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ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Lenin's Support for Bukharin's Views on Cooperatives Emphasized

18200270 Moscow *POLITICHESKOYE
OBRAZOVANIYE* in Russian No 10, 1988
(signed to press 14 Jun 88) pp 39-47

[Article by Prof G. Shmelev, doctor of economic sciences: "N.I. Bukharin: Views in Political Economy"]

[Text] NIKOLAY IVANOVICH BUKHARIN¹...What do we know about the theoretical positions of this man who, in the words of V.I. Lenin, was "the most valuable and important theoretician of the party," this "superbly educated Marxist economist," this "outstanding journalist"? At any rate, nothing, as they say, first-hand. What is in the public domain are contrived quotes that have been fiddled with and which are meant to create the image of a man far from reality, but fitting into the pattern of the "renegades" from Marxism-Leninism, a "defender of the interests of the kulaks," and the theoretician of the "kulak's growing into socialism."

Glasnost and truth obviously demand that the public become widely familiar with the works of N.I. Bukharin. This purpose will be served by their republication and thorough study. N.I. Bukharin's theoretical legacy is multifaceted. It contains quite a few books and articles: "Politicheskaya ekonomiya rantye" [The Political Economy of the Rantye], "Mirovoye khozyaystvo i imperialism" [The World Economy and Imperialism], "Imperializm i nakopleniye kapitala" [Imperialism and the Accumulation of Capital], "Ekonomika perekhodnogo perioda" [The Economy of the Transitional Period], "Lenin as a Marxist," "On the Problem of Trotskyism," "On the Character of Our Revolution and on the Possibility of Victorious Socialist Construction in the USSR," "The Road to Socialism and a Worker-Peasant Alliance," "A Program for Communists," "Caesarism Disguised as Revolution," etc. We might make particular note of "Azбуka kommunizma" [The ABC's of Communism] (1920), which V.I. Lenin referred to as a small book that was "valuable in the highest degree" (it was coauthored with Ye.A. Preobrazhenskiy and served as commentary to the party program); "Teoriya istoricheskogo materializma" [The Theory of Historical Materialism] (1921) was a popular textbook on Marxist doctrine. An entire generation of young Communists and also members of Komomsol in the twenties were brought up on these books.

All of this, I repeat, has yet to reach scholars. For the moment we will familiarize propagandists and students in the system of party education briefly, "in the first approximation" as it were, with a number of writings of Nikolay Ivanovich which are in the area of political economy and mainly concern the postrevolutionary period of his life and activity.

Among the writings of the prerevolutionary period we will discuss the pamphlet "Mirovoye khozyaystvo i imperialism" (1915). It analyzes imperialism as a distinct stage of capitalism against the background of world economic development, which N.I. Bukharin views as a combination of and struggle between the tendencies of nationalization and internationalization of capital. These tendencies are manifested in the processes of the formation of monopolies, the merging of bank capital with industrial capital, and so on. The pamphlet discusses in detail the peculiarities of production relations in the context of the new stage of capitalism and the corresponding policy of the imperialist states.

When he was working on the pamphlet, N.I. Bukharin used Hilferding's book "Finansovyy kapital" ["Das Finanzkapital" [Finance Capital]], which was published in 1910 and studied the concentration of capitalism and transformation of the capitalism of the free enterprise era into monopoly capitalism. Nikolay Ivanovich not only goes further in an analysis of imperialism than Hilferding, but he also draws revolutionary conclusions from this analysis. He concentrates attention on the foreign economic relations of imperialism, which he defines as an extension and at the same time a distinct stage of capitalist development. He remarks that war is an inevitable consequence of imperialism, that the extreme exacerbation of the capitalist contradiction manifested in imperialist wars is evidence that the objective conditions are maturing for a revolutionary explosion, for a socialist revolution.

N.I. Bukharin examines the greatly augmented economic role of the state in the period of imperialism and the merger of industrial and banking capital with government power. The state is more and more turning into the aggregate capitalist in the economic sphere and is penetrating all the nooks and crannies of the life of society, subordinating that life to the interests of the bourgeoisie. All of this is determined above all by the military functions of the state and is intensified during wartime. N.I. Bukharin uses the term "state capitalism" to denote these processes. In essence, he even guessed the penetration of fascism on the soil of militarization of the economy, though, to be sure, as a universal phenomenon. In an article written at approximately the same time "on the theory of the imperialist state," he draws the following conclusion: "The development of state organisms in the immediate future—unless a socialist revolution occurs—is possible exclusively in the form of militaristic state capitalism."

As noted by V.I. Lenin, who wrote the foreword to the pamphlet "Mirovoye khozyaystvo i imperialism," its author "examines the basic facts of the world economy concerning imperialism as a whole, as a definite level of development of the most highly developed capitalism" ("Poln. sobr. soch." [Complete Works], Vol 27, p 94). Lenin also writes that the book, which was based on abundant factual material and used recent data, was valuable because it was devoted to the most essential

question in the field of the economic science working on changes in the forms of contemporary capitalism. Moreover, it was exceedingly topical for it to be written in the period of World War I, which had begun (and which in fact was called imperialism), since "there could be no question of a concrete historical evaluation of the present war without that assessment being based on a full clarification of the nature of imperialism both from its economic aspect and also its political aspect" (ibid., p 93).

Thus we can confidently say that N.I. Bukharin's pamphlet was innovative in nature. We should note here that it was written a bit earlier than "Imperializm, kak vysshaya stadiya kapitalizma" [Imperialism as a Higher Stage of Capitalism]. Lenin reviewed N.I. Bukharin's pamphlet back in December 1915, and he did the work on his own book on imperialism over the period January-June 1916.

The soviet stage in N.I. Bukharin's theoretical legacy includes above all his book "Ekonomika perekhodnogo perioda" (which came out in 1920). In it, the author attempted to clarify and summarize the basic patterns of the transition from capitalism to socialism from the standpoint of the economic essence of this process, changes in the social-class structure of society, the development of relations between city and countryside, and to examine the role and functions of the proletarian state. Written in the period of "war communism," this book bears the imprint of the views of that time. For example, the book contains the proposition that "just as soon as we take an organized social economy, all the basic 'problems' of political economy disappear: the problems of value, price, profit, etc.... The end of the capitalist commodity society will also be the end of political economy." Yet it would be a mistake in evaluating the book to concentrate all our attention on these dogmas, which were widespread at the time. Especially since N.I. Bukharin did not wed himself to outdated views and had the courage to change them on the basis of theoretical conceptualization of the needs of real life and accumulated experience.

"Ekonomika perekhodnogo perioda" contains quite a few interesting propositions concerning the economic base of socialism during its construction. The book notes that the proletarian revolution, accompanied by destruction of capitalism's machinery of the state and a radical transformation of the system of production relations, brings about a temporary drop of production greater than during the bourgeois revolutions, since it signifies that people are dying in the struggle to overthrow the power of capital, destruction of a portion of physical property, a change in the structure of production in the direction of the nonproduction branches, above all the military branches, a certain dissolution of economic ties between various production operations and regions, and the collapse of the apparatus of the state. The author discusses the role of the subjective factor as the basis for construction of socialism and speaks about the need to restore equilibrium (balance) in the economy and above all between industry and agriculture.

Lenin perused a copy of this book and left numerous notes in the margins. Having noted the erroneous nature of a number of conclusions, the shortage of factual material in the book, the insufficient concreteness in discussion of economic processes, and phrasings and terms in it which he found unsuccessful, Lenin nevertheless praised some sections of the book and on the whole gave it high marks.

We see particular value in those publications of N.I. Bukharin in which on the basis of Leninist methodology he revealed the nature of the New Economic Policy, studied the agrarian-peasant problem, discussed the problems of the relationship between centralization and local initiative in economic practice, the functions of the state and public organizations, price policy and the circulation of the domestic market, the forms of class struggle in the context of the NEP, and so on. After Lenin's death it was N.I. Bukharin who became the most consistent exponent of the ideas of the NEP, which he popularized in his articles and speeches. Like Lenin, he saw in the NEP a long-range course of the economic policy of the party and state calculated toward comprehensive development of the distribution of commodities and the productive forces making it possible to lay the foundations of socialism.

"A number of our party comrades," N.I. Bukharin noted, "reduce the purpose of the New Economic Policy to merely one thing: the peasant has launched an offensive against us, petit bourgeois spontaneity has risen in rebellion, we have retreated, and the entire matter presumably comes down to nothing more and only this. But, of course, the matter is not confined to that, or, more correctly, it does not lie so much in that. The purpose of the New Economic Policy, which Lenin...called the correct economic policy (as opposed to war communism, which he...described as an 'evil necessity,' imposed on us by the extensive front of the Civil War)—because a number of economic factors which earlier could not fertilize one another, because they were locked up on war communism, have now been able to fertilize one another and thereby promote economic growth" ("O novoy ekonomicheskoy politike i nashikh zadachakh" [On the New Economic Policy and Our Tasks], Moscow, 1925, p 9).

We should note that until quite recently there were quite a few scholars and journalists prepared to treat and portray the NEP exclusively as a retreat, as establishment of the "domination of NEP-men," whereas it was a question of extensive use in the economy of economic methods, of optimum conduct of economic activity, in which the tolerance of capitalist elements was by no means the basic feature.

Examining the growth of production and commodity sales in the context of the NEP, N.I. Bukharin did not lose sight of its ultimate objective—building the economic foundation of socialism. "We need the kind of development of our country's productive forces and the kind of economic upsurge which would be accompanied

by a growth of socialist forms and a constant displacement and weakening of forms which are capitalist and alien to socialism. We need to achieve the kind of development of the productive forces which would lead us toward socialism, and not the kind of development which would lead us toward a reborn...so to speak, 'healthy' capitalism" (ibid., p 17).

Noting the important achievements along this road and the immense growth of the forces on the side of socialism in its struggle against the private capitalist economy, N.I. Bukharin wrote in his pamphlet "Put k sotsializmu" [The Road to Socialism] (1925): "Thanks to the New Economic Policy we have achieved important successes in the economic field, and at the same time the development of our country's productive forces has gone in a direction in which socialist forms of economy and forms close to it which are along the road to socialism have gained ever greater and greater predominance."

N.I. Bukharin attributed a large role to the state sector of the economy and to the economic instruments of the state in the growth of production accompanied by a change of its structure in the direction of socialism. He emphasized: "If we had not expropriated big capital, but had only maneuvered in the field of pure politics, then we would unquestionably have collapsed. Our strength lay not only in our having the political power. Our strength was that we began in good time to make that political power an instrument for economic restructuring, and now our fate is already being determined by that balance of power in which we have the commanding heights of the economy behind us..." ("O novoy ekonomicheskoy politike i nashikh zadachakh," p 37).

N.I. Bukharin defended and developed Lenin's idea that proletarian power takes command of economic instruments not to the extent of the formal nationalization of the means of production, but to the extent that the economy is rebuilt and the economic mechanism is made to run smoothly. He believed that the soviets had taken the commanding heights in the economy precisely because rail traffic had become normal, industry had begun to operate, the banking system had been rebuilt, and finances were restored to health. "Since," he writes, "we really have taken the commanding heights, to that extent it is quite natural that a displacement of class forces has occurred. If we did not have the banks, but petit bourgeois cooperation were created, then it would crush us. But since we do have the banks, it depends upon us; we extend it credit; if we run around threadbare, then the kulak will defeat us economically, but if he is a depositor in our banks, he will not defeat us. We will give help to him, but he also to us" (ibid., p 24).

N.I. Bukharin pays much attention to the rates of our country's economic development in the context of the change of the world economic situation. "We live among capitalist countries, we are surrounded by enemies. If some time ago we were able to say quite definitely that parallel to our growth the bourgeois countries were in economic and political decline and headed downward,

we cannot say that now. We are growing, and they are growing, and that is something new in that world-historical picture which is now opening out before us. What exists now did not exist in the comparatively recent past." He draws the conclusion from this that the question of the rates of our development is taking on exceptional importance. And this in turn requires a more rapid growth of peasant production, acceleration of turnover in the economy, since it is the latter that affords the possibility of achieving a high rate of accumulation throughout the national economy. This constitutes the basic task and the main question of economic policy, since, he emphasizes, "nothing is so harmful now as the failure to understand that our industry depends on the peasant market" (ibid., p 4).

