and pay the worker a decent wage.

Minister: For some reason, everyone forgets that cooperatives have been placed in preferential conditions. They pay a tax to the state of 2 percent. Just two! Practically nothing. But the tax on the profit of the state enterprise represents as much as 60 percent of the budget. Just look—I have 1 ruble in my pocket. You could write an article about a minister who is poor. But here in the other pocket I have 100 rubles. So, that means that what I have is not 1 ruble, but 101 rubles. That is how it is in the cooperative. We take 30 or 50 or 90 percent from the personal earnings of the cooperator. But what he invests to develop the base of his production: raw materials, machines, and building space—is almost entirely left to the enterprise. Let him invest funds to develop the cooperative, rather than reap the gains.

Correspondent: It hardly seems likely that the cooperator will kill the goose that lays him golden eggs. One need not be an economist to understand which is more advantageous: to put the money into circulation, to develop production and then to obtain twice as much, or to be greedy and spoil the source of income.

Minister: Every worker in the Plant imeni Likhachev gives the state 300 rubles a month. Each one is creating a product for himself and a product for society. But the cooperator produces a product only for himself. I will work 12 hours a day with no days off so that people live better. But we cannot exist without the surplus product: the pensioners have to be supported, the armed forces, the police.... But the cooperator is not giving up the surplus product. The seamstress in a shirt factory gets 2 rubles. The rest goes to the state and to meet the needs of the enterprise. The cooperator was selling that same shirt for 40 rubles, and all 40 went into wages. He was not giving anything to society.

Correspondent: Except the shirt.... Or the computer. Or apartment repair. And he did all of this 10 times more competently and rapidly than the state.

Minister: This is in fact what distinguishes our system from capitalism, that many of man's needs in the realm of social welfare are satisfied without payment. It is an immense achievement of socialism that everyone can go to school. But where does the money come from? If the Plant imeni Likhachev paid the state 2 percent of its profit and appointed me to manage that "ZIL cooperative"—I would set wages at 1,000 rubles a month for everyone the very next day. And the economy would be ruined. That is why the state must tax high income with a high tax. To be sure, voices are already being raised: let us introduce paid schooling, paid medical service....

Correspondent: Yes, let us do that! It will cost less than the legions of illiterate specialists and the help that is lost in polyclinics.

Minister: Then people will not be equal. But now they are all equal: the cooperator who does not take part in the state budget, enjoys all the benefits together with everyone else: free education, free medicine, the armed forces protect him, and he receives a full pension.

[Correspondent] Aside from the actual replenishment of the treasury, there are other types of benefits as well. The cooperator, for example, is bringing the market back to life. And the tax collected from him, however progressive the rate, will hardly be able to have an essential impact on the state budget. Nor is the second reason mentioned by the minister for introducing the scale altogether sound: the incentive for development of cooperatives. No one is motivated to develop the cooperative more than the cooperator, he does not need an incentive.

The only motive for progressive taxation is still exactly what the minister began with: to equalize income in society. This motive is not as much economic as it is social.

What Is "Superincome"?

Correspondent: Boris Ivanovich, what is deemed to be superincome?

Minister: We have decided that it should be 2.5 times the average wage—that is setting it high. In our country less than 1 percent of the population receives more than 500 rubles. An underground miner, a steelworker, a member of the academy....

Correspondent: A minister?

Minister: Yes, and also a minister.

Correspondent: But the progressive rate does not extend to you?

Minister: No. The income of state employees and workers is stable. It is a specific feature of only certain types of activity that the growth of income is allowed. And that income is subject to the progressive tax: writers, composers, priests.... Cooperators included.

[Correspondent] INFORMATION: Of all the groups of "progressive" taxpayers the rate of 90 percent applies only to authors' heirs aside from cooperators. Even songwriters, who are paid for every performance, pay less tax. It would seem that the definition "superincome" belongs more in the domain of morality than economics.

Correspondent: We are familiar with the expression "stimulative role of the tax." What does it consist of?

Minister: A man from whom tax is collected must work more intensively to attain the same level of earnings to which he aspires.

Correspondent: But in our case he will actually try to earn less. Less than 500 rubles.

Minister: Once again you are constantly suffering on behalf of the poor cooperator! Let him earn it! Out of 1,000, he receives 700 rubles. In fact, 730. That is more than 500.

Correspondent: The arithmetic, of course, is simple. But he gets 800 from 1,500. In fact, 880. But will anyone want to work harder to get what remains out of that 1,500?

Minister: You might better take the fact that the steelworker gets 400 rubles. Why are you not sorry for the steelworker?

Correspondent: As a consumer I am interested in the fate of the movement, which is making up the shortage.

Minister: A certain shortage.

Correspondent: Which the state is unable to make up.

Minister: But why? It has to make it up.

Correspondent: Yes, it does. But it is not doing it.

Minister: These are temporary difficulties. It will always be like that.

Correspondent: There are too many of them, and we have been experiencing temporary difficulties for too long, don't you think?

Minister: You think that the cooperative will help to solve general problems? Today, the concern about the state is the first concern. Especially in our Soviet society. The concern about strengthening the Russian state. That must be the point of departure in everything. It is fashionable now to write: let us be concerned about our personal interests. But every bourgeois state is first concerned about the state. If the state is strong, it will be good for the individual.

Correspondent: But not the other way around? For many years we have been concerned about the state and we have not been concerned about the individual. As a result we have destroyed everything possible: the economy, education, culture....

Minister: I would not say so. If our wages are low, that does not mean that we are not concerned about the individual.

Correspondent: You have heard the joke: "My pay is good, but it is small"? Although we are "making missiles," when you cannot live on your income, that is not concern about the state, it disgraces it.

Minister: We need to guarantee the country's defensive capability. Which means that we have to choose: to live well and be vulnerable—or to live worse, but to guarantee defense. Any worker will tell you: I am for peace. But a peaceful life costs immense amounts of money.

Correspondent: But is it absolutely impossible to live peacefully and well? The Americans spend more than we do on defense.

Minister: Their national income is 2.5 times greater than ours. Incidentally, do you know what kind of taxes they have?

[Correspondent] I am sorry: I did not know. Later, after the interview with the minister, I read in LITERATURNAYA GAZETA that during the Reagan administration the highest tax in the United States fell from 70 to 28 percent.

The "Long" Ruble

Correspondent: Boris Ivanovich, what is your personal attitude toward cooperatives?

Minister: I am not against cooperatives. But you have to approach everything with your head. Do not forget that people have gone there mainly in pursuit of money. In a deputy group a woman, chairman of a rural soviet in the interior, 75 km from the rayon center, recently expressed herself quite sensibly. Why, she said, have you created such conditions for cooperators? I leave my high-heeled shoes with relatives because at home there is no asphalt, let us hope it will not be that way the rest of our lives. And you are letting people buy meat in the store and sell it at a tenfold higher price....

Correspondent: What is sensible about that? First of all, the cooperators are not to blame that there are no roads in the interior. They are precisely the ones who are building these roads. And second, as far as I know, the cooperators are buying meat and other produce on the market.

Minister: What? Have you found a single cooperator who was buying on the market? My wife has seen with her own eyes a clerk trim meat for a cooperator in a store. And I declare officially that this is being done by practically all of them: they buy meat at just a bit above 2 rubles (which incidentally costs the states 4 rubles) and sell it for 25 in the form of shish kebab. They sell Borzhomi mineral water for a ruble. Pepsi Cola at 2 rubles 60 kopecks per bottle. They do not even make the Pepsi Cola!

Correspondent: You talk about speculators. But when there is a shortage created by the state, even speculation is transformed from a crime to a service. But still that is not what we call cooperation. Why are you citing examples from the criminal area? One gets the impression that the legislators are thinking only about the swindlers, and the honest lads are suffering because of them.