N.I. Bukharin emphasized the historical importance of industrialization and believed that it must be based mainly on internal resources, including resources obtained from the peasantry. However, he remarked, "the whole question consists of the extent to which we can establish ties with the peasantry...the extent to which we are able to accomplish that siphoning, the methods used, and where the limits of that siphoning are..." He emphasized that "accumulation in socialist industry cannot take place for long without accumulation in the peasant economy," that the theory of "superindustrialization" ignores the organic relation between industry and agriculture, their interdependence, and it is based on the ideas of Tugan-Baranovskiy, "that "socialist industrialization is not a process that is parasitic to the countryside..., but a means of its greatest transformation and advancement."

N.I. Bukharin devoted much attention to the peasant as an ally of the working class and to cooperation of peasant farms, which he regarded as a need of the small producer and in his interest.

"How should we attract the peasantry into our socialist organization?" was the question N.I. Bukharin put, and he answered it: "Exclusively through economic motivation of the peasantry." Elaborating this idea, he wrote: "If we ask ourselves...what the peasant's particular interests consist of ('occupational interests'), then we quite clearly will above all see here that the peasant does not work the way a worker does, but he works on his own farm, and his private economic interest, which arises out of his position as a small independent producer who has his own farm, lies in selling the products of his farming more profitably, in purchasing more advantageously those products which come to him from state industry and which are indispensable to him both as a consumer and also as the manager of his small farm; finally, it is advantageous for him to have cheaper credit, which he needs in his economic activity" ("O novoy ekonomicheskoy politike i nashikh zadachakh," p 44). He notes in the same connection: "But all these problems are after all solved by agricultural cooperation, and along with it such subsidiary organizations as peasant committees and the like" ("Put k sotsializmu," p 97).

The peasant's personal interest, N.I. Bukharin felt, led him further than his own farm, since it aroused his interests in cooperation, in the strength of the bank, in the stability of the financial system of the state.

N.I. Bukharin categorically rejected any other strategy for cooperation among the peasants than their voluntary association, since that kind of association could not be a consequence of propaganda and exhortation, but must proceed from the benefit the peasants had become aware of. He returned to this idea repeatedly. "...If the peasantry seriously wants to achieve major and lasting improvements in its life, it must travel the road toward its own unification. It is self-evident that we cannot suppose that it would be possible to persuade, or even that we should persuade, the peasantry to immediately come over, down to the last man, to unification of its parcels of land. Old habits and old farming methods are so deeply engraved in people that it does not seem possible to break those habits in some sudden way. Nevertheless, the peasantry, acting out of the interests of its private farm, its separate and small homestead, will inevitably travel the road of its own unification and thereby will merge ever more amicably with proletarian state industry.... This development will take place through cooperation" (ibid., p 31).

N.I. Bukharin regarded Lenin's article "On Cooperation" as a last will and testament in the "sense of the foundations of economic policy," as "the most essential thing that has been said about our policy with regard to the peasantry." He emphasized that the experience that had accumulated since that piece was written had not crossed out a single iota of the genial strategic plan advanced in it.

Just as N.I. Bukharin was an ardent advocate of Leninist principles for the cooperation of the peasantry, so he also was in favor of it itself choosing the road of unification, which made its work easier and was in line with its economic interests. He observed that the main road to socialism, "the high road will pass through ordinary cooperation—sales, purchases, credit" ("Tekushchiy moment i osnovy nashey politiki" [The Current Moment and the Foundations of Our Policy], Moscow, 1925, p 28). He drew this conclusion from actual movements in the masses of the working peasantry and above all the middle peasants, to which about two-thirds of all the families of rural toilers belonged. "Does it follow," he asked, "that we therefore must not support the kolkhozes? No, we must do everything to help them, that is beyond doubt. We should extend them aid with credit, help them in the sense of purchasing what they need, but it would be incorrect to say that this is the main road toward the socialism of the main body of the peasantry." We cannot count on the moods of the peasant masses, on the habits of the private farm, he emphasized, which can be overcome only gradually. "Success will be achieved only when the small producer sees that he is working for himself, but he objectively will be working for socialism. All of the art of economic policy lies in this. At present,

we are not dragging the peasant into the 'commune...,' but are pursuing the line of his interests" (ibid., p 29).

Thus N.I. Bukharin, like Lenin, saw the cooperative road of the peasantry in a diversity of forms meeting the interests of the various strata in the countryside. And this was the alternative to the Stalinist plan of forced collectivization, which involved eliminating the kulaks and essentially the middle peasants from sizable strata of the peasantry, economic and administrative pressure on the peasant masses in order to speed up collectivization, and replacement of the diversity of forms of agricultural cooperation by a single form.

In his examination of the problems of socialist transformation of society, N.I. Bukharin naturally could not skirt the problems of class struggle. In the pamphlet "Put k sotsializmu" and in a number of his other writings, he demonstrated the inevitability of the change of the forms of the class struggle in society with the transition to the NEP, for in the context of cessation of military hostilities the struggle is carried into the sphere of the economy. The economic activity of the bourgeoisie began to be more lively in the city and countryside (under certain conditions it was permitted to rent means of production, including land, and to hire manpower for private enterprises and kulak farms). Now the struggle here was manifested in legislation fixing the number and level of payments to be made by the entrepreneurs (income tax, insurance premiums, etc.), in the establishment of social guarantees for the workers hired by the bourgeoisie and strict monitoring of their observance, in limitation of the political rights of capitalist elements, in competition on the battlefield of the economy between the socialist sector and the capitalist entrepreneurs, and so on. Broader rights, special benefits, and advantages for the cooperative established by the workers—this is also a form of class struggle under the new conditions.

N.I. Bukharin separately identified the class struggle in the countryside and examined it in detail. Against each of the groups of the rural bourgeoisie its own particular form of class struggle corresponding to the New Economic Policy had to be applied. He wrote: "The struggle between the kulak and the farm laborer is waged along the line of issues related to the conditions of hired labor (the length of the working day, wages, forms of remuneration, general working conditions, and so on and so forth)... Farm labor is waging its own class struggle in other forms, compelling the appropriate working conditions through its own trade union organizations and through its own state power, the power of the soviets, and resorting to the courts of its own class when the agricultural entrepreneurs have to be restrained" ("Put k sotsializmu," p 59).

Other forms of struggle have to be used against village merchants and moneylenders. "We must oppose the stores of village merchants not with agencies representing outright coercion and violence, but our own cooperative stores. Against the village moneylender, who makes loans of money at a godless rate of interest or who rents his horse to the horseless peasant on crushing terms, we

must first and foremost advance a battery of our own credit societies, a good organization providing inexpensive cooperative credit and assistance from state authority. Our goods must be better and cheaper than the goods of the private merchant; our credit advances must be larger and far less expensive than the loans extended by the moneylender; the cooperative must do business better and be better adapted to local village demand than private trade. These are the weapons that we must move into the advanced positions of our struggle against the exploitative elements of the countryside" (ibid., p 57).

N.I. Bukharin did not share the Stalinist theory of the exacerbation of the class struggle as successes were achieved in the construction of socialism, although he did speak about the possibility of its temporary exacerbation under specific conditions. "Certain comrades, offering a correct evaluation of certain phenomena in rural areas, draw this conclusion...as a consequence of differentiation in our country there will be capitalists and hired farm laborers; class relations will be aggravated more and more, and quite inevitably matters will go to the point that we will have to carry out a second revolution, i.e., to expropriate the kulak by force.... I feel that this is incorrect from the theoretical standpoint and nonsensical and practical terms. If in the countryside we preach accumulation and at the same time promise to organize an armed uprising in 2 years, then they will be afraid to accumulate; this is not good theory, because the comrades who argue this way are forgetting one small trifle, namely: the dictatorship of the proletariat." With its economic levers the proletarian state has become capable of exerting an indirect pressure on the processes of reproduction in various groups of peasant farms.

The charges against N.I. Bukharin that he protected the kulak and advanced the slogan "Get rich!" are well-known. He did actually utter the slogan "Get rich!" but it was addressed to the entire peasantry. We will quote this statement of his more fully: "In general and on the whole, we need to tell the entire peasantry and all its strata: get rich, accumulate, develop your farm. Only idiots can say that we must always have poverty; we must now conduct a policy which will result in the disappearance of poverty in our country.... We prefer to allow the bourgeois peasant to develop his farm, but we will take from him far more than we take from the middle peasant. The resources we get from him we will give out in the form of credit to middle-peasant organizations or in some other form to the poor and to the farm laborers.... Anyone who fails to understand this meaning of our favorable attitude toward accumulation in the countryside and who adopts in this policy only the 'unleashing of the kulak' is suffering from the kulak deviation" ("O novoy ekonomicheskoy politike i nashikh zadachakh," p 31).

These sentences of N.I. Bukharin square entirely with the thoughts of Lenin, who wrote in his pamphlet "O prodovolstvennom naloge" [On the Food Tax]:

"...Everything must be set in motion in order to invigorate the turnover of industry and agriculture whatever it

might cost. Whoever achieves the best results in this area, even by means of private enterprise capitalism, even if it be without cooperation, without direct transformation of that capitalism into state capitalism, will bring greater benefit to the cause of building socialism throughout all of Russia than the person who will 'think' about the purity of communism and will write regulations, rules, and instructions for state capitalism and cooperation, but in practice does not get things moving.

"This can be demonstrated with the paradox: Private enterprise capitalism in the role of an accomplice of socialism?

"But this is not a paradox at all, but an absolutely indisputable economic fact" (Vol 43, p 233).

Incidentally, in quoting this passage from the writing of Lenin in a speech delivered to a meeting of the aktiv of the Leningrad organization of the VKP(b), N.I. Bukharin noted even in October 1927 that it would even then be incorrect to set forth this principle of "let them be capitalists, let it be done without cooperation, just so they produce an additional quantity of food" by the end of the period of reconstruction in industry, on the eve of the 14th congress, since poverty and the devastation of the postwar years had been overcome. Lenin, he said, always held up to shame the parroting of one and the same formulas without an analysis of the concrete historical economic and political reality (IZVESTIYA, 4 November 1927).

N.I. Bukharin attributed particular importance to eradication of the remnants of war communism, to guaranteeing legality in the processes of economic life, to stability in economic policy, and to development of democracy within the economy. What he had to say about cooperation are notable in this regard. As N.I. Bukharin remarks, there is no need to flinch from the fact that until recently the peasants have not felt particular confidence in the cooperative movement. To a considerable extent this occurred because the cooperation was suffering from numerous defects, and the peasant did not find in it what he should have found in it.

"These defects came down to us as a legacy from the time of war communism. Now they have to be eradicated with the greatest determination. First of all, cooperation must be fully voluntary and there must be democracy within the cooperative, i.e., the board and all the officials must be elected. The peasant will not pay his dues and will not trust his money when all the people have been appointed from above. He wants to have people whom he knows and whom he trusts. Only then will he vigorously build cooperation, only then will he have a vital interest in it."

Only when membership is voluntary and when the leaders of cooperative organizations are elected does cooperation play its role, spread on a large scale, and

gain economic strength, only then does the spontaneous activity of the peasant masses and their growing activity inevitably result in a rapid growth of agricultural cooperation. Cooperation, Bukharin felt, had to be relieved of superfluous tasks which should be performed by state agencies directly. If cooperation is burdened with tasks that require large sacrifices on the part of the peasantry, then, of course, people will not join it very willingly; which is why that is not the way to go about it. The cooperative must become a body whereby the peasant can improve himself economically. Then, with guarantees of elected leaders and voluntary membership, cooperation will become the peasantry's most cherished organization. These thoughts of Bukharin are in full accord with the present day, now that the Law on Cooperation has been adopted and the cooperative movement has been given a new thrust.

What N.I. Bukharin had to say about the struggle against bureaucracy and excessive centralization is also relevant. Speaking at the July (1928) Plenum of the party's Central Committee, he declared: "With respect to our economic authorities and with respect to our own internal structures, we have replaced all types of initiative with a single type—initiative on the part of the state and exclusively from above. We have smothered cooperative initiative at the lower level, local initiative, and all other initiative, and since we have overcentralized everything, the result is a bureaucratic apparatus so overcentralized and so much responsibility at the top, that it has turned into its own opposite."

Spelling out what he sees as the correct relationship between the powers of central agencies and those of agencies at the lower level, N.I. Bukharin wrote in an article entitled "Notes of an Economist," published in PRAVDA in September 1928: "We must learn civilized management under the complicated conditions of the reconstruction.... We have excessively overcentralized everything.... Which is not to say 'let loose the reins' by any means. The basic leadership, the most important questions, must be dealt with far more firmly and more rigidly (but at the same time more thoughtfully) 'at the center.' But lower-level authorities would operate within the strict limits of those decisions, would be responsible for their own range of issues, and so on."

In many of his writings, N.I. Bukharin advocates a complete renunciation of command methods of leadership and demands that the opinions and attitudes of the masses be taken into account in development of policy. He notes the importance of observing legality and a certain stability in following an economic line without which it is impossible to conduct economic activity optimally, and he emphasizes the direct connection between economic practice on the one hand and the proper organization of political activity and invigoration of the work of the soviets to protect the interests of the working peasantry on the other. "If we tell the peasant: You must improve your farm..., we cannot push that peasant about with our old system: today I will fall in

love with you if I like, tomorrow I will stop loving you if I like, today I will take so much, in a month so much and so much, and in half a year—I myself still do not know how much I will take. An efficient economy is impossible in a system of so-called administrative arbitrariness, and here a choice has to be made. If we want to improve the economy, then let us be so kind as to improve our own political superstructure" ("Tekushchiy moment i osnovy nashey politiki," p 38).

In the context of great economic freedom, Nikolay Ivanovich felt, the methods and content of soviet and party work undergo change. "...It is indispensable to the most active human nucleus of our soviet bodies and precisely to the members of our party and the leaders of those soviet bodies to eradicate in the current period the methods of command and issuing orders and to make a determined, complete, and unreserved transition to the methods of persuasion. This entire system of measures serves the cause of strengthening and developing the soviet system...and will guarantee ever greater growth (material, political, and general-cultural) of the broadest strata of the working masses.... The larger the number of people that the political system gives an opportunity to grow, the better that system is, and the more it represents a step forward by comparison to the historical past."

N.I. Bukharin saw the central task of party work to lie "in bringing" the entire party to an understanding of the need for the course that has been adopted and in disseminating that course among the masses, not directly, not by commands, but by methods of proof through the soviets and various public organizations.

Our present-day struggle against petty interference on the part of central bodies of government into the activity of organizations at the lower level and current demands for clear delineation of functions between the "top" and "lower level," between party, economic, and soviet authorities, serve as new confirmation of the correctness of the positions taken by N.I. Bukharin on this question. His protection of the principles of cooperative democracy and stubborn insistence that the Leninist slogan "One must not issue commands" be applied to the party and to its relations with the peasantry have not lost their importance even in our days. The demand to eradicate the command style toward the kolkhozes and cooperatives will now be embodied in the norms contained in the Law on Cooperation, in the new charters of the kolkhozes, and will be carried out in practice through their unswerving enforcement, the new style of party work within mass organizations, and those decisions which are to be discussed and reinforced by the upcoming 19th All-Union Party Conference.

In speaking about the writings of N.I. Bukharin we cannot bypass his mistakes in theory, in particular his underestimation of the role of the peasantry in the period preceding the transition to the New Economic

Policy, an error that was made by the overwhelming majority of party members at that time, his incorrect position on the question of self-determination of the nationalities, and so on.

There is no question that Lenin, who for many years worked side by side with N.I. Bukharin and who read and reviewed his writings, was well aware of his weak points and strong points as a theoretician and party figure. To be specific, he criticized N.I. Bukharin for his position on the issue of peace with Germany, for his understanding of the role and tasks of the trade unions, for affirming the speedy withering away of the state, which had its origin in his incorrect idea of the state under the conditions of the dictatorship of the proletariat, and so on.

In Lenin's speeches and letters one quite often reads critical (and rather cutting) statements addressed to N.I. Bukharin. But this criticism, the fairness of most of which N.I. Bukharin later acknowledged, did not stand in the way of their friendship. Nor was it hindered when N.I. Bukharin took the liberty of disputing Lenin's views on certain questions. Vladimir Ilich was distinguished by his well-known tolerance of the views of others. Moreover, in a certain sense this was his principle.

As is well-known, N.I. Bukharin, who had his own views about the strategies for the further development of our society, views that differed from those of Stalin, was accused of rightwing deviation and factionalism at the end of the twenties. An analysis of archive materials and publications shows that these charges were trumped up. Nor was there any basis to allusions to Lenin's statements about the need to preserve the unity of the party. After all, in discussing factionalism, it is emphasized in the Theses of the CPSU Central Committee for the 19th All-Union Party Conference, Lenin was resolutely opposed to instituting proceedings against comrades in the party because they thought differently on particular matters. He favored a constructive political dialogue serving the interests of the party and state, a pluralism of opinions.

In evaluating the views of N.I. Bukharin as a whole, we should note once again that they largely coincide with those of Lenin, they are based on them, they elaborate them with reference to processes taking place in our society after Lenin's death. It is no accident that N.I. Bukharin devoted many of his articles and speeches to popularizing Lenin's ideas ("Lenin as a Marxist" (1924); "Lenin's Political Legacy" (1929), etc.). It was precisely in the embodiment of Lenin's precepts that this distinguished figure of our party and the international communist movement, Lenin's comrade-in-arms, saw the real road to socialism.

Footnote

1. Born 27 September (9 October) 1888 in the family of a teacher. Took part in the revolutionary movement in his years as a youth. In 1906 he joined the Bolshevik Party. He

was arrested several times. In 1912 he became personally acquainted with V.I. Lenin in Krakow, and they became good friends. Active participant in the main nucleus of the party leadership that made preparations for the Bolshevik uprising in Moscow. Became editor of PRAVDA in December 1917. Member of the party's Central Committee and the Politburo of the Central Committee, member of the VTsIK and TsIK SSSR, member of the academy. Worked hard to prepare the First Congress of the Comintern, where he was elected to bodies of leadership to which he was reelected at all subsequent congresses (until the thirties), was a member of the Comintern Executive Committee and a secretary of the Comintern. In November 1929 he was dropped from membership in the Politburo of the VKP(b) Central Committee as the "leader of the rightwing deviation." Removed even before that from his posts in the newspaper PRAVDA and Comintern. After that, headed the scientific-technical department of VSNKh for a time, and after it was abolished—the corresponding subdivision in the People's Commissariat for Heavy Industry. In 1934 he headed the newspaper IZVESTIYA. In 1937 he was expelled from the party and from the academy and was arrested. In March 1938 he was included in the "case" of the rightwing Trotskyist bloc and was shot by sentence of the court. On 4 February 1988 the plenum of the USSR Supreme Court set aside the verdict against N.I. Bukharin, A.I. Rykov, and eight others who had been convicted with them and dismissed the case against them on grounds that their actions lacked the elements of a crime. On 10 May 1988 the Presidium of the USSR Academy of Sciences restored to N.I. Bukharin the title of member of the academy.

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PLANNING, PLAN IMPLEMENTATION

Basing State Plan on Enterprise Plans, Contracts Proposed

18200015a Moscow *PLANOVOYE KHOZYAYSTVO* in Russian No 8, Aug 88 (signed to press 25 Jul 88) pp 27-31

[Article by R. Lokshin, doctor of economic sciences: "The Plan, the Economic Agreement and the State Order"]

[Text] The categories mentioned in the headline reflect the interaction between the plan, which determines the

basic paths of economic and social development, and the means of its implementation—economic agreements that encompass the entire volume of commercial output (jobs and services), and also state orders that are constituent parts of it.

The directive role of the national economic plan consists in that it not only contains concrete assignments for production in physical terms of the most important kinds of products (jobs, services), which determine the most important proportions, but it is also intended to provide for a correspondence between these proportions, whose observance is verified with the help of value indicators (for example, between the consumption fund and the accumulation fund, the effective demand of the population and the supply of goods and services, the growth rates of the production of means of production and objects of consumption, the growth of labor productivity and wages).

Economic agreements determine the concrete consumer values in their numerous varieties and also the prices for them. The task of this part of the plan consists in more fully satisfying the needs of the population and the entire national economy for specific material goods. Naturally, the immense list of products contained in the agreements cannot and should not be an object for centralized planning or be envisioned in the consolidated assignments of the national economic plan. Therefore the Law on the State Enterprise (Association) establishes a policy whereby the annual plan is developed and approved by the enterprise independently, on the basis of its five-year plan and the economic agreements that have been concluded. Thus the agreement has been given new significance and has become not only the major and real instrument for coordinating the possibilities of satisfying needs between suppliers and consumers but also the basis and the condition for the formation of the production plan and the entire plan for economic and social development. Legislative recognition of the role of the economic agreement and the utilization through it of commodity and monetary relations in economic ties comprise a qualitative new aspect in the very process of planning.

A new situation has arisen in which, within the framework of centrally determined basic kinds of material resources and with the observance of economic normatives that provide for a combination of the interests of the society and the enterprise, the basis is the plan developed independently by the enterprise.

Why does the economic agreement provide more reliably for the balance of plans at the level of the basic unit of the enterprise's economy? Because the diversity of needs and possibilities of satisfying them are limited by various objective circumstances that can be revealed most precisely in the basic unit of the economy, during the course of concluding agreements among the enterprises, when one earmarks a detailed assortment and specific properties of the products proposed for production (delivery).

Here one takes into account the extent to which the products are being updated and their quality is being improved, and one establishes the price level and the mutual advantage (acceptability) of them for the suppliers and consumers, and the predictions of the demand are also refined. The supplier clarifies the possibilities of providing his production with the necessary kinds of raw materials, processed materials, batching items, equipment, and also personnel for producing products of the required quantity and quality. All this is also the object for coordination between the suppliers and consumers when concluding agreements. Obviously, these conditions and indicators, which in the final analysis determine the production and financial plans of the enterprises, cannot be previously taken into account in consolidated initial planning calculations or control figures formed at the upper levels of management and planning.

Each indicator included in the national economic plan and the calculations for it cannot coincide absolutely with the sum of the plans of the enterprise. Especially when speaking about general economic indicators which are not always predicted precisely, which are only probable and depend on a multitude of factors that are operating in opposition to one another. But since economic agreements are becoming an indispensable element in planning within the enterprise there arises a need to include in the procedure for drawing up the plan for the development of the country's national economy (before it is submitted for approval by the USSR Supreme Soviet) a mandatory conjunction (collation) with the plans adopted by the enterprises.

To do this it is necessary to generalize the plan indicators developed and adopted by the enterprises, including those in the economic agreements (in terms of volume of production and delivery of products and their physical-substantial and value composition). A comparison of generalized planning indicators of enterprises with consolidated projections at the upper level show the extent to which they are coordinated and balanced. Such a "return" plan will serve as feedback and verification of the coordination of the plans of enterprises and the combination of the principle of centralization and the independence of the enterprises. This will make it necessary for central economic agencies to adopt decisions that provide for more reliable balance of production and increase their responsibility.

On the basis of a realistic evaluation of the existing tendencies and unutilized possibilities, without violating the Law on the State Enterprise and without forcing the enterprises to revise the indicators they have adopted, the central economic agencies can submit for approval plans that are different from the generalized plans of the enterprises if there is an objective need for this. For example, planned procurements of milk, eggs and also cattle and poultry in the country as a whole can increase the volumes that are established in the local areas by the kolkhozes, and oblast (kray) administrative agencies (this is actually what has happened throughout the past few years). Among the possibilities that have not yet

been adopted by the enterprises and organizations and can realistically be taken into account when the plan is formed by the central economic agencies one can include, in particular, increasing procurements of agricultural products on subsidiary farms of the population and gardening societies, organizing the sale of nonfood products accepted on a commission basis from the citizens who engage in individual labor activity and cooperatives. It is also necessary to envision an increase in resources as a result of reducing losses from defective work, imperfections and the return of goods as well as reducing losses of food products during their processing and storage. The volume of these losses is very great and is estimated in the sum of 18-20 billion rubles.¹ We can also take advantage of the possibilities of enlisting under advantageous conditions the free capital at the disposal of the enterprises and the population, and so forth.

The proposed policy for drawing up plans for the development of the national economy as a whole on the basis of plans developed by the enterprises could be realized with the formation of plans for 1989 and 1990, which will be a period of transition before the entire complex of measures earmarked by the June (1987) Plenum of the CPSU Central Committee goes into effect under the forthcoming, 13th Five-Year Plan. This would also make it possible to verify the readiness of the enterprises, ministries, union republics, local soviets and central economic agencies for the introduction of the new economic mechanism at various levels.

Of course it cannot be ruled out that the suppliers and consumers can mutually coordinate easier commitments; after all they are not concerned with the general problems of balancing national economic indicators. "Do not include all reserves; anything can happen during the course of the fulfillment of the plan"—this is what enterprises managers and labor collectives frequently think. But if the enterprises are really confident that the established plans are formed not according to the previous principle of "from what has been achieved," if the effect of the new economic mechanism is revealed more fully, this possibility will be eliminated of its own accord and it will be disadvantageous for the enterprise to conceal reserves. And it is necessary to allow these possibilities to ripen and not to drown them out.