Minister: Where have you seen any honest lads with earnings of 1,500 rubles?! Why are you not protecting the worker who gets 200?

Correspondent: Since you are insistent in setting the cooperator up against the worker, let me put the question this way? Is the worker who works hard for 10 hours always producing a commodity? But what the cooperator makes really is a commodity, a product. Production for the sake of production is impossible in the cooperative.

Minister: If he takes a bottle of Borzhomi water and sells it—is that a product?

Correspondent: That's not all. He takes a fabric and sews fashionable trousers. He takes a brick and builds a house without defects. He takes a bulldozer and clears a road. He raises a sheep and grills shish kebab. In my opinion, that is what we are talking about when we use the term "cooperation." Cooperators produce a commodity which is not only in demand, it patches up the holes in the state sector and removes the "temporary difficulties."...

Minister: All of this is artificially inflated hullabaloo. Those poor people! You have taken 3 rubles too much from them. Three rubles which were dishonestly earned....

Correspondent: But why dishonestly? Why do you always assume that these rubles have been dishonestly earned?

Minister: Because you do not reap big gains in honest work. The cooperatives related to production work hard and do not yield the kind of income from which a 90-percent tax could be collected. But why are we getting into theory with you! Let us go now to any plant and ask the worker: Are we taxing the cooperator properly or not?

[Correspondent] Twenty minutes later we were at ZIL. The minister cautioned me: "Take into account that the workers will be severe." He turned out to be right.

"Before in the newspapers there were always articles about speculation, but now you do not see them at all. Don't you think, Boris Ivanovich, that this is because all the speculators have gone into the cooperatives?" the people asked in the auto assembly plant.

"To a great extent, of course, that is one of the reasons," Gostev agreed.

And that is where it broke off. Swindlers! They are picking the pockets of the workers! If they are so smart, then let them come here and set up production! We will see how they fare here! In short, "cooperation is legalized speculation"—that is exactly how one mechanic put it.

"Make the parasites pay through the nose and then some!"

The minister looked at me expressively and as if to say:

"And here the journalists are suffering because then the cooperatives close down."

"That is fine! There is no reason to propagate speculators."

"But the fewer of them there are, the more they will jack up prices, without any competition....," I objected this time.

"Exactly," they unexpectedly agreed with me. "People like that will always be able to feather their nest. Even, excuse the expression, in the toilets!"

No objection can be made to expressions. I anticipated stronger ones. Unlike the finance minister, I felt that concern about one's pocketbook is one of the most natural concerns a man has. And the antipathy of the ZIL workers, who as a matter of fact are unable to earn more than 300 rubles on their assembly line no matter what they do, their antipathy toward the "rich" cooperators is also natural. If a young man happens to give half his pay for fashionable "varenki," then, you know, cooperation will not be performing a wholesome role.

"A stratum of rich people is forming in society, this causes social stratification and will have irreversible consequences. I wouldn't guarantee that the workers will not go to the streets...."

Class feeling on the part of proletarians?

"This year 113 people have left my shop," said M.I. Mashin, chief of the foundry, spreading a document in front of me, "for the cooperatives."

Gostev threw up his hands:

"Every family has its black sheep!"

"Why?" Mashin, a fair-minded man, frowned. "These were the most skilled workers." And he repeated with emphasis: "The most skilled! And now they are earning 900 or 1,000 apiece. They are worth that money. But we could not give it to them. Not long ago one came and requested a bulldozer. He is now in the cooperative 'Master' for repairing apartments. They have contracted to build a road."

Not in that same "interior"?

Is this man a speculator or a skilled craftsman? A rich peasant who exploits the labor of others or a farmer?

As is well-known, in the postwar years our country was separated from Europe and America by an Iron Curtain so that the victors exhausted by war and impoverished would not be tormented by the pictures of normal life. This was easier to do and under those conditions it might have been more reliable than trying to raise our own prosperity. You cannot thrust cooperation behind an iron curtain. For that reason, it is, of course, easier to smother it at once, before it gains strength. Easier, say, than raising the wages of workers at ZIL.

The Cause Will Grow!

Correspondent: Boris Ivanovich, why was the Ukase on Progressive Taxation passed before discussion ended on the draft of the Law on Cooperation, which was supposed to be nationwide discussion?

Minister: It was time for the ukase. We cannot allow hullabaloo to spread.

Correspondent: You do not see this as a breach of democracy?

Minister: You cannot turn democracy into a bugbear. After all, we just recently have put the ukase into effect, why has so much noise been raised?

Correspondent: Because the cooperatives quickly open, and they will also quickly close.

Minister: Honest cooperatives are not closing down. We just need to support the cooperative movement, to support it and develop it in every way.

[Correspondent] The interview with the minister took place in May, 2 days before the session of the USSR Supreme Soviet opened. And the session furnished a surprise. In spite of all expectations, in a joint session of the houses on the 2d day of proceedings the Law on Cooperation was not passed.

Many issues were discussed, but most fiercely was the provision on the rates of the progressive tax. B.I. Gostev had to speak and as he warded off the shelling from the back benches he assured the deputies that the version of the Ukase on Taxation would be amended.

On 13 July, when this issue of OGONEK had been prepared for the press, there was a meeting of the Presidium of the USSR Council of Ministers in which leading scientists and specialists, the heads of central economic agencies and councils of ministers of union republics and cooperative chairmen took part. The session was also attended by a correspondent of OGONEK. New proposals were discussed concerning the principles of taxation of cooperatives and individuals working in them. Evoked by the harsh discussions in the public and among cooperators, these proposals substantially normalize this tax treatment. They would fix firm rates of the income tax on the cooperative so as to take into account its line of business: the rates would go up from agricultural cooperatives and the sphere of social services to the maximum rate for cooperatives in retail trade, the food service industry, and health care. The proposals call for appreciably reducing the tax on the personal income of cooperators.

Ispolkoms of rayon and city soviets of people's deputies are endowed with the right to establish benefits by lowering the rates of the tax so as to take into account the

social significance of the product of the cooperative (commodities and services), the scarcity of particular consumer goods, and the level of prices and service charges used.

All of these measures afford the basis for optimism and instill hope that the cooperative cause will develop and will help to solve many of the real problems of our economy.

07045

Rutgayzer Urges Further Development of Cooperatives

18280077 Moscow *SOVETSKAYA KULTURA* in Russian 9 Jul 88 p 6

[Interview with V. Rutgayzer, by I. Medovoy: "What Do the Bureaucrats Fear?"]

[Text] Shortages of goods and services at stores and service enterprises, day after day a strengthening network in a "shadow" economy with a 14-16 billion ruble annual turnover—this was the picture in the country in the middle of the 1980's. How can the service sphere be cured of this prolonged illness? In our society great hopes are placed upon new forms of labor activity—individual and cooperative—to spur public initiative and help meet demand for goods and services.

An SK correspondent interviews Professor V. Rutgayzer, doctor of economic sciences and deputy director of the All-Union Center for the Study of Public Opinion on Social-Economic Questions about changes taking place in this sphere in the past year.

[Answer] Valeriy Maksovich, a year ago on the pages of our newspaper you looked at the future optimistically. According to your prognosis, by today at least 2.5 million people should be trying out individual labor activities and cooperatives. Alas, the number of neophytes has turned out to be not so large. What do you think is the reason for this?

[Answer] Undoubtedly, there is more activity in this sphere. However, the outburst which I expected did not occur. Society was not ready to integrate individual-labor activity and cooperatives. Cooperative members and individuals are regarded as second class people; they are treated with suspicion and mistrust. This was discussed at a recent session of the USSR Supreme Soviet and the 19th All-Union Party Conference.