Without violating the rights of the enterprises and observing the Law on the State Enterprise and the legal norms included in it, the central agencies must take on responsibility for the substantiation of the evaluations and calculations that reflect the objective possibilities and needs.

It is possible to object to the proposed policy for forming the plan as though of two parts: the first—the generalizing plan for the enterprises and the second—the national economic proportions determined on the basis of calculations and substantiations of central economic agencies—by saying that this violates the unity of the plan: part of it, which is drawn up taking into account evaluations and tendencies of new management conditions, involves

probability and cannot be justified. But even when making planning assignments from above to below there are significant deviations from the fulfillment of the plans, which violate proportions and create imbalance. The latter arises also as a result of imprecise calculation of the possibilities of the branches and with the formation of the overall national economic plan of the enterprises. It is precisely for this reason, for example, that there are delays in the payment of wages in connection with the fact that the plans for commodity supply and commodity turnover are not sufficiently realistic and substantiated.

As concerns the position and role of the state order in planning, many judgments and critical remarks have been expressed regarding this by managers of industrial enterprises, kolkhozes, sovkhozes and trade organizations, by economists, legal experts, and journalists. The methods used by central economic agencies when drawing up the state orders for 1988, as was noted at a meeting of the Politburo of the CPSU Central Committee, limited the independence of the enterprises to select the assortment of products when concluding agreements. The shortcomings in material and technical supply were also a serious impediment to the development of initiative by production collectives. At the meeting they emphasized the need to strictly observe the fulfillment of the USSR Law on the State Enterprise (Association).²

When developing the state order for 1988 an attempt was actually made to return to the previous methods of planning: with the help of the state order, which is mandatory to be included in the plan, they tried to solve the problem of balance of the entire national economic plan. In essence, there was a lack of confidence in the possibilities of the new economic mechanism and in the idea that it would have a favorable effect on the results of the operation of all branches and on the provision of real balance.

When determining the prospects for the utilization of the state order as an instrument in planning, it seems to us, we should not excessively expand its framework since the economic agreement, which includes the state order, encompasses the activity of the enterprise more completely and comprehensively. In practice the state order is the same thing as an economic agreement but it is augmented by mutual commitments that pertain, in particular, to prices, products lists, and special qualitative characteristics of products (raw material).

For example, in the state order one should not include, as is now the case, the overall volume of retail commodity turnover along with the sales of alcoholic beverages and other items, which account for approximately 12 percent of the commodity turnover. There is no discussing tastes but alcohol and tobacco can hardly be included among the primary social needs as is envisioned by the requirements for products which can be included in the state order. Moreover, here we have not observed another requirement that pertains to the state order—guaranteed supply of material resources for it. Approximately 40 percent of the commodity turnover (not counting alcoholic beverages) is provided with resources

from local sources, and they are not planned centrally. Since by decision of the CPSU Central Committee and the USSR Council of Ministers, the councils of ministers of the union republics and ispolkoms of local soviets have been given the responsibility for the condition of the monetary circulation and the balance of monetary incomes and expenditures of the population on their territory and their rights have been expanded in the area of planning the production of consumer goods,³ the volume of retail commodity turnover can be determined not in the state order but on the basis of the proposals of the union republics.

In our opinion, we need primarily not a "rescuing" new indicator in the form of the state order as it took form in 1988 but a comprehensive plan that is balanced in terms of physical-substantial and value composition that encompasses all of the needs of the national economy and realistically evaluates the possibilities of satisfying them in the given period. The economic mechanism includes incentives that are intended to give motivation to produce better, more and with optimal expenditures.

It is possible to establish special conditions between the suppliers and consumers for encouraging the output of various kinds of products (with the help of prices and concretization in the agreements of consumer qualities, requirements for updating the products that are being produced, expanding the list or reducing it by removing outdated brands and articles). The USSR Gosplan and the USSR Ministry of Trade—and with respect to consumer goods the USSR Gosstab as well—in terms of means of production can, if necessary, use the state order to make additions that determine the priorities in the list of products that are produced (and delivered) which will be taken into account when concluding agreements.

When developing national economic plans one must not disregard a new factor in the development of the economy—the Law on Cooperation, which determines the economic, social, organizational and legal conditions for the activity of cooperatives. It has been established that cooperative enterprises (organizations) along with state ones are the basic unit of the unified national economic complex. In the future the role of cooperatives in procurement, trade, consumer services, construction, transportation, scientific and technical, and other spheres of activity will increase.

In keeping with the Law the cooperatives independently plan their production and financial activity and social development. The plans (or estimates of incomes and expenditures) are approved by a general meeting of cooperative members.

When developing their plans the cooperatives proceed from the effective demand for their products (goods, jobs, services) and the possibilities of obtaining the income necessary for the production and social development and wages. The basis of the plan of the cooperatives is comprised of agreements concluded with consumers and suppliers of material and technical resources.

The cooperative can arbitrarily take responsibility for fulfilling state orders, including under conditions of competition. Economic agreements are concluded for the fulfillment of these orders.

When developing plans the cooperatives utilize certain long-term economic normatives determined by the state: the price level for products produced and sold under agreements for the fulfillment of the state order and also those manufactured from raw and processed materials delivered to the cooperative from state resources; rates for tax payment; interest on bank loans; normatives for payments for natural resources; payments for discharges of pollutants; normatives for deductions into the state social security fund. Certain other economic normatives or other initial data for planning are not regulated. Products and goods produced by the cooperative itself are sold at prices and rates established by it according to agreements with the consumer or independently (work is performed and services are rendered under the same conditions). There is a predictable process of interpenetration of economic mechanisms that are operating in keeping with the laws on the state enterprise and on cooperation. There is reason to assume that in the process of mutual adaptation, there will arise an economic mechanism that is flexible and is the same for state and cooperative enterprises which creates additional incentives for economic growth.

Footnotes

1. See KOMMUNIST, 1988 No 9, p 57.
2. See PRAVDA, 4 March 1988.
3. See "O korennoy perestroyke upravleniya ekonomiko-ye" [The Radical Restructuring of Economic Management], Moscow, Politizdat, 1987 p 224.

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Planning Process Changes Examined, Reader Proposals Noted

Gosplan Official Interview

18200289 Moscow *PLANOVOYE KHOZYAYSTVO* in Russian No 7, Jul 88 (signed to press 23 Jun 88) pp 29-33

[Interview with Ye.A. Ivanov, USSR Gosplan's Deputy Department Head, by O.Yefimov: "First Steps of Perestroyka in the Planning Process"; first two paragraphs are source introduction]

[Text] The two and a half years of the current 5-year plan saw considerable changes in the process of planning our

economic development. The USSR Law on State Enterprises (Organizations) was passed and came into force on January 1, and the work of central planning entities is being restructured. Their focus is increasingly shifting to developing strategic guidelines for the country's economic development. The process of developing state plans is being improved.

The journal has asked the USSR Gosplan's Deputy Department Head Ye.A. Ivanov to answer a number of questions on the initial results of perestroika in planning.

[Question] The party and the government have passed a number of important resolutions to improve economic planning. How are these resolutions implemented? What has been done in practice?

[Answer] In the past few years, urgent work has been accomplished in changing the structure and methods of planning. The USSR Law on State Enterprises (Organizations) has come into force, making it necessary to set the 1988 plan in compliance with the new requirements. Yet, the shift to the new structure and methods of planning has been neither simple nor painless. The problem is that the new system has not yet been introduced in every area of the economy. Moreover, many of the new planning policies introduced by the law on enterprises are meant to achieve a new approach to the 5-year plan, not to annual plans. Starting with the next 5-year period, there will be no annual state plans at all. Meanwhile, they must still be set, and we had to rely on an entire set of planning policies meant for a 5-year plan. All this made using new planning methods more difficult in 1988. Nevertheless, we can state that the 1988 plan, in its structure and content as well as the character of its targets, approaches the type of plan that will exist under the new system of economic management.

All economic targets for industries that have fully switched to self-financing have been set until the end of the current 5-year plan. Enterprises, concerns and organizations were given their state order figures. Unfortunately, not everything there was appropriate or well thought-out. I must admit that in 1988 state orders covered too high a share of enterprises' output plans. Of course, the transitional quality of the current stage of radical economic reform was a factor, as was the fact that it was started during the existing 5-year plan. But mistakes were also made. The planners' tendency to include as many orders as possible into the plan played a role. Ministries assisted them in this task by overloading state orders. This situation has been a target of sharp criticism in the press and was condemned at a meeting of the USSR Council of Ministers' Presidium. Such mistakes must not be repeated in the future. The government has asked the USSR Gosplan and Gosstab, as well as other central entities, to study the early experience of state orders planning, identify errors and recommend ways to eliminate them in the 1989 and 1990 plans.

We have completed the draft of the State Orders Guidelines for 1989 and 1990. The need for this document is obvious. We had to set levels and limits for state orders, so that they could naturally coexist with the requirements of enterprises' economic independence and of central economic regulation. The guidelines call for a considerable reduction in the type of state orders; they will exclude goods for intra-industry use and mass production output. We are switching from output targets to delivery targets. We have also developed ways to institute competitive bidding for state orders and to make them economically efficient. This way, they will not crimp enterprises' initiative and independence and will conform to the requirements of the enterprise law.

Other changes in plan development have been implemented. Enterprises have been given their basic targets, or guidelines. They consisted mainly of cost indicators, which used to be required figures but now represent only approximate targets. This is a very important point.

The detrimental effect on production of industry commodity output targets is well-known. Yet, in the 1988 plan these targets are no longer obligatory and they no longer tie enterprises' hands.

Enterprises were also given their ceilings on utilization of most important economic resources.

The changes in the plan's structure are meant to allow enterprises to develop their own plans and to enter into economic relationships with their partners. This is a step toward the main goal of planning reform, i.e., toward democratization of planning.

Naturally, it is too early to announce that everything has been done. Instances of administrative pressure on enterprises still occur. In a number of cases, the system of economic targets is excessively rigid and it limits enterprises' independence. These are the first steps of radical perestroika in planning; the most important thing is that these steps have been made.

The year 1989 will usher the decisive stage in further democratization of planning: enterprises in all industries will switch to self-financing. Thus, a foundation will be laid for consistent change in the structure and methods of planning for the 13th 5-year plan.

[Question] The June 1987 CPSU Central Committee's Plenum approved a new system of state plans. How is it implemented?

[Answer] As is well-known, the June 1987 CPSU Central Committee's Plenum approved a system of state plans and preliminary documents that is absolutely unprecedented both in its form and content; the system is included in the Concept of the Country's Economic and Social Development for the Next 15 Years: General Directions and the 5-Year Plan.

We have finished the first stage of writing the Concept of USSR Economic and Social Development. It can be called a managerial and political platform for economic development. Very importantly, several versions of the concept were developed, each with a different set of goals and priorities, degree to which they can be accomplished at a given point of development of production structures and their effectiveness.

When the concept's drafts are submitted for discussion, these versions will be thoroughly analyzed and the one that fits more closely with the long-term aims of party economic policy will be selected.

Thus, as decreed by the June 1987 CPSU Central Committee's Plenum, this aspect of planning improvement is also being implemented. However, much work still lies ahead. By the end of the year we must develop and pass on to ministries, agencies and union republics targets that will come out of the Concept of the Country's Economic and Social Development. The year 1989 will be devoted to writing General Directions of the USSR Economic and Social Development in the 13th 5-Year Plan and to the Year 2005. An important result of these will be target figures for the 13th 5-year plan. Based on them, enterprises, concerns and organizations, putting their full managerial independent to work, will develop and approve their own 5-year plans.

[Question] Rate of economic growth used to be a closely watched indicator of economic development. Now we speak of quality of growth. What is the meaning for this term and how does it affect the task of switching to mainly technologically intensive methods of economic development?

[Answer] The question of economic growth rates has always been central in state planning. However, the 27th CPSU Congress raised this question in a completely new, broader context. The congress proposed the concept of accelerated social and economic development of the country, defining and explaining this term.

Accelerated social and economic development of the country means above all the quality of growth, i.e., economic growth based on more technology-intensive production, technological progress and implementation of broad structural improvements and of new investment policies aimed to improve the forms and methods of economic management. At the early stages of implementation of the concept of accelerated development, it was extremely important to overcome the trend of declining economic growth rates developed in the preceding 5-year periods. In a large measure, this goal has been achieved in the first half of the current 5-year plan. Growth rates have risen in industrial production, agriculture, capital investment and business construction. This encouraging fact suggests that the economy is no longer in a pre-crisis situation. Moreover, the following point must be made: the CPSU Central Committee's Theses for the 19 All-Union Party Conference called not

only for higher growth rates in industrial production and business construction, but for improvements in qualitative indicators. It is important that all that has been achieved on a healthier economic foundation.

Of course, two years' worth of data is not enough to conclude that a steady trend of accelerated growth has been established, especially since improvements have not been consistent during this period. We also need to make sure that the reversal of the declining trend in economic growth turns into a steady trend of accelerated social and economic development based on a qualitatively new foundation. Yet, the most important steps in this direction have been undertaken.

The current 5-year period has seen some improvements in the quality of growth as well. The entire increment in national income has been due to higher labor productivity. It is extremely important that that growth has been achieved by producing useful output, by means of real production results. There has been considerable progress in modernizing the machine building industry's output and in producing new, more advanced goods. The share of technological retooling in national income has been growing, as has been the scale of restructuring of existing industries.

At the same time, it is actually quality of economic growth that has lagged behind most in this 5-year period. I refer primarily to resource conservation. The plan in this extremely important area of technological intensification of production has effectively failed.

In 1986, resource efficiency of the economy rose much slower than planned, and in 1987 it failed to rise at all. The result has been failure to reach growth targets for national income, the end goal of the economy. Consequently, we can not claim that the transition to mainly technologically intensive methods in our economic development has proceeded according to plan.

Failure to fulfill the plan for resource conservation and resource efficiency of production has hampered the implementation of structural policy. Low resource efficiency seriously harms the economy, since additional quantities of fuel, metals, chemicals and construction materials and lumber have been produced. Consequently, contrary to plan, heavy industry continues to work more or less to satisfy its own needs, cutting into the consumer sector. The relationship between the extracting and processing sectors remains highly unsatisfactory; as a result, an important structural improvement—faster growth in consumer goods output (group "B")—has not been achieved.

The 5-year plan calls for group "B" goods to grow 1.1 times faster than group "A" goods, but in reality, group "A" goods have surpassed group "B" goods 1.2 times, which has caused underfulfillment of the retail sales plan and hampered the fulfillment of the consumer income growth plan.

Nevertheless, we can point to several actual structural improvements. I refer primarily to increased social awareness in the development of our economy and in particular to the fact that the method of planning whereby social issues were addressed as a residual is being consistently eliminated. The share of capital investment in the social sector has risen drastically. This has helped increase the rate of completion of social sector projects. The machine building industry has also been growing faster than the rest of the economy, albeit to a lesser extent than envisioned in the plan.

In short, the implementation of the 12th 5-year plan's structural policy has not proceeded evenly in all directions.

[Question] The General Directions of the Country's Economic and Social Development for 1986-1990 call for a 20-23 percent increase in labor productivity. What additional measures are needed to achieve this?

[Answer] On the whole, the labor productivity situation seems to be shaping out well. Practically the entire increment in industrial production has been due to higher labor productivity. The plan for productivity growth has been overfulfilled in manufacturing, agriculture, construction and transportation. Yet, in the economy as a whole targets for productivity growth have not been reached. In the last 2 years it grew 6.3 percent compared to 8 percent called for by the 5-year plan. Why did it happen? The problem here is the general economic situation and the above-mentioned failure to fulfill the plan for resource conservation. The labor productivity growth rate in every sector of the economy is computed using full value of output, including cost of inputs. In the economy as a whole, labor productivity is computed using national income, i.e., end product minus cost of materials. Thus, the culprit here has not been the worker, who has been increasing his productivity, but conservation technologies. Such technologies have been too few and have not helped achieve needed labor cost savings. As a result, higher labor productivity has been achieved by using excess fuels, raw materials and other material resources. To ensure required labor productivity growth we must, first of all, make sure that the resource conservation program has been implemented.

[Question] No matter how good the plan, its implementation depends primarily on working collectives. How is it possible to mobilize workers to fulfill the plan and what should be included in the plan itself for this purpose?

[Answer] It should be stated that already at the early stages of implementation of the new management system its main feature came to the fore, i.e., the initiative and creativity of workers themselves, their sincere interest in the fate of their plants. We, the planners, felt it in the intensity of their criticism of certain shortcomings of the 1988 plan. It had never happened before. It means that

we have overcome the indifference of working collectives to the quality of the plan and to the volume, content and character of the targets that they are assigned by Moscow. Consequently, new requirements are applied to the plan itself. It should not fetter working collectives' industrial activity but, on the contrary, aim to cover only those questions that could not be resolved by working collective themselves because their solution requires the knowledge of all economic equations. Thus, to mobilize workers to fulfill its targets, the plan should be free of excessive orders, detail, anything that working collectives can and must resolve by themselves.

Reader on Supplementary Plans

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pp 117-119

[Article by P. Krylov, Candidate in Science, Economics under the "Readers Propose" rubric: "Economic Growth Indicators"]

[Text] Starting in 1987, some changes have been introduced into planning methods. The most important of these is the elimination of the so-called "base-numbers" method, whereby new plan targets (both stock and rates) were set based on previous year results; instead, the current year plan is now based on the plan for the preceding year. The change was intended to increase the importance of the 5-year plan targets. In the 1987 and 1988 plans this line was, on the whole, followed.

In setting plan targets based on the previous year's plan, a number of difficulties arise. In the course of plan implementation, certain deviations from it inevitably occur and, as a result, while the volume of output remains unchanged, growth rates measured against the plan would be different from those measured against the previous year's output. For instance, in 1987 the industrial output target was set at R870 billion, or 4.4 percent higher than a year before. However, in reality, industrial output grew to R838 billion in 1986, instead of the R833 billion envisioned by the plan. Consequently, the 1987 growth rate computed by the new method would be only 3.8 percent.

This may seem a mere formality, since the total 1987 output remains unchanged in relation to the 5-year plan. However, this is wrong, since growth rates are important in their own right. During the 12th 5-year plan, the policy of raising year-to-year growth rates has been adopted. Yet, the above-mentioned example shows that it has not been fulfilled in all indicators.

The practice of setting targets based on the previous year's plan affects not only the absolute value of growth rates but the level of targets as well. The problem is that if the economy is experiencing robust growth, actual output is somewhat higher than planned, which is not taken into account when the next year's targets are set. As a result, some indicators turn out to be lower than a

year before. For instance, the coal production plan called for 735 million tons to be produced in 1986, 744 million tons in 1987 and 754 million tons in 1988; actual output, however, was 751 million tons in 1986 and 760 million tons in 1987. The same occurred in natural gas production where, because the plan was overfulfilled in 1986 and 1987, much smaller increases were envisioned than actually achieved.

The 1987 plan set excessively low targets for transportation as well: freight volumes were set to equal 1986 figures and for railroads even a little lower—despite the rise in demand for freight transportation. This allowed railroads to fulfill their annual freight hauling plan despite lengthy service interruptions in wintertime and numerous delays in delivery. The total volume of freight carried by railroads rose 3 percent in 1986 and 1987, considerably below the average annual rates called for in the 5-year plan.

Low production targets were also set for the food processing industry, even though more raw agricultural products was available. The 1987 plan, for instance, called for practically no increase in the production of meat and sausage products. Reductions in the production of whole milk products and butter were planned. It is interesting that as a rule no such reductions actually occurred. The output of the above-mentioned food products rose between 4 percent and 7 percent.

To raise the output of the most important product types, actual demand for which has been higher than provided for by the 5-year plan targets, supplementary plans¹ have been introduced; they were not part of the compulsory targets but stimulated by economic means. In the coal industry, for instance, they totaled 16 million tons per year in 1987 and 1988. The use of such orders grew especially in 1988: they included up to 15 million cubic meters of gas, 6.4 million tons of oil, over 1 million tons of ferrous metal and steel pipe, around 17 million cubic meters of lumber, 2 million tons of concrete, etc.

The return to supplementary plans is sometimes explained by the need to preserve the stability of the 5-year plan targets. The system, however, has certain defects. Enterprises effectively have two plans: the main (compulsory) one and the supplementary (recommended) one. A contradiction then arises: supplementary targets are not obligatory for managers, but they are still included in budgets and distribution plans, and in the centrally set limits on resource inputs, which must be obeyed.

In a number of cases, supplementary plans ignore real capacities of plants and therefore are not fulfilled. For instance, in 1987 lumber production fell short not only of the large supplementary plan but of the main one as well, which affected many users of timber.

The use of supplementary plans appears especially doubtful since one of the premises of radical reform is to encourage enterprises to strive for higher (yet realistic) targets using a set of economic inducements. To stimulate enterprises in some sectors of the economy to overfulfill their 5-year plans, instead of relying on supplementary plans, a consistent system should be adopted whereby contributions to wage and inducement funds would rise progressively as collectives approve higher annual goals.

It should also be noted that in some cases the new planning method leads to excessively high targets. For instance, in the machine building and other industries, the 1987 plan for about one half of extremely important product types was only 70-to-95 percent fulfilled. To achieve levels envisioned by the 5-year plan, the 1988 plan had to make up for the shortfall and called for increases of 10-to-15 percent for some types of machinery and equipment.

The situation has been particularly complex in retail sales. The 1988 plan called for a moderate R9.3 billion (2.6 percent) increase over the 1986 plan. But compared to the actual 1987 figures, they had to rise R22 billion, or 6.5 percent, since 1987 sales were R12.6 billion short of plan. That was an extremely high target. The 1988 sales plan has been lagging behind. Naturally, the 1988 sales plan was based not only on growth trend but on the level of money income of the population and supply of goods. However, the final targets should have probably been set taking into account last year's results as well.

The same situation exists in the case of national income: since the 1987 plan was not fulfilled, 1988 targets were set too high compared to last year's results. Despite the generally successful pace of plan fulfillment in main economic sectors in the first quarter of this year, national income grew at a 4 percent rate—much below the required rate recalculated based on actual figures, which is over 6 percent, close to the planned 4.3 percent and considerably above the 2.3 percent rate in 1987.

Thus, it can be concluded that if the plan is set based on the previous year's plan, targets may become excessive if the latter is underfulfilled, and too low if it is overfulfilled.

The impact of the previous year's results on the plan for the following year is illustrated by the USSR State Committee on Statistics' 1987 report, which for the first time contains growth rates not only based on the previous year's report but on the 1986 plan as well. They lack, however, data on the pace of fulfillment of the 5-year plan as a whole during 1986 and 1987. This means that the rule to report the pace of fulfillment of the 5-year plan year by year has been broken.

Discrepancies in the state plan and, accordingly, in the plans of ministries and agencies when they are set based on planned rather than actual results, impact not only

the economy and its sectors but concerns and enterprises as well. In compliance with the Law on State Enterprises (Associations) they must set and approve their own plans, based on targets and state orders figures computed by their supervisory organizations. Therefore, it is very important to calculate state orders correctly, since they are included into the plans.

However, the most important shortcoming of the practice of basing targets on the previous year's plan is that it does not analyze the actual level of development, which is one of the main principles of planning. Such analysis helps trace economic development at all levels of the economy, the change in demand, the availability of supplies and how efficiently they are utilized and the implementation of social policies. Developing a plan without looking at how the old plan was fulfilled may lead to it becoming divorced from real conditions of production. A planning system that underestimates this analysis may result in inability to identify hidden reserves in the economy and design measures to tap them.

Criticism of the old "base-numbers" method of planning is justified when plans are mechanically tailored to suit actual results, which weakens enterprises' incentive to improve their work or tap internal reserves. This does not mean, however, that when the plan is being developed, previous year results should be completely ignored. Yet, this has been the trend in planning for the past several years. For instance, in its plan development forms [distributed to managers], the USSR Gosplan eliminated all questions related to anticipated fulfillment of the current plan, which used to be the basis for analyzing the results of economic development.

Naturally, analysis of base levels is a period of transition to an integrated 5-year plan has its own special features. Its main goal is to determine the pace of fulfillment of the 5-year plan and, mainly, to identify weaknesses, unused reserves, etc. This should help create conditions for fulfilling and overfulfilling the 5-year plan.

Even though the old practice of setting and approving state economic and social development plans on an annual basis has been eliminated, there is a mechanism whereby appropriate corrections can be made in the 5-year plan. The CPSU Central Committee and the USSR Council of Ministers' resolution on restructuring in planning states that the USSR Gosplan, based on recommendations from ministries, agencies, union republics' councils of ministers and the USSR Council of Ministers' entities in charge of various economic sectors, and taking into account new goals and changing economic conditions, can make needed modifications in the 5-year plan targets in order to achieve more balanced economic development.