An absurd situation has been created by the Ministry of Finances' 1 April ruling on taxes. There were fears about cooperative members' large incomes. However, they are natural at first. There are not enough people working in this sphere, risks are great, it lacks the necessary social protection. Growth will overcome this sickness. The first shoots should not be wiped out by draconian taxes.

A year ago it was foreseen there would be tax credits for cooperative members. How things can change in 11 months. People should be confident that tomorrow some sort of sage will not appear, saying that their incomes are too large and that prices must be controlled. In brief, it is necessary to have **long term honesty** in relations with cooperative members.

The USSR Ministry of Finances has now worked out a new proposal for taxing cooperative members' incomes, which was justifiably criticized at the 19th Party Conference. Delegate V. Mesyats said, "If it is approved we will cut the roots out from under the cooperative movement."

It seems to me that Minfin [USSR Ministry of Finances] must approach this question from the other end: Create a model of cooperative activity showing the reaction to various tax rates. If the financiers are really interested in taking in to the budget the maximum possible income from cooperative members they should exert every effort to increase this income with the help of tax rates.

It should be said that many are obsessed with the idea of preventing the development of individual labor activity and cooperatives. When, at a council chaired by A. Aganbegyan, I suggested turning over a large part of the service sphere to cooperatives, I and my colleagues were pounced upon by representatives of the RSFSR Ministry of Domestic Services. A deputy minister coquetishly reported that his income was less than that of cooperative members. He was asked why he did not join a cooperative.

He replied, "We value our honor!"

This shows the ministry's approach to cooperative members and individuals.

State enterprises are bound hand and foot by a huge number of instructions, restrictions and orders. If they were converted to a cooperative basis or leased out, their labor collectives could pay the state more. Also, output will increase.

[Question] It is truly hard to believe that managers, who are not stupid, do not understand such obvious things. They nevertheless resist new things. Why?

[Answer] Because under the new conditions it obviously becomes unnecessary to have the "upper" link—huge and overblown as can be. If one follows the logic of the times, in its present form it should be liquidated.

[Question] Domestic services in Moscow are a vivid example of an overblown management apparatus. I heard that in Estonia with a single stroke they eliminated the Ministry of Personal Services and Communal Operations.

[Answer] This required that the managers themselves show civil courage and frankly admit the senselessness of their activities. This happened in Estonia. In Moscow, however, they attempt to justify their own existence instead of searching for new relationships with enterprises on cost accounting principles. I suggest that this is an immoral position. There will never be any development in our service sphere as long as there is an apparatus interested only in its own existence.

For example, workers at the Elegant, a Moscow sewing firm which was earning a profit, stated they wanted full independence and conversion to the second contractual form. Its essence is that after making a previously determined payment to the state, the enterprise uses the residual for its own development and to pay labor. The collective itself decides for what and how much to pay. However, instead of this the firm was forcibly merged with a money losing enterprise and deprived of its economic management independence. Why? So that the profit earned by the collective could be shared with those who had nothing to do with it. Completely senseless!

A mature centralization of production strengthens the need for managers. This is how they protect their vital environment. Another favorite of theirs is restrictions on the development of cost accounting. Then an enterprise cannot make some of the economic management decisions, but must send them upwards.

Recently I was at a Moscow barber shop. Thirty people work there and want to convert to the second contractual form. However, the trust to which they are subordinate is decisively opposed. If they were to convert then the trust would lose a tool for handling its lower link. Why is this necessary. It was suggested to the barbers that they were not ready for work under the new conditions. They could not distribute earnings, justly paying everyone for his labor and be concerned about the enterprise's future.

[Question] For a long time, since the 1930's, we have held that the state should guarantee workers' earnings independently of results. The wage rate system is the method for this guarantee. However, this system separates earnings from labor inputs. The mail to SOVETSKAYA KULTURA is full of letters showing the injustice of this approach. N. Adamovich, a mail carrier, writes from Moscow that in two years the mail volume at her post office has increased 2.5 fold and that her mail bag is also 2.5 times heavier, but earnings remain the same.

[Answer] This is in many ways a typical situation. Can we continue to tolerate it? I am decisively against it. Wage rates and salaries—these are all products of cunning and should be completely abolished. I am in solidarity with our well known ophthalmologist Professor S. Fedorov, who stressed at the 19th Party Conference that the wage rate system negated the principle of just distribution according to labor. It is advisable for enterprises in the service sphere to have a system in which each worker is allocated a share of total work results.

[Question] What do you think are the main development paths for the service sphere?

[Answer] It seems to me that the leasing of enterprises is the general direction for developing the entire state economy. Experience in Estonia shows that if people are given the possibility of leasing, output immediately increases one and a half fold. This is a colossal reserve.

V. Zharov, deputy minister of the Moscow Ispolkom suggested that I adapt the second contractual form to the public food service system. We called the form a lease contract [arendniy podryad]. It was developed at a department in the Scientific Research Economic Institute at USSR Gosplan, where I was working at the time. Since last July several food service enterprises in Moscow have converted to leases. Nothing has changed except that people's initiative has increased. Knowing that their earnings are in their own hands, they have succeeded in attaining unprecedented results. The Sever Cafe on Gorkiy Street is one such enterprise. When the earnings were distributed for the first time, Valentin Vasilevich Korobov was taken aback. The payments for labor seemed very high...

[Question] The cafe workers started earning more, but how did the customers gain?

[Answer] Because prices remained the same, but the speed and quality of service improved markedly. Also, cafe workers learned to do new things. For example, ice cream torts are in great demand. They started selling them on the street. A flower stand was leased to cooperative members. The main thing is that there was a changed attitude towards work, people took an interest in it. A familiar problem came to light. The huge number of managers (each of Moscow's 33 rayons has a trust for cafeterias and restaurants) are simply not needed with this way of organizing labor. They only collect part of the income which food service workers earn by the sweat of their brows.

IZVESTIYA has written about this system. I received an unexpected call from M. Bocharov, director of the Butovskiy Construction Materials Combine, who asked if our system could be adapted to their sector. At his request our workers developed a new model for the operation of this combine. This is not simply a lease contract, but the lease of an entire enterprise.

[Question] Well, was it introduced?

[Answer] This required overcoming colossal resistance from the main administration. They attempted to include fine points in the lease, including having deductions to superior organizations depend upon total profit (suddenly the combine turned out to be a source of good results!). In short, they attempted to undermine the very idea of the lease, which calls for the absolute size of payments to be fixed. In spite of our resistance they set limits on the relationship between increases in labor

productivity and earnings. Why are they necessary? Will the experimenters eat up all their earnings? This cannot happen. The enterprise is to be leased for 8 to 12 months. The leasees will have long term interests in modernizing. The collective itself is interested in effectively using resources. It is absurd send down an indicator from above.

We won the battle. V. Novikov, secretary of the Moscow Obkom, was very helpful. The combine has been operating under the new conditions since January 1.

[Question] Without wage rates and a wages fund?

[Answer] Of course. When the labor collective understood that except for lease payments sent to the state all earnings would remain in its hands, results were startling. Labor productivity increased about 40 percent in 6 months. Profit increased almost five fold.

The Moscow Obkom approved a decision to convert to lease contract more than 2,000 Moscow enterprises in industry, transportation, communications, personal services, public food service, trade and residential-communal services. Already about 150 enterprises and cost accounting based organizations are working in the new way. This is a colossal reserve for obtaining real results from perestroika right now. **There is no need to wait. Everybody is tired of waiting!**

[Question] There are no cultural institutions among the enterprises you mentioned to be converted to lease contract. Does this mean that it makes no sense to use the new form on them?