Footnote

1. Official documents avoid the use of the term supplementary plans. For instance, the 1988 plan describes them

as centrally distributed orders for output delivery which exceed state orders, but their essence remains the same.

Capital-Output Ratio Calculation Questioned

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pp 119-120

[Article by M. Rusakovskiy and S. Volfovich, under the "Readers Propose" rubric: "Calculation of the Capital-Output Ratio"]

[Text] Currently, the capital-to-output ratio is computed using full initial book value of capital equipment. Defending this approach, some economists claim that it describes the true contribution of means of production to output, while valuations based on depreciation do not reflect the actual conditions of their utilization and distort data on their efficiency.

This is wrong. Capital is used at many phases of the production process and for a long period of time, retaining its original shape but gradually losing its value as equipment and structures age, transferring it into finished output. The transfer of value in order to eventually replace capital equipment in full is accomplished by including amortization costs into production costs.

Existing rules to compute the input of capital equipment overestimate it, thereby inflating output costs, underestimating profits and returns on investment and incorrectly assessing the impact of technology in production.

Moreover, the transfer of value of means of production into output as they age by means of including amortization costs into total costs should be limited by their original cost, at which they enter the productive process. Consequently, the time period in which amortization costs are charged should not exceed the planned term of utilization of a piece of equipment.

Currently, however, amortization is charged as long as equipment is in use, which also inflates the cost of output and reduces profits accordingly. Yet, the same equipment can not be amortized indefinitely. Once the recommended time period has elapsed, the full value of means of production has been transferred to output and charging amortization costs can no longer be justified. Amortization of capital which no longer has any value should also be viewed as a mistake.

If a piece of capital equipment has paid for itself in full in the price of finished output, payments toward its full replacement should be stopped, and a tax on capital equipment functioning past its recommended use period should be levied on profits, which on the one hand would safeguard the interests of the state and on the other would not harm the enterprise, which would get additional profits by taking good care of its capital equipment.

Thus, in calculating the capital-to-output ratio we should take into account the full balance-sheet cost of equipment minus its depreciation. Amortization costs should not be charged for equipment that has been fully repaid in output and thus has no value.

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Ministry, Branch Coordination on Capital Investment Plan Needed

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[Article by N. Budunova, doctor of economic sciences, professor: "Capital Investments in the Branch"]

[Text] Under the new economic conditions the activity of ministries is concentrated on shaping the prospects for development of the branch, more attention will be paid to long-term forecasts based on a study of the need of the national economy and the foreign economic need for products, to determination of the priority directions for improvement of equipment and technology and the productive plant. One of their main functions is to increase the return from capital investment in the growth of production capacities and the renewal of fixed capital.

The decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Restructuring the Activity of Ministries and Departments in the Sphere of Material Production Under the New Economic Conditions" notes that they are obligated to conduct an effective investment policy in accordance with the targets of the branch's development and to guarantee the optimum combination of state and centralized capital investments with capital investments financed from the funds of enterprises for development of production and social welfare.

What is distinctive about the economic situation today is that many enterprises are operating in the old way. That is why it is especially important to study the real process of the shaping of investment policy under the new economic conditions in order to eliminate the difficulties that arise. We have been analyzing experience in carrying it out through the example of light industry, whose enterprises have participated first in the large-scale economic experiment and then were among the first in the country to make the transition to full self-support and self-financing. Typical problems in the conduct of the investment process were revealed in the study of the branch's activity.

Light industry had definite success before the economic reform. Over the period 1971-1985, 1,020 enterprises were built or underwent reconstruction, the share of outlays for reconstruction and retooling amounted to

63 percent of the total volume of capital investments, and the capital-labor ratio tripled. This made it possible to increase the volume of production and to update the product assortment to some extent. Over the 15-year period labor productivity rose almost 60 percent, including a twofold increase in the cotton subbranch.

At the same time, adverse trends built up in the branch which resulted in a slowing down of the growth rates of production. Targets were not fulfilled for output of a number of the most important products, and the output-capital ratio and profitability of production dropped off. Aside from shortcomings in the organization of the raw materials base and the shortage of labor resources, the results of the branch's economic performance were essentially influenced by the character of renewal of fixed capital.

Retooling was distinguished by low efficiency, the quality of the equipment activated was in most cases low, and the rate of renewal of the productive plant was clearly inadequate. This had the result that the depreciation of capital assets at enterprises increased from 24 to 37 percent, outlays for general overhaul rose from 324 to 568 million rubles, including a 2.5-fold increase for machines and equipment.

At the present time, only 20 percent of domestic equipment of enterprises in light industry is up to the world technical level; the other 80 percent fall short of foreign models with respect to the degree of automation, reliability of operation, productivity, and other indicators. The deterioration of production buildings is extensive, 571 structures with a total value of 1.3 billion rubles and an area of 2 million square meters are in unsatisfactory condition. What is more, 30 percent of the buildings and installations built before 1950 are in need of reconstruction, since they do not meet the requirements of construction standards and rules.

As the branch makes the transition to self-support and self-financing, the issue has been raised very sharply of the need for very rapid, effective, and large-scale renewal of the productive plant. Unless this issue is resolved, it is not possible to appreciably improve the quality of products, it is difficult to sell them, enterprises do not realize more profit or the total amount of resources for economic incentives and technical development of production.

In accordance with the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Restructuring Planning and Enhancement of the Role of USSR Gosplan Under the New Economic Conditions," enterprises independently organize the drafting of plans for retooling and reconstruction of existing production, and then they submit them to the ministry, where the sectoral investment plan is shaped up. The requests for the relevant physical resources must first be covered by regional agencies of USSR Gosstab.

The rise in the activity of enterprises in light industry with respect to retooling has been reflected in the substantial growth of the amount of capital investments and construction and installation work planned for 1988 to update existing production. For instance, the program for renewal which is planned for fulfillment by direct labor in 1988 was fivefold greater than in the previous year. But the total limit-allowance of construction and installation work originally planned in the ministry for the coming year and including reconstruction, retooling (financed with the resources of enterprises), and also continuation of the construction of projects carried over and the building of new projects, exceeds 1.5-fold the volume envisaged for 1988 in the 5-year plan. But because of the shortage of material and technical resources it was not possible to raise the planned limit-allowance of construction and installation work. That is why a substantial portion of enterprises will not be able to carry out plans for renewal of production with their own resources (by the direct-labor method), even though they have the money resources.

A characteristic situation in the planning of capital investments of the branch in the period of the economic reform is being sketched out here. Enterprises are accumulating the necessary resources in the fund for development of production, science, and technology, but they are not receiving the physical counterpart of those funds. An objective necessity arises for selection of the measures they have planned to update production and for the staff headquarters of the branch to discover the most effective alternatives so as to reduce their number and bring them into conformity with the limit-allowance on construction and installation work.

As shown by an analysis of the projects included in the capital construction plan for 1987 in the USSR Ministry of Light Industry, the level of their efficiency varies greatly. A comparison of the projects of enterprises of the same type, for example, four cotton factories—in Bryansk, Neftezhavodsk (TuSSR), Kurgan-Tyube, and Geokchay (AzSSR), showed a spread of specific capital investments per unit output of 1:1.5 (the lowest level of indicators for one of the factories was taken as unity), profit per unit of fixed capital showed a spread of 1:2.76, and labor productivity a spread of 1:1.6. The spreads were still larger for other enterprises. The differences of the same indicators for four cotton enterprises undergoing reconstruction were also great. If the lowest level of specific capital investments at any of the four factories mentioned is taken as 100 percent, then for the others the capital intensiveness of the growth of output rose 70-400 percent, the ratio of the growth of profit to the growth of fixed capital was 100-221 percent, and the rated productivity of labor varied between twofold and fourfold.

At four newly built cotton factories the average level of specific capital investments was threefold greater than at enterprises which underwent expansion, but it was 2.8-fold higher at enterprises that underwent reconstruction.

The average profitability of fixed capital for reconstruction, expansion, and new construction (at the enterprises under consideration) was 1:14:60.

When existing enterprises undergo renewal, capital intensiveness may experience a rather large swing—every project for expansion and reconstruction is ordinarily an individual matter. It takes into account the degree of wear of fixed capital, the peculiarity of the new technology being applied, the scale of renewal, and other factors. The specific capital intensiveness for new construction of enterprises of the same type ought not to differ within very broad limits.

Improvement of the management of the efficiency of the investment process in the branch presupposes the drafting of a comprehensive program for renewal of existing production.

The limited nature of material resources dictates the need to select the most effective alternatives. Usually when there is an insufficiency of limit-allowances of construction and installation work, ministries issue instructions to reduce the number of enterprise requests for reconstruction and retooling without preliminary calculations of the efficiency of the proposal for renewal of production submitted. Quite often in this connection they fail to take into account that solutions in the capital construction field that are not efficient enough will in a few years have an impact on the results of economic activity. The matter is compounded by the fact that no uniform and standard recommendations exist on methods of determining the economic efficiency of capital investments for reconstruction, expansion, and retooling of existing enterprises.

Under the new economic conditions both enterprises and ministries have economic motivation to correctly determine the benefit. Calculations of this kind are indispensable to making planning more realistic, to increasing the return on capital outlays, and to improving the economic performance of the branch.

But the enterprise and the ministry carry a different functional load in the process of discovering the economically advantageous versions among alternatives for renewal of production. And it is important that this be reflected in methods developed for determining the efficiency of capital investments. The ministry imposes the overall plan of investments in reconstruction, expansion, retooling, and new construction. All the forms of reproduction of fixed capital fall within its field of vision. The enterprise is updating its own productive plant, and the economic efficiency of capital investments is evaluated from that standpoint. A document should be drafted on the method of determining the efficiency of capital outlays so that the enterprise would know for sure which indicators and calculations it can rely on in defending inclusion of its projects in the plan of construction and installation work.

The main purpose of developing methods is to orient the enterprise and the ministry toward the most efficient use of capital investments in updating the productive plant under the new economic conditions. In accordance with the Law on the State Enterprise, profit is the summary indicator of economic performance. On that basis one would expect the maximum growth of profit per ruble of capital outlays to be taken as the summary benefit from capital investments in the renewal of fixed capital. This summary indicator brings together the investment interests of the ministry and the enterprise as they make the transition to full cost accounting (*khozyaystvennyy raschet*): the larger the growth of profit at a particular project that has been updated, the higher the level of that indicator in the branch as a whole, other things being equal.

The enterprise should not only determine the level of the anticipated actual benefit after renewal of the capital as compared to the indicators before renewal. It is important to evaluate the reconstruction project referring to the branch's scale of indicators: the average growth of profit per ruble of capital investments for the branch, the standard assigned to that indicator, or the indicator for a group of progressive enterprises. Of these standards of comparison, the most effective in our view is the standard (planned) indicator for the branch.

The ministry might work out quantitative benchmarks for the branch of the basic technical-and-economic indicators of reconstruction, expansion, and retooling projects, reflecting the most progressive solutions in the renewal of production. The enterprise has a direct interest in this. Relying on the standards set for specific capital investments and the standard level of their efficiency, it can monitor the work of the designers on an ongoing basis and not accept for performance reconstruction designs which are disadvantageous to it. Those same standard indicators would also be used by bank personnel in issuing credit only if the renewal of existing production is efficient.

We should emphasize along with this that the efficiency of capital outlays can be authentically increased only if the actual efficiency of capital investments is taken into account at the level of the branch and the individual enterprise. In our view, the indicator of the actual return from every ruble of capital investments (in the form of the growth of profit or output) must be determined for every newly built enterprise and enterprise undergoing reconstruction. The efficient use of capital investments must be stimulated by the banks—by means of a certain reduction of the rate of interest on the loan; and by ministries—by increasing the capital investments allocated to enterprises from its centralized fund. It would be advisable for the ministries themselves to report to Gosplan on the actual efficiency of capital outlays.

In order to help the enterprise achieve the most efficient use of capital investments, the ministry should organize a broad consulting and information service in the

branch. Ministry specialists could join project planning organizations and the branch's leading production engineers in working out recommendations for economical and promising strategies for technical improvement of production. It is evident that the initiative in organizing this effort remains with the ministry; it has a stake in convincing enterprises that such consultations are in the interest of the work collective.

A very important aspect of the activity of ministries is working out relations of authentic partnership with the machinebuilders who serve the branch. A detailed study of the need of enterprises in view of the specific nature of existing buildings and equipment should not be ordered in general, but on the basis of the concrete possibility of maximum utilization of the area of the shop floor after reconstruction. It is well-known that in the large-scale renewal of cotton factories in Ivanovo Oblast the losses in production of finished fabrics could have been 143 million square meters because the dimensions of the new looms did not fit the old buildings. Only by expanding the buildings out and up did they guarantee a growth of capacity through reconstruction and retooling, but there was a substantial increase in outlays of capital investments for the passive part of fixed capital.