[Answer] It makes a great deal of sense. Leases, lease contracts and cooperative forms are a way out of the crisis in which many cultural institutions find themselves.

The experiment at theaters showed its limitations. This is "closet cost accounting." I think that it caused considerable damage. It created the groundless illusion that by changing the ratio between subsidies and sales, expanding certain rights, changing prices for events and services, cultural institutions could achieve big results. The illusion was not justified because from the beginning the model remained the same—based upon superior organizations interfering in the activities of cultural institutions.

It seems to me that they must be completely freed from economic dependency and given the possibility of earning money themselves. If society sees that the development of some direction in culture needs state support then support would be fitting. For example, it is senseless to put a museum on cost accounting. However, it is necessary to know exactly how much a given service costs and how much subsidies a museum needs. Society

should have an exact idea about how much to spend supporting a museum, not only through state resources, but through charitable funds, enterprise funds and self-taxation.

In general, cultural institutions need cooperative forms of organization, share systems for paying labor—cost accounting and the paying their own way. Of course, they need leasing. Incidentally, there are cultural institutions among the first leased enterprises. These include Moscow cultural and recreation parks. The park leasees say they have started working somewhat better. The most diverse institutions, from journals and book publishers to cinemas, can be converted to lease.

[Question] The general public nature of state property has been declared for decades. In actuality, however, workers' possibilities to dispose of it were restricted. Won't those who are zealous for the old ways completely negate the leasees' rights?

[Answer] There are several ways of destroying the new model. The main one is through campaigns. For example, after their conversion to leases, the Moscow trade enterprises did not succeed in establishing the new relations. They were only imitated with the help of checkbooks. Everything else is done in the old way. Mintorg [Ministry of Trade] still orients its lower links towards using only the first model for cost accounting, which limits enterprise independence. If a decision to lease an enterprise to a labor collective is made from above, but it is not ready for the change, there will be no benefits. It is necessary to explain the advantages of this conversion and to demonstrate that a lease contract will overcome the "ownerlessness" of fixed capital which takes place with state and general public property. If property is not a source of present income and future improvements in workers' living standards, it essentially becomes ownerless.

[Question] Didn't this happen at kolkhozes? After combining their own plots, animals and tools, peasants initially thought the common property their own. But soon it became "ownerless."

[Answer] Incidentally, interesting steps are being taken in agriculture. Cooperatives are being set up at kolkhozes and sovkhozes. This is a realistic path to uplift agriculture and overcome its backwardness.

I was delighted by Timur Kabirovich Kadyrov, organizer of the country's first cooperative at a sovkhoz. A large farm was set up at the Veriginskiy Sovkhoz in Zagorskiy Rayon near Moscow, at the village of Snyatinka, a deserted place where only old people were left. It was more efficient than the Sovkhoz farm itself, where there is one manager for every seven workers. Cooperatives do not need managers. This is why the development of cooperatives is a considerable problem for managers. Under the new conditions they should find different work.

[Question] So far state enterprises have had monopolies in the service sphere and the production of consumer goods. They did not have to compete with anybody, at least in an open contest. There are now contestants in the arena. How do you view the competition problem. Isn't there a danger that administrative-command methods will intervene in an honest struggle?

[Answer] The consumer sector cannot develop without competition. As is known, there are two results from competition: Expansion of operations which are most efficient and most beneficial to customers and elimination of the enterprises which cannot work with customers. I think that society should rid itself of these latter.

[Question] How, close them down?

[Answer] Yes, if nothing else works. Together with Mikhail Aleksandrovich Bochar, director of the Butovskiy Combine and V. Antonov, manager of Zhilsotsbank's Moscow Oblast office, we developed a draft plan for the bank to act as intermediary in the combine's acquisition of a failing brick plant.

The plant will be merged with the combine. State property is preserved, not directly as before, but indirectly, through the rights of the Butovskiy Combine. The purchase is profitable. Approaching its work in a skillful way, the failing plant can earn additional profit. The combine's profit will also increase, especially the profit of those who are working at the previously cheerless, money losing brick plant.

[Question] Diverse forms of property, sharpening competition, many innovations breaking old stereotypes. How can the service sector be managed under these conditions?

[Answer] I think that it is senseless to try to manage it as before. That simply meant handing down of plan targets and monitoring their fulfillment, setting growth rates, filling state orders, etc. V. Kabaidze is right: why does an independent ministry need a collective. At the party conference he said, "We can fully get along without one. We get feed and foreign exchange on our own. What can a ministry give us? Nothing!"

A sector's management should be based upon the free will of the enterprises themselves and evolve through the development of free associations. In any case the Ministry of Personal Services in its current form seems anachronistic to me. "Why is a minister needed to clean or wash a shirt?" Svyatoslav Nikolayevich Fedorov reasonably asked this question at the party forum.

[Question] At the beginning of this article you stressed the need for long term honesty in relations with cooperative members in order to promote people's labor activities. However, honesty is a subjective concept. An

official may or may not be honest. Everything depends upon personal qualities of the administrator. Isn't this a unreliable guarantee for perestroyka in a sector?

In his article "Pashkov Dom" my friend Nikolay Shmelev convincingly showed that morality and the economy are fused together. What is moral is economically beneficial to society. Only public opinion can guarantee this, but it has been in hibernation for at least a half century. Now it is waking up, and, I hope, will defend people's needs. I do not see any other guarantees other than those in society itself.

11574

Improvements in Use of Pensioners in Work Force Needed

18280082 Moscow SOTSIALISTICHESKIY TRUD in Russian No 6, Jun 88 pp 83-86

[Article by L. Pronina from Scientific Research Institute for Labor: "The Path to Rational Employment of People of Pension Age"]

[Text] The objective process of reducing the number of persons employed in connection with the growth of the productivity of social labor in conditions of the acceleration of scientific and technical progress and at the same time the constant increase in the number of persons of pension age make it necessary to consider the problems of utilizing their labor both from the standpoint of providing manpower for the national economy and the standpoint of satisfying the needs of elderly people for work.

At the present time these problems have become especially acute in connection with the introduction of the new economic mechanism, the increase in wage and salary rates within the bounds of the existing wage funds, which, as a rule is accompanied by a reduction in the number of employees. The resolution of questions with regard to who is to be released from work, be transferred to another sector, raise his skills or be sent to be retrained in each concrete instance must be approached very carefully.

Previously the problem of utilizing the labor of persons of pension age in socialist production was studied most frequently from the standpoint of making up for a shortage of labor resources and less frequently from the point of view of the effectiveness of their labor. Least of all were questions about the rational employment of pensioners and the utilization of their labor, taking into account specific features of the branch of industry, studied, and the question of managing the process of utilizing the labor of persons of pension age, including the motives and stimuli for continuing to work in socialist production or selecting other forms of useful social activity were not studied at all.

We decided to consider these questions using materials from comprehensive socio-economic surveys that were carried out by the Scientific Research Institute for Labor and its subsidiaries in 1984-1985 at nine enterprises from eight branches of industry (Ministry of the Automobile Industry, Ministry of Tractor and Agricultural Machine Building, Ministry of the Petroleum and Petrochemical Industry, Ministry of the Machine Tool and Tool Building Industry, Ministry of Heavy and Transport Machine Building, Ministry of the Instrument Making, Automation Equipment and Control Systems Industry, USSR Ministry of Timber, Pulp and Paper and Wood Processing Industry, and the USSR Ministry of Light Industry), and also at one agricultural enterprise and in five institutions of the nonproductive sphere. The survey encompassed 1,827 persons of pension and pre-pension age and 255 executives of enterprises and their structural subunits.