Given the scarcity of allowances for construction and installation work, when the best versions for renewal of existing enterprises and construction of new ones are being chosen for inclusion in the annual or 5-year plan, it is important that principal attention be paid to correct evaluation of the efficiency of capital outlays for technical improvement of old production operations. In a number of branches of industry, especially the textile industry, there are quite a few enterprises built 60-100 years ago; outlays to update them are seen as having low efficiency. For instance, the specific capital investments in reconstruction of textile factories (combines) average 1.3-2-fold higher than for new construction projects of the same kind.

Present computational practice does not afford the possibilities of correctly evaluating the effectiveness of capital outlays in reconstruction and new construction. In calculations of the efficiency of updating old enterprises, the accumulated depreciation must first be taken into account in the precise determination of capital investments.

Specific capital investments for new construction are calculated as the ratio of the estimated construction cost to the capacity activated. For an enterprise undergoing reconstruction they are determined as the ratio of the estimated reconstruction cost of the project to the growth of capacity, which is equal to the newly activated capacity minus the capacity retired.

Of course, when the indicator of specific capital investments is structured in this way, in practice the reconstruction of old enterprises is frequently more expensive than new construction, since in renewal of existing

production there is a large-scale replacement of equipment, and after the reconstruction work is done, there is no sizable growth of capacity.

The liquidation of capital assets which are completely worn-out is being taken as a loss of capacity. But the retirement of capacity is legitimately seen as a stage in the circulation of fixed capital. And if depreciation were kept (accumulated) up to the moment when the physical capital assets were replaced, the enterprise (or branch) would not look upon that kind of retirement as a loss, since it would have the accumulated equivalent of the value to replace the loss through acquisition of new machines and equipment. But if the accumulated depreciation has been used for other purposes, then all of the wear and the liquidation of capital assets (capacity) are seen as a loss without any compensation. And it turns out that new capital investments are needed to replace physically worn-out machines and equipment.

Under the new economic conditions almost all depreciation for replacement will remain at the disposition of the enterprise. But the point of departure must be that old capital assets are still functioning in their physical form, and their value passed on would largely be transferred to centralized funds and would be used for new construction or renewal of the means of production of other enterprises.

It is important to make a correction to this effect, then, for capital investments in new construction and reconstruction of enterprises so as to make the calculations comparable. The accumulated amount of depreciation for replacement should be deducted from the estimated cost of reconstruction. In this case, the volume of capital investments for the growth of capacity will be determined more accurately, and the specific capital outlays for reconstruction will turn out to be equal to the ratio of its estimated cost minus accumulated depreciation, divided by the growth of capacity.

In a number of cases it is difficult to calculate accumulated depreciation on the fixed capital being retired, since the actual length of its service exceeds 2-3-fold the standard service life, and depreciation rates have been changed several times over its operating life. In such a situation it is advisable to structure the indicator of specific capital investments in reconstruction differently. One needs to define it as the ratio of the estimated cost of the reconstruction project not to the growth of capacity, but to the new capacity.

It is legitimate to compare both of the revised indicators to specific capital investments in new construction, since when a new industrial project is built, all the outlays go for the growth of capacity (output). In this way, one gets comparable indicators, and calculations of the comparative efficiency substantially improve the accuracy of evaluation of alternative versions.

In the planning of the investment process it is important to take into account real sources of a saving on capital investments for reconstruction and retooling of production as compared to new construction.

First, when an enterprise is updated, there is no need to build the housing stock and facilities for cultural and consumer services: in a number of cases it not only does not involve increasing the number of new jobs, but makes it possible to reduce the size of the labor force. For example, automation of technological processes in cotton combines in Ivanovo Oblast made it possible to expand service areas in spinning and weaving, and this helped to eliminate more than 7,600 job positions.

Second, the updating enterprises is usually done without major expansion of production area. There is a saving of land; capital outlays to develop and clear the site are only one-fifth or one-tenth what they are for new construction.

Third, reconstruction and retooling not only help to improve production, they also considerably improve working conditions, reduce personnel turnover, and stabilize the highly skilled staff of personnel that has been formed. When a new enterprise is built, that work force has to be created, funds spent to train personnel, and time spent to improve their qualifications. Given the scarcity of labor resources, it is very important to preserve a skilled work force.

Fourth, when an enterprise is updated, there may be a saving on capital investments if the scrap building material from tearing down old buildings and installations is used as a secondary resource. This source of saving is as a practical matter not taken into account in planning the investment process, when building scrap is correctly used.

Specialists capable of issuing a concrete recommendation on the use of construction scrap in reconstruction must work in the consulting service of the ministry. The ministry can order from machinebuilders the proper construction machines that make it possible not to demolish old buildings and installations, but to dismantle them. When old buildings are torn down and rebuilt, it is possible to pick out metal, lumber, stone, concrete, and metal fabrications suitable for reuse in buildings being rebuilt, as well as in the filled bed for paving and to fill gravel and crushed-rock areas instead of gravel and crushed rock, which are scarce and expensive. While a major reconstruction project is taking place, it would be wise to set up cost-accounting subdivisions for scrap utilization to pick out secondary resources and prepare them for use. This would reduce the cost of the purchase and delivery of building materials. It has been calculated that the yield of suitable building materials when the structural elements of buildings are dismantled with power tools is 30-70 percent of the requirement for erecting the same structural elements, and the secondary resources obtained are considerably cheaper than new

ones: one-ninth for brick, between one-thirtieth and one-fortieth for glass, between one-fortieth and one-fiftieth for cleaned steel fabrications, and one-tenth for wood components. It has to be taken into account that the renewal of enterprises making the conversion to full cost accounting and self-financing is limited because of the shortage of building materials. That is why extensive use of secondary resources will make it possible not only to reduce the cost of enterprise renewal, but also to expand its scale.

In the context of the radical restructuring of the economy, the shaping of a long-range plan for development of investment policy of the branch and more thorough drafting of a program for increasing the efficiency of capital investments over the medium term are becoming urgent tasks. Since capital outlays will be going predominantly for reconstruction and retooling of production, one of the aspects of medium-term analytical work in the branch must be to plan the process of renewal of fixed capital. This is where the program of technical policy in the branch and the task of improving the planning of renewal of the productive plant come together. A fundamentally new approach is needed to organization of efficient renewal of enterprises.

At the present time, production undergoes reconstruction on the basis of individual project designs. That means a low level of industrialization of construction work, high labor intensiveness and materials intensiveness in that work, and updating is more expensive.

Future reconstruction needs to be planned even in the stage of designing the new enterprise. It must be built so that it is possible to replace the equipment several times without modifying production buildings and so that utilities, industrial transport, and warehouse space can be quickly expanded and updated. Reliance here has to be placed on standard technical-and-economic parameters developed for equipment and buildings. Newly developed equipment must fit within the accepted dimensions of industrial buildings. Then the possibility is opened up for developing standard designs for updating the fixed capital of existing enterprises, optimally combining the characteristics of the machines and the buildings.

But this extremely important factor remains outside the field of vision of both the customer ministry and the project designers. For instance, the plan of the USSR Ministry of Light Industry for 1987-1988 included the construction of a number of footwear factories practically every one of which had its own particular space-layout design. Consequently, in a few years each of them will undergo not standard reconstruction, but custom reconstruction.

Improvement of space-layout designs in project plans for construction, construction of large buildings with more widely spaced rows of columns to conform to the general plan for renewal of fixed capital, and the drafting of a

future plan for reconstruction when new enterprises are designed—all of this results in a substantial saving of capital investments committed to existing production.

Construction of buildings with floors and ceilings that can be changed, movable walls, and a system of standardized utility mains makes reconstruction substantially less expensive. Of course, the design of future reconstruction is directly bound up with improvement of the design of new construction, the forecast of technical progress in machines and equipment and processes, and definition of a long-range model for reconstruction of every enterprise.

Efforts of this kind must rely on a uniform system of modules, which has to be created and approved as a mandatory system for coordinating the dimensions of the space-layout and structural elements of buildings and installations as well as of old and newly designed equipment. This is an exceedingly important problem, solving it will help to raise the technical and economic level of designs. This brings forth a fundamentally new approach to reducing the cost of updating fixed capital. It is a question of creating the conditions for construction to be done on a series basis in the updating of industrial structures, of the possibility of standard designs for renewal, and of raising the level of industrialization of the construction and installation work involved in reconstruction.

The uniform system of modules is directly bound up with standardization, which on the one hand reduces the unwarranted diversity of types of equipment (and elements of them) and types of technologies, while on the other it instills greater uniformity into space-layout and structural designs in the schemes of industrial buildings and installations. Standardization affords a large economic benefit and rapid payoff of capital investments both in production and also in the building of industrial projects. The task is to unite and coordinate the efforts of project planners, designers, and layout planners in reducing the different types and sizes and in creating a uniform system of buildings as well as new machine tools, machines, and units coming to replace those being retired.

Implementation of this kind of technical policy needs to begin now, in the period of economic restructuring. It will make it possible to improve the reproducibility of designs in industrial construction not only in the stage of new construction, but also when enterprises are being updated. The possibility is also opened up for standard design of the renewal of fixed capital.

Raising the level of standardization and the use of standard designs for reconstruction will contribute to industrialization of construction under the conditions of existing production. The level of prefabrication and mechanization of labor will be raised, and this will tend to reduce the labor intensiveness of construction and installation work involved in reconstruction. What is

more, the reproducibility of the conditions for the construction process when enterprises are being updated is a necessary prerequisite for development of the specialization of builders and for improvement of their qualifications. The result will be shorter reconstruction time, better and cheaper construction work under the conditions of existing production, and also a rise in the efficiency of capital investments.

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INDUSTRIAL DEVELOPMENT, PERFORMANCE

Plant Directors on Retooling, Resource Conservation Problems

18200014a Moscow *PLANOVOYE KHOZYAYSTVO* in
Russian No 8, Aug 88 (signed to press 25 Jul 88) pp
3-10

[Article by L.P. Khadzhinov, general director of the Zaporozhskiy Transformatornyy Zavod Production Association; Yu.A. Isayev, general director of the AvtoUAZ; and I.I. Kulashov, general director of the Minskiy Traktorny Zavod imeni V.I. Lenin: "Delegates to the 19th All-Union Party Congress"]

[Text] The magazine's editorial staff asked delegates to the 19th All-Union Party Congress, general director of the Zaporozhskiy Transformatornyy Zavod PO L. P. Khadzhinov; the AvtoUAZ PO Yu. A. Isayev; and the Minskiy Traktorny Zavod imeni V. I. Lenin PO, I. I. Kulashov to discuss the technical retooling of production; how problems of resource saving are being resolved; whether there is a demand for the products produced by the enterprise and to what extent the demand for them is being satisfied; and the content of the program for the collective's social development and its implementation.

L. P. Khadzhinov (general director of the Zaporozhtransformator PO).

Development at the level of the primary production unit means processes based on scientific and technical progress for updating the products that are produced and the production potential that is utilized. And the main principle for the scientific and technical activity is a systematic approach to solving the problems facing the collective.

At the Zaporozhtransformator PO a large amount of work is being done for comprehensive technical retooling of existing productions in order to provide for increased volumes of output, improved quality and reliability of products, and the assimilation of the production of new kinds of items, including consumer goods. Improvement and renewal of the production and

technical base makes it possible to increase labor productivity, to economize on material and energy resources, and to improve working conditions. The association's development of work for introducing the achievements of scientific and technical progress under the 12th Five-Year Plan requires annual capital expenditures for technical retooling of up to 10 million rubles.

One of the basic conditions for maintaining production at a high technical level is the constant introduction of progressive new equipment. Each year for the needs of technical retooling the association acquires and manufactures up to 400 units of technological equipment, more than 30 percent of which goes to replace outdated equipment. But so far we have not managed to achieve the necessary updating of the production apparatus: at the present time about 25 percent of the machine tools is still comprised of equipment more than 20 years of age.

Technical retooling is impossible without construction and installation work, which in our branch is done mainly by repair-construction trusts of the ministry. The latter have limited possibilities and do not satisfy the association's need for the work.

A good deal is now being said and written about the need for construction by the internal financing method. This is a correct direction. But its realization requires a construction mechanism and various instruments and materials, and they are practically not allotted. As a result there are thousands of small subdivisions for producing concrete, metal structures and so forth. Obviously it would be expedient to organize such productions on a regional basis and supply them with products from the enterprise regardless of their departmental jurisdiction.