In the enterprises that were studied the number of persons of pension age made up from 4 to 10 percent of the total number of employees. Of these 70 percent were laborers, and the average duration of work after reaching pension age was relatively short—4.1 years. This is explained by the fact that part of the workers who have reached the pension age either leave work for a life of leisure or change their employment to something easier. In the age group from 56-70 years one can observe a certain lowering of the proportion of laborers, but among those engaged in less physical work it increases from 16 to 23 percent.

In improving the organization of and setting norms for the labor of workers of pension age in our opinion one should start from the need to reduce the intensity of their labor and cut down the duration of working time and the proportion of the work that requires fixed attention. The nature of the operation of the equipment must make provision for time free of the machine; the conditions of labor cannot be higher than the fifth category of strenuousness (according to the classification of the Scientific Research Institute for Labor). It is advisable to select types of production where it is possible to form half shifts, make wide use of part-time work, set aside shops and sectors where the working conditions would be suitable for the psychological capabilities of pensioners and introduce for them a reduction in output norms (approximately by 10 percent).

To carry out the requirements listed for organizing the labor of persons of pension age it is necessary to develop methodological recommendations for improving the organization of labor of persons with limited ability to work so that on this basis the scientific organization of labor centers of branch ministries and agencies could design appropriate cards for the organization of labor by the most popular professions. At the enterprises then it would be desirable to make special plans for the distribution of workers of pension age among the types of

work and professions on the basis of the results of periodically conducted certifications of work places and checking on the state of health of this category of workers.

The average duration of work after reaching pension age for office workers according to our data is 3.9 years. At the present time more than 50 percent of executive personnel and 77 percent of the specialists continue to work in their jobs. In this regard 91 percent of the executives and 77 percent of the specialists of pre-pension age do not intend to leave work after becoming eligible for a pension. On the other hand 37 percent of rank and file office workers receiving pensions change their profession to become laborers and in addition 35 percent transfer to less difficult work, which is connected with their state of health and the rapid growth in requirements for the level of their skills in the conditions of accelerating scientific and technical progress. We consider this to be an ineffective utilization of the skills of specialists and think that their material stimulation should be strengthened on conditions established for laborers. Along with this it would be possible to recommend the introduction of a supplementary list of jobs to be filled by persons of pension age.

In the section for working conditions of the Scientific Research Institute for Labor the basic principles for organizing job placement taking health into account have been worked out. All of the employed persons of pension age should be registered at the dispensary and undergo a thorough medical prophylactic examination (not less frequently than once a year). Pensioners who are starting work anew need to undergo a job-specific medical examination, and they may start working only on the recommendation of the VTEK [Occupational Health Expert Commission] or VKK [Medical Consulting Commission], which makes a finding as to whether the working conditions conform to the state of health of the pensioners. For this there is proposed a special chart of working conditions recommended for disabled persons and old age pensioners.

The growing saturation of production with new equipment leads to the rise in the requirements for the level of special training of employees and by virtue of this to a certain extent restricts the sphere of application for utilizing elderly persons, including persons having a secondary and higher education. It is appropriate to organize in a timely fashion the retraining of persons of pension age who cannot continue to work in their previous profession and to establish for them a subsystem of job placement and professional reorientation as a part of the general system for all categories of the population. It is important to attract more pensioners to labor in the nonproductive sphere, in particular on a non-full-time basis using different forms of employment that are suitable for pensioners (working at home and temporary work).

An acute need for personnel is felt, for example, by public health institutions, where more than 20 percent of positions, mainly for middle-grade and junior personnel, are not filled. To make up for this shortage over the long run it will be necessary to attract more than twice as many people of pension age into this sphere as at present. This can be accomplished by means of a "transfusion" of cadres from the sphere of material production. According to data from the surveys conducted by the Scientific Research Institute for Labor among working pensioners 55 percent are employed as junior medical personnel, and more than 70 percent of them took this work after they reached pension age, transferring to health care from other branches.

The sphere of household services for the public also receives reinforcements from the ranks of pensioners who previously were employed in branches of material production. In the RSFSR 116,000 pensioners are employed at present at household service enterprises. It is true that of these only 5 percent are employed as persons who work at home and 15 percent on a non-full-time basis. These effective organizational forms of employment are still used very infrequently. According to our findings 18 percent of employees would like to work part-time and 4 percent would like a flexible schedule. At only a third of the enterprises studied, however, is non-full-time work used for pensioners, although 67 percent of them get tired while working and 43 percent have chronic illnesses.

The introduction in the 1960s of a material incentive for old-age pensioners to work by means of paying them their pensions on top of their wages facilitated the increase in the number of working pensioners during the period from 1964 to 1985 almost 14 times. The payment of pensions during work, however, is not the only thing that affects the growth in their numbers. To a significant degree this depends on other socio-economic factors: increases in the difference between the pay received and the pension and improvements in working conditions. The professional engagement of pensioners is also facilitated by lengthening the period of maintaining the capacity to work and simply by the desire to work. At the same time the effectiveness of the existing method of stimulation was reduced considerably as a consequence of the growth in wages and the size of pensions. As research has shown, the simultaneous payment of wages and pension has led to a situation in which workers of pension age not only are not interested in increasing the productivity of labor but consciously reduce it, so that the sum of pension and wages does not exceed 300 rubles. The wages of employees after reaching pension age are reduced on the average by 17 percent (from 201 to 166 rubles), and the proportion of persons paid on piece-rate or piece-rate plus bonus systems is reduced from 36 to 17 percent. The result is that with a reduction in expenditure of labor the total amount of monetary income of employees is increased by more than 30 percent. The monetary expenditures for pensions in addition to wages rose 29 times from 1964 to 1985 and reached 10 billion rubles per year.

The existing method of stimulating the labor of persons of pension age has not helped to overcome the shortage in professions where it is felt most acutely. The proportion of employees engaged in light physical labor after reaching pension age is increasing 1.5 times. This means that there must be a discussion about changing the existing system of stimulating the labor of pensioners, especially since in the conditions of transition to intensive methods of management the structure of their employment will inevitably change sharply, and the need for material production and the use of the labor of pensioners will have a declining tendency.

When working out methods of stimulation that are appropriate for these conditions we carried out a comparative analysis of the socio-economic effectiveness of the existing order and the proposed changes, using a specially developed system of criteria: the effectiveness of the labor of pensioners, flexibility in utilizing their labor depending on the change in the needs of social production, the size of expenditures on stimulation, the level of material well-being of the pensioners while working and after leaving it, etc.

The most effective means of stimulating persons of pension age to continue their working activity is a fundamentally new method—a wage supplement in combination with the existing means of stimulation in the form of supplemental pension payments. The least effective is a modification of the existing procedures in which the pension and the wages are paid within the limits of the wages that the employee received before the pension was awarded. During discussions of the proposals for a draft Law on Pensions E. Tuchkova, for example, has spoken in favor of its introduction for pensioners who have already worked for 3-5 years after being awarded a pension. In comparison with the system existing now of paying pensions and wages within the bounds of 300 rubles (mainly for pensioners working as laborers) the introduction of the modification cited would worsen still further the negative effect of stimulation on the process of rationalizing the employment of pensioners. Workers of pension age would strive to keep the part of their pension that is not earned and not subject to tax as large as possible and even to receive it completely. Piece-rate workers will begin to reduce their output to a level at which their earnings at present do not exceed the difference between their former earnings and the size of pension awarded. All the rest will strive to transfer to low-paying jobs, and the yield of working pensioners will be reduced according to our calculations to no more than 10/17 of the previous level.

The method used at present for certain categories of employees (laborers, junior personnel and foremen) of paying a supplement to the pension (10 rubles for each year worked after award of the pension), which E. Tuchkova for some reason considers to be an innovation, has demonstrated very limited incentive effect. If the "wages and pension" method of stimulation is operating in parallel, only an insignificant proportion of

persons of pension age will continue to work. These, as a rule, are workers less than 60 years old who have a right to a pension on favorable terms and also workers of pension age with a high level of labor compensation, primarily in regions where regional differentials are used. Inasmuch as the payment of the pension when using the first method is postponed to the time when the pensioner stops working, this is reflected in his consciousness as non-receipt of a pension that was earned. This method does not affect the labor activity of workers of pension age or an increase in the productivity of their labor. The stimulating effect would rise somewhat if the supplement were paid not in fixed form (10 rubles for each year of work beyond pension age) as at present but in a percentage ratio to the pension, and even better in a percentage ratio to the wages of each current year. However, if the limitations on the payment of pensions is retained along with the supplement in the limits of 150 rubles per month and if the supplements to the pension are introduced in the amount of 10 percent of the actual earnings, the duration of the stimulated work of pensioners would be reduced to half what it is at present for laborers (from 4.1 to 2.2 years) and to a half to a third for office workers (from 3.9 to 1.2 - 1.8 years).

Therefore notwithstanding certain merits of the method for paying supplements to pensions, with its help it is impossible to raise the effectiveness of the labor of pensioners. Consequently its wide dissemination is not advisable even if the payment of the pension is cancelled in the period of work.

The use of supplements to wages as a material incentive for labor for persons of pension age has obvious advantages in comparison with all the methods considered. It makes it possible to implement more consistently not only the principle of distribution in accordance with labor (increase in pay for a greater amount of labor) but also give them a material interest, since they will start to work to the full extent of their abilities and the compensation for their labor will increase correspondingly. In this regard there is no distortion of the economic essence of the pension as compensation for lost wages, which is paid to someone who is not able to work, who has ceased his working activity; the increase of the monetary income of persons of pension age is ensured at the present time and not only in the future (as when a supplement to the pension is paid), and the possibility is created of raising the level of pension support after leaving work.

If the supplement to wages is introduced workers will be able after two years to recalculate their pension based on higher earnings.

The retention of the supplement to the pension provided by legislation (10 rubles per month for each year of work after award of the pension and under the condition that he not receive it in this period) will make it possible to increase the amount of the pension to 150 rubles per month. In this way the continuation of work after

reaching pension age is supplementarily stimulated. This is especially important for employees for whom the administration and council of the labor collective have not instituted a supplement to wages.

In our opinion it is possible to extend the right to receive a pension supplement to a larger circle of old age pensioners (to office workers in productive and nonproductive spheres).

When the payment of pension is cancelled during work and the wage supplement is introduced, the pension supplement will compensate to a certain extent for the inevitable reduction in income. The thing is that at present for a pensioner receiving a pension and wages income rises by 34 percent on the average by our calculations after award of the pension and falls sharply after leaving work.

The wage supplement for persons of pension age is of a compensatory and stimulating nature. The participation by persons beyond the able-bodied age in the production of the total national product instead of just consuming it also increases correspondingly the consumption fund, a part of which is the fund for compensating labor. Society, having an interest in such participation in production, must compensate for the increased expenditures of energy by elderly workers in comparison with persons of working age. The criterion for setting the lower limit of compensation could be the degree of increase of the expenditures of labor for the production of a unit of the volume of work as a result of a certain reduction in ability to work of persons of pension age.

The ability to work declines by 24-28 percent in the first five years on a pension according to data from surveys, and the productivity of labor declines by 6.96—7.68 percent (when there is a corresponding change in the category of strenuousness of labor—from the third to the fourth and from the second to the third), which is characteristic for persons of pension age. This means that if the lower limit for the amount of the supplement is aimed at full compensation of the increased expenditures of energy by persons of pension age, it obviously must be close to 10 percent of the wage or salary rate. The criterion for the upper limit of the supplement could be the maximum possible growth of labor productivity because of material stimulation, which makes up about 30 percent of wages. At the present time almost 90 percent of working pensioners receive on the average 50 percent of what they earned while working.

Taking into account the contemporary directions in the perfecting of the economic mechanism and the strengthening of the role of economic accountability levers it is desirable to place the regulation of the need for the labor of persons of pension age within the competence of the managers and the council of the labor collective of the

enterprises. Only on this level of management can the actual need for cadres be determined accurately and the conditions created for the effective labor of persons of pension age.

On the basis of a thorough evaluation of the labor activity of a worker of pension age and also taking into account the actual need for cadres, which is determined annually with the aid of certification of work places, the enterprise can set a concrete figure for the wage supplement for one worker or another (within the bounds of 10—30 percent) for a specific period (for example for a year). If it is decided not to establish a wage supplement, then the worker can either continue to work at his previous position and receive his previous wages or change jobs or even the enterprise and branch in order to receive the appropriate supplement or improve the working conditions. Thus a flexible mechanism is created, which ensures a balance of work places and cadres and can be utilized in all branches of the economy. In our opinion it is completely democratic and conforms more closely to economic methods of management than the conclusion by the administration of the enterprise of a fixed-duration labor contract (with a term of up to two years) with an elderly worker and the continuation of paying him a pension during work.

To prevent a flow of persons of pension age out of social production the new method of stimulating the continuation of their labor activity can be introduced gradually, namely only for those who are newly retiring. Supplementary expenditures for the material stimulation of workers from the ranks of those newly retired would be reduced in the first year to approximately 5/14 of what they would be under the existing conditions.

The perfecting of the system of material incentives for persons of pension age to continue their labor activity must be directed not only at raising the economic effectiveness of their labor but also at achieving a social effect - prolonging the period of labor activity of elderly people. Of very great importance in this connection is the granting of supplementary benefits to workers above the able-bodied age (paid and unpaid leave, discounts on trips to sanatoria and resorts, etc.).

Economically accountable centers (offices) for job placement, where it is important to concentrate complete information on the availability of vacant jobs for pensioners at enterprises and in the sphere of service, must occupy a more active position. At enterprises it is important to conduct a survey of persons of pre-pension and pension age, especially of those who have been released, for the purpose of obtaining data about the place where they would like to work (including in the same enterprise) and about the possibility of changing profession and type of activity. These data must be sent to the organs for job placement of the population.

Perfecting the mechanism for managing the process of utilizing the labor of persons of pension age on the whole involves: the development and improvement of norms governing not only pension support but also the conditions and organization of labor and benefits for working persons of pension age; expanding specialized enterprises (shops and sectors) that utilize the labor of pensioners at home and provide for non-full-time work in various branches of the productive and nonproductive spheres; strengthening the function of the organized job placement of pensioners, which is carried out by the local organs for job placement of the population, social security organs and enterprises; changing the system of stimulating working persons of pension age by means of the introduction (in place of paying pensions during work) of a wage supplement in the bounds of 10-30 percent of its basic amount, the concrete size of which is set for each worker for a specific time period (for example for a year) by the manager and council of labor collective of the enterprise depending on the actual need for cadres and the results of the labor of the given worker.

As was noted at the 27th Party Congress the establishment of the All-Union Public Organization of Veterans of War and Labor was a new step in the process of improving the utilization of the labor of pensioners. It is called on to more actively involve people with enormous life experience in social and political affairs and above all in the upbringing of the rising generation. The labor activity of pensioners would have good prospects both on a cooperative and on a private, family basis: in the sphere of services, trade, the production of consumer goods and agricultural output.

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12893

Work Place Certification, Wages in ESSR Appraised

18280081 Moscow SOTSIALISTICHESKIY TRUD in Russian No 6, Jun 88 pp 58-62

[Article by D. Vanderflit, deputy chairman of the State Committee for Labor and Social Questions of the ESSR: "Getting Rid of Stereotypes"]

[Text] It has become a familiar formulation: the work place is the foundation of any enterprise. It is right here that the fate of the plan is resolved and the planned indices of labor productivity, quality, cost of production and capital-output ratio become actual ratings. At the same time it is sometimes forgotten that one can demand high yield from the work place only if it is equipped and organized in accordance with contemporary requirements and of course if a conscientious worker, a master of his trade, is working in it. This is precisely why the

question of certification and rationalization, in other words the comprehensive evaluation and perfection of every sector of production, is so topical.

This is what the introduction of new conditions for compensating labor are aimed at. Now the norms are revised at the same time as the certification. And if in the period between such comprehensive evaluations the worker by virtue of his professional skill overfulfills the norm, he will receive high wages. The progressive pay system also makes provision for a fundamentally new mechanism to compensate for unfavorable working conditions. In place of high wage rates supplementary payments are introduced, the right to which arises not automatically depending on whether a profession is included in the appropriate list but rather as a result of an evaluation of the actual state of affairs at the specific work places and on the basis of their certification.

In the Estonian SSR certification has taken place at most of the industrial enterprises and associations. More than 170,000 work places have been considered of which approximately 40 percent have not been certified. It has been deemed necessary to rationalize about 60,000 and eliminate 2,000 places. It would seem that the results were not bad. In the course of the certification and rationalization of the republic's industry over a year, however, only 2.3 percent of the employees were released. According to the data of scientists and economists, however, only through this can labor costs be cut by 5-10 percent and the capital-output ratio be raised significantly.

What is the reason for such a low return from the measures that have been taken? Primarily it lies in the fact that they were not sufficiently reinforced with measures of economic stimulation. Everything was done for the sake of implementing a plan that was imposed from above and not at all for revealing and utilizing the reserves of labor collectives. In disseminating the experience of the Dnepropetrovsk Combine Plant imeni K. Ye. Voroshilov in the republic it was somehow forgotten that the mechanism of certification and rationalization of work places was set in motion there also by means of material incentives for fulfilling stepped-up production plans.

But is it really normal for the stock-taking and certification to be carried out in a formal way at many enterprises? Here all of the work places regardless of their condition were evaluated as meeting the standard requirements, and measures were not worked out for releasing personnel and increasing the coefficient of capacity utilization of equipment.

Unfortunately there are still workers who not only do not seek anything new themselves but do not accept what was found by others. Such specialists do everything not to hunt for reserves but to hide them and present the situation in a glowing light. Many were led astray by the

false logic of reasoning that if one shows a high percentage of work places that do not match standard requirements someone would ask: "But what were you doing before and why did you not react promptly?"

There were also many who simply decided not to bother with a comprehensive evaluation of the work places and assessed everything "by eye." This is exactly what was done at the Tallinn production association Prompribor. The work was confined to formally filling in the blanks of the primary documentation, which then flowed to the laboratories of the NOTiU [Scientific Organization of Labor and Management]. However, this did not prevent the former management of the association from reporting the practical completion of the measures and the alleged obtention of an economic effect. The executives of the Orusk peat combine imeni J. Anvelt and the Tallinn piano factory showed themselves to be masters of responses for form only. Their reports indicate that all the work places underwent certification and were rated as meeting the standard requirements. At the same time the republic People's Control Committee discovered gross violations of the occupational health and safety regulations right here.

At the enterprises of the ESSR Ministry of Local Industry only 6.5 percent of more than 10,000 work places were not certified. The State Committee for Labor and Social Problems, however, and after some time the ministry itself wondered how such a high evaluation could be compatible with the fact that with regard to the level of development of the brigades, the status of norm setting and the protection of workers the situation here was far from brilliant and one third of the workers were engaged in manual labor? It is possible that this question would have remained a rhetorical one if it were not for the reform of wage payments, and the need to find the means for introducing higher wage and salary rates. The changed economic conditions of management rather than administrative pressure from above forced the enterprises to undertake the inventory, certification and rationalization of work places as the key to reserves for the growth of productivity and perfecting the organization of labor. And this is the result: almost 40 percent of the work places are not adequate for the requirements; it has been decided to eliminate about 4 percent of them and the remaining ones are supposed to be rationalized.

The work was carried out differently in the subunits of the Ministry of the Timber and Wood Processing Industry, the ESSR Ministry of Grain Products, the Tallinn machinebuilding plant imeni I. Lauristin, the Baltiyeys and Pioner plants, etc. The certifying commissions rated 50 to 80 percent of the work places as not conforming to the standards. Programs for rationalization cover every second or third one, and equipment that is not very productive and inefficient is eliminated.

Unfortunately, there are few such examples. A substantial shortcoming lay in the fact that in most cases certification was not accompanied by simultaneous

review of the norms. This process resembled more a public inspection than a comprehensive system of measures for improving production and reducing the labor intensiveness of output. Hence at many enterprises in the republic up to very recent times obsolete norms have been used, which are fulfilled 130 - 150 percent. All this required that work be undertaken on a broad front to put in order the norms for labor expenditures on the threshold of the introduction of new conditions for the compensation of labor.

The ESSR Council of Ministers approved a plan for measures to improve the setting of labor norms in the economy of the republic. Its basic task is to transform the norm into an effective stimulus for raising productivity. This is facilitated by the fact that in the new conditions the worker becomes an ally of the enterprise administration in the review of norms. It is necessary for specialists to support and develop the initiative by bringing norms for wage payment per unit of output and other documents to every structural subunit and every brigade. It must be admitted that all is not well in this regard. Many enterprises are poorly supplied with branch methodological and norm-setting documents and standard plans for the organization of labor. The lack of such a base of standards for each indicator of the certification that must be taken into account makes it completely dependent on the competency and adherence to principle of the experts.

In this connection the experience of the Ministry of Timber and Wood Processing Industry of the ESSR and its design and technology bureau are particularly valuable. At their initiative a comprehensive system for surveying, certifying and rationalizing work places was introduced in the enterprises. The "Statute on Inventorying Work Places of the Ministry of Timber and Wood Processing Industry ESSR" and recommendations on the certification and rationalization of the work places of engineers and office workers were worked out, a unified form "cards for the organization of labor at the work place" was introduced and "standard cards" for basic work places of all kinds of production of the branch are being compiled. Progress of the work is discussed at the collegium of the ministry. At the enterprises a sort of data bank has been created—a card file of work places. With the aid of colored tabs it is easy to check on all the indicators and also quickly to revise their meaning if there are changes. The ministry is studying the possibility of using computers in the inventory, certification and planning of work places.

Taking into account the results of certification and rationalization in the branch a long-term comprehensive program for introducing the achievements of scientific and technological progress has been worked out. These and other effective measures made it possible to raise the productivity of labor by 24.7 percent while the plan called for 18.2 percent. The share of output of the highest category of quality rose from 15 to 38 percent, and the production of consumer goods increased from 134 to 196 million rubles.

There are more and more such examples. However, not everything depends only on the enterprise and the ministries, especially since in certain norm-setting documents there is "confusion" in our opinion. For example, the "Instruction for Filling out the Report on the Introduction of the Scientific Organization of Labor and the Certification and Rationalization of Work Places," which was approved by the former Central Statistical Administration, proposes the inclusion in statistical form No. 1-RM among the actually eliminated work places not only of work places that have in fact been reduced but also those that have only been rated as necessary to remove from operation. It is easy to imagine what possibilities are opened up for those who love to turn in a report that sounds good!

In order to avoid voluntary or involuntary mistakes it is probably necessary to include in the reporting on this indicator not only the number of work places that have been eliminated and are surplus, as provided in the instruction, but also the other kinds of work places.

One of the first results of carrying out the certification at enterprises of the republic was increased attention to the state of the conditions of labor and safety questions. The social sections of collective agreements have more substance now. In the course of this process, however, shortcomings in both the organizational and methodological areas were revealed. For example, two important documents were not coordinated with one another: "Standard Regulation on Certifying, Rationalizing, Inventorying and Planning Work Places" and the "Standard Regulation on Evaluating the Conditions of Labor at Work Places and Procedures for Using Branch Lists of Jobs in Which Supplements to the Workers May be Instituted because of the Conditions of Labor." The "Chart for Certifying a Work Place" contains five indicators in the blank "Conditions of Labor and Safety," while the "Chart for the Conditions of Labor at the Work Place" contains eight. And only two of the indicators coincide in the common documents.

Other documents not coordinated with certification include the methods for determining the introduction of systems for managing the protection of labor (SUOT), the development of integrated plans for improving the conditions and protection of labor and the formation of corresponding sections of collective agreements. In fact the evaluation, including with regard to "Conditions of Labor and Safety," is not considered as an integral part of a unified program for introducing systems for managing the protection of labor but as an independent measure. In this regard utilization of data from the passports of the technical medical state of working conditions is also rendered difficult, since they are not tied to concrete work places.

Inasmuch as there is not the necessary coordination between the various forms for gathering data (and the implementation of certification and rationalization of work places up to now has only added new accounting

forms without abolishing a single old one), many of the indicators duplicate one another. Now it is necessary to copy the data from a form that has already been compiled to a new form. In the worst case this leads to a new survey, which, as a rule, does not make it any more reliable, but brings about a discrepancy for the same indicators in the reports. Especially since the capacities of the industrial hygiene laboratories, according to an estimate by the ESSR State Committee of Labor and Social Questions, supplies about 60 percent of the work places with verification by instruments.

A way out of the situation that has been created could be to set up five or six economic territorial industrial hygiene laboratories that would operate on the principles of a small enterprise or cooperative and would be subordinate to the Ministry of Public Health or the State Committee for Labor and Social Questions of the republic. Possibly to the local soviets of peoples deputies. It would also be possible to open facilities in the subunits of Gosstab [State Committee for Material and Technical Supply] where enterprises and organizations could rent instruments to check the parameters of dangerous and harmful production factors.

At the present time two systems are "coexisting" in the process of improving the conditions and protection of labor at enterprises. The old order of management is based on the passport of the medico-technical state of the conditions and protection of labor, the integrated plan for improving the conditions and protection of labor, and the health and sanitation measures for the five-year plan, the program of product mix measures, the collective agreement and the statistical reporting of the USSR State Committee on Statistics according to Form No. 21-T. On the other hand innovations have been introduced. They are based on the "charts of the work place," plans for organizational and technical measures for rationalizing work places and the economic and social development for the five-year plan and for the year, and also the collective agreement and the statistical reporting according to Form No. 1-RM. In other words, there is one object of management but two systems.

The confusion is aggravated by the lack of coordination at the work places. In most cases by orders of the ministries and the enterprises the departments of labor and wages are made responsible for carrying out certification of work places. As a rule other services do not bear direct responsibility for this work. Practice shows, however, that the effectiveness of the measures is increased significantly when they are implemented in organic coordination with the certification of production processes, sectors, shops and the whole production.

There are plans to establish a unified system of planning, inventory, certification and rationalization of work places in the country. In our view in this regard it would be appropriate at once to install methods of systematic, integrated evaluation of the quality of the productive process as a unified whole. The foundation for this could

be an experimental certification of production processes and the organizational and technical level of production that is going on now in a number of ministries and agencies.

In the course of the transfer of enterprises and organizations to the new conditions of payment for labor the role of the certification of work places increases significantly. A real effect can be obtained, however, only if their rationalization is actually carried out. And here the experience of inventors and innovators of production is priceless. For confirmation we shall only cite a few examples. Despite the obstacles the sphere of use of such effective forms of improving production as rationalization of work places through combining jobs are expanding. The interbranch applications technology organization SKTB [special design technology bureau] Effekt works fruitfully on this principle in the republic. It is made up of a design technology bureau and a small production unit with appropriate equipment. Enterprises that want to introduce a technical innovation can submit an order to Effekt on a contractual basis. The latter works out a plan and manufactures a prototype.

Several so-called centers for accelerated application have been established in Estonia. For example in the Tallinn production association Punane Ret there is a special section. Its creative collective tries to reduce to a minimum the path of an idea up to its embodiment in a product. And nevertheless even this enterprise resorts to the services of Effekt, which helps matters a lot: innovative ideas have started to traverse the path from the blueprints to the shop several times more rapidly, in just a year or a year and a half.

The experimental equipment plant Pioneer of the ESSR Ministry of Local Industry is actively engaged in retooling and constantly increases productive capacities. Here they displayed initiative, restructured the organization and compensation of labor and established a specialized sector where auxiliary equipment and minicomputers were placed alongside new numerically controlled machine tools. The effective load of the complex is 13-16 hours on the average. Part of the units work around the clock. In the sector the productivity of labor increased several times and the capital-output ratio doubled. The introduction of electro-erosion polishing of molds, plasma arc cutting of crystals with programmed control, processing centers and other progressive equipment, constant improvement of the forms and methods of organization of labor made it possible for the plant not only to raise the technology of production of complex and precision parts to a new level but also to expand significantly the product mix and geography of shipments of technological equipment that is in short supply. To develop the experience accumulated at the plant the Ministry of Local Industry of the republic intends to establish a technical center for operating numerically controlled machine tools. It will serve many enterprises in the Baltic region.

The republic council of VOIR [All-Union Society of Inventors and Rationalizers] is working out a long-term comprehensive systems program for raising the effectiveness of technical creativity. Jointly with representatives of the SKTB Effekt and the plant Pioner a public council for accelerating the introduction of innovative developments into production was established. Now what is needed is to develop without delay these and other progressive initiatives. The main factor impeding the introduction of new equipment and acceleration of the rate of rationalizing work places is the inadequate tool stock of most enterprises. Obviously the time has come to build a specialized plant for the production of

tools and accessories in the republic. It would be appropriate to do this on a cooperative basis with the participation of all the enterprises of the ESSR.

Only if these measures are implemented effectively during the regular certification can favorable results be attained.

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AUTOMATION, AUTOMATED SYSTEMS

Automated Pipe Plant Constructed at Sumy Machinebuilding Association

*18230075 Moscow EKONOMICHESKAYA GAZETA in
Russian No 36, Sep 88 p 3*

[Article by V. Maksyutenko: "Automated Plant"]

[Text] A plant for heavy leader and drilling pipes has come on line at the Sumy Machinebuilding Scientific-Production Association imeni M.V. Frunze.

Until recently the oil and gas drillers of the country were experiencing a critical shortage of pipe equipment. The small capacity plant in Drogobyche, working with imported rolled metal, did not guarantee the requirements of the customers either in assortment or in volume, which in many cases delayed prospecting and development of the deposits.

The new enterprise, built in Sumy by the Italian firm Danieli, has been called upon to resolve these and other problems. All the processes at the plant, from sorting and milling metal scrap to packing the finished product, are automated. For the first time in practice such a plant has a closed technological cycle. The automated plant is designed for the annual output of 25,000 tons of pipe of almost 200 sizes.

"Now the drillers will receive the necessary equipment in complete sets, without spending foreign currency for acquiring similar products abroad," says plant director V. Petrenko. "Our existing technology ensures that the items' quality is on the level of the best world models. Good prospects are opening up for export of products. An experimental set of pipes has already been prepared to be sent to Italy."

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