The association, in keeping with the Law on the State Enterprise, has changed over to complete cost accounting and self-financing, and it is applying the second model, one of whose tasks is to stimulate resource saving. Expansion of deliveries for exports also requires that the collective continue to steadily reduce the weight specifications of the items in order to make them competitive.

We have accumulated a certain amount of experience in working to economize on raw and processed materials. Thus the proportional expenditure of rolled ferrous metals per 1 million rubles' worth of output decreased from 439 tons in 1980 to 295 tons in 1987. At the same time the solution to these problems does not depend completely on the activity of the collective. For example, rolled metal is an important resource for the association but its assortment is limited. If the metallurgists expand the assortment even by a factor of 2, the savings would be considerably greater.

We do not like the norm setting for material resources per 1 million rubles of commodity output which is being applied at the present time. Since the association does

not produce series or mass products, and wholesale prices for the basic products are not constant, there can be no guarantee of the comparability of indicators for norm setting for material expenditures (there can be distortions both higher and lower than the actual need). I think that the needs of enterprises for materials should be satisfied according to the calculations that are submitted, but at the same time large sanctions should be introduced for artificially increasing them.

The Zaporozhtransformator Production Association is the main producer and supplier of energy equipment: powerful transformers with high and superhigh voltage; high voltage measurement transformers of current and voltage; comprehensive distribution devices and voltage regulators. Our production capacities enable us to produce high-powered transformers with capacities of from 1 to 1,250 mV amps and voltage of from 10 to 1,150 kV in volumes necessary for equipment of thermal, hydraulic and atomic electric power stations and also energy systems with extra long distance power transmission lines with alternating current of up to 1,150 kV and direct current of up to 750 kV. Taking into account the prospects for our development we can satisfy the real needs for electrical equipment with the existing rates of increase in energy capacities.

True, the products that are produced do not fully correspond to requirements of scientific and technical progress in energy engineering. Therefore capital investment should be directed toward solving large national economic and scientific-technical problems. If this direction is adhered to in transformer construction, in the area of the production of high-voltage equipment no real steps are being taken. Further improvement of high-voltage equipment consists in applying insulating gas, which provides for a significant reduction of materials, as well as safe and reliable operation of equipment of atomic electric power stations. The USSR Ministry of the Electrical Equipment Industry has put off the construction of the second section of the high-voltage equipment plant which was intended for solving this most important problem.

Traditionally in the association questions of social development have been raised and resolved on a level with problems of a production nature. We have always tried to avoid the residual principle of financing the social sphere. Even some of the incentive funds are frequently used not for bonuses but for social development. This has made it possible to sharply increase the housing fund and construct nine children's institutions, a palace of culture, a stadium, a water station, a children and youth sports complex, recreation bases and other facilities for cultural and domestic purposes and to use significant amounts of money for creating a health space. Today because of this the association has a ramified and stable social infrastructure, which has contributed to keeping personnel and creating a stable collective. For a decade the indicator of labor turnover for the association has not exceeded 6 percent.

But in recent years in the implementation of measures of the social program tendencies toward stagnation have begun to appear. The fact is that in the city of Zaporozhye is concentrated a group of capital-intensive metallurgical productions whose fixed capital is obsolete and worn out and must be immediately reconstructed. A large quantity of resources must be taken away by the unsatisfactory ecological situation in the city. As a result, the capacities of the construction industry are almost completely loaded for solving these problems. For example, according to rough figures, the reconstruction of the Zaporozhstal Combine alone will require approximately up to 5 billion rubles, and the capacities of all the construction organizations in the city amount to 1.2 billion rubles a year. All this has led to serious difficulties in the assimilation of funds allotted for the construction of housing and facilities for social and cultural purposes. The matter is reaching the absurd. Local soviets because of the lack of capacities of construction organizations have refused to accept 2.4 million rubles allotted by the USSR Ministry of the Electrical Equipment Industry for shared participation for the development of the city's water supply network.

At the present time the association's collective is taking decisive steps along the path of satisfying the workers' need for individual apartments (houses) by the year 2000. Recently the association organized a cost-accounting specialized construction-installation administration for constructing housing and other facilities for social-cultural purposes by the internal financing method. If the subdivision is given assistance in acquiring means of mechanization, transportation, and material resources, the program established by the labor collective council for the association's social development up to the year 2000 will be fulfilled, and in addition to the existing social-cultural and construction facilities there will be a second section of a Pioneer camp, a facility to accommodate 30 in Kislovodsk, another children's combine, and so forth.

Yu. A. Isayev (general director of the AvtoUAZ PO). In implementing the decisions of the 19th All-Union Party Congress the automotive plant workers of Ulyanovsk are increasing the output of small, full-gear motor vehicles with increased passability, for which the demand in the national economy is increasing every day. An increase in the production of all-terrain vehicles will be accomplished through technical retooling and reconstruction of the enterprise and increasing the labor productivity.

Technical retooling is impossible without replacing worn-out and obsolete equipment. At the automotive plant 40 percent of it has been in operation for more than 20 years. We need highly productive automated equipment that eliminates heavy physical labor and improves working conditions.

In press-welding production alone it is intended to install 16 automated lines for welding cabs and components.

Some of the heavy press equipment in the sheet-stamping production will be replaced and in the machine assembly production 52 automated lines and 930 units of specialized technological equipment will be introduced.

Unfortunately, the USSR Gosplan, Ministry of the Automotive Industry and Ministry of the Machine Tool and Tool-Building Industry have not made a simple decision regarding the delivery of automated lines for mechanical processing to the association. It was earmarked for 10-12 percent of the equipment to be updated annually, but they are managing to update only 3 percent. At seven plants of the association they have allotted 70-80 units of equipment a year so far instead of 250-300.

Earning a good deal of profit under the conditions of self-recoupment and self-financing, we have the possibility of acquiring the necessary equipment at enterprises of the Ministry of the Machine Tool and Tool-Building Industry, but we find no understanding there. Thus the Gorkiy Machine Tool Association unjustifiably refused to deliver 15 specialized milling machines for processing hinges for motor vehicles. And this means that we cannot supply the national economy with a sufficient quantity of spare parts that are in short supply. The Volga Automotive Plant and the Zaporozhye Avtopromsvarka NPO are not fulfilling their commitments for deliveries.

The association is carrying out extensive modernization of the motor vehicles that are produced. For example, this year and next year we will introduce a transmission box with synchronized gears, the capacity of the gasoline engine will be increased to 90 horsepower, the brake systems will become more reliable, and the noise insulation will be improved. All this will make it possible to raise the technical level of the motor vehicles and satisfy the requirements of our consumers at home and abroad.

By the end of the current five-year plan the association's designers will complete the development of a new model of motor vehicle. A diesel engine with the capacity of 100-110 horsepower will be put into production at the Ulyanovsk Engine Plant. In connection with the output of the new motor vehicle it is intended to reconstruct all plants of the association.

The increase in the production of motor vehicles is not to cause an increase in the consumption of material and energy resources. In this connection we have developed and are implementing a comprehensive program for economizing on rolled metal and fuel and energy resources. Thus the consumption of metal will decrease by 26,500 tons or 14.8 percent. The planned volume of rolled metal will be saved as a result of improving the designs of motor vehicles, expanding the consumption of economical rolled metal, and improving its utilization.

There are difficulties here as well. The strict requirements for reliability of motor vehicles dictates a need for high-quality, hot rolled metal of Group D. The utilization of any other metal leads only to an unjustifiable overexpenditure of it. The quality of the products of metallurgical plants (the Volgograd Krasnyy Oktyabr, the Izhstal PO, and the Magnitogorsk and Zlatoust) leave something to be desired.

In addition to carrying out the tasks of technical retooling, improving the quality of technical equipment that is produced and creating new models of motor vehicles, a plan has been drawn up for the social development of the plants of the association which envisions solving the housing problem and improving the conditions for the labor and life of the workers.

In fulfilling the program "Housing-90," which was given broad support and approval in the labor collectives, we are constructing buildings by the internal financing method. Thus for the head plant under the current five-year plan it is planned to construct more than 178,000 square meters of housing and 120,000 square meters of these by the internal financing method.

The waiting list for housing is published in the plant newspaper. The initiative for each automotive plant worker to work a certain amount of time constructing facilities for social, cultural and domestic purposes has also found support in the collectives. The future new residents in their spare time along with the builders will build the house and participate actively in the finishing of their apartments.

During 2 years of the five-year plan at the head plant alone the waiting list for housing decreased by 985 families. This is considerably more than during the same period of the last five-year plan, but less than was planned, mainly because of the arrears in the development of planning estimates and shortfalls in the provision of material and technical resources. In order to rectify the situation we are concluding direct agreements with planning institutes and enterprises of the construction industry of other regions of the country.

At the present time we have begun planning our own housing construction combine with the capacity of 70,000 square meters of residential space a year. Moreover, we are beginning to develop solid block of housing construction. The questions of constructing housing are resolved in combination with the construction of facilities for social purposes. We have constructed a children's combine to accommodate 160, two polyclinics for 400 visits, and a comprehensive receiving point for consumer services. At the same time capital repair and reconstruction are being carried out on the old housing supply.

At the same time we have fallen behind in improving production life. Automotive Plant workers are not fully provided with leisure time facilities or seating places in

dining rooms. Therefore a task has been set to bring leisure time premises and dining rooms up to the standard norms and requirements before the end of the five-year plan. Moreover, in keeping with the plan for social development, construction of a second recreation base is being completed at the plant, construction has been started on a new Pioneer camp, and planning documentation for the reconstruction of the Palace of Culture and the tourist base is being prepared.

The association has created a subsidiary farm. As compared to 1984 meat production has increased from 70 to 253 tons a year, and milk—from 500 to 727 tons. The productivity of grain crops has increased from 11.2 to 20.7 quintals per hectare. The plan for the development of the subsidiary farm envisions increasing meat production to 420 tons by 1990, which will be approximately 17 kilograms per worker, and milk—to 1,200 tons or 50 kilograms per worker.

In 1987 we produced 38.4 million rubles' worth of commercial products in excess of the plan. The production plan was fulfilled for motor vehicles and spare parts as well as consumer goods. We provided for 100 percent fulfillment of contractual commitments. The entire increase in output since the beginning of the five-year plan was achieved as a result of increasing labor productivity. We received more than 30 million rubles in profit in excess of the plan. About 10 million rubles were deposited into the fund for social and cultural measures and housing construction from above-plan profit.

I. I. Kulashov (general director of the Minskiy Traktorny Zavod imeni V. I. Lenin PO). The association's collective is constantly searching for new and better methods of management. When preparing for changing over to the new management conditions we did an in-depth economic analysis of the production and economic activity over a number of years, which revealed the existing production reserves. The results of the analysis were used as a basis for developing planning indicators and economic normatives for the 13th Five-Year Plan. For intraplant subdivisions we have envisioned a system of cost-accounting relations. Personnel have been trained. Within the framework of universal training we have prepared methodological literature which we provide for each worker.

In 1987 as compared to 1986 we increased the volume of output of products by 9.9 percent, which was more than the assignment of the five-year plan. We produced 25 million rubles' worth of items, including 300 tractors, in excess of the plan. The proportion of products of the highest quality category in the overall production volume is 63.2 percent, and in the volume subject to certification—99.3 percent. The entire increase was provided as a result of increasing labor productivity. Profit increased by 18 percent. We received 13.6 million rubles

in above-plan profit, more than 7 million rubles of which was deposited into the economic incentive funds. The enterprise had no above-normative supplies of commodity and material values.

The collective is working without reducing rates this year as well. Contractual deliveries are being made in full volume. The association is working stably and maintaining a stable financial position.

Cost accounting has been the basic method of economic management in the association for a long time. All the branch plants, productions, shops, departments, and services have clear-cut work indicators that are the same for all years of the five-year plan. Constant attention is devoted to the introduction of brigade cost accounting.

Today the association has created 1,296 brigades which include 20,855 workers (83 percent). Three-fourths of them arrange their work according to principles of cost accounting and many of them have personal accounts for savings.

Self-financing has required accelerated introduction of progressive forms and methods of labor organization. Internal cost accounting is closely linked to contract organization and payment for labor since it is the collective contract that is the highest form of internal production relations.

The steel-smelting shop was changed over to the contract in 1987 and in January of this year—Boundary No 1, which specializes in cast iron, and the shop for cabs. Two more large subdivisions will also be changed over.

On the basis of progressive norms for the utilization of production capacities and equipment, labor and material resources, each contract collective has been given stable (until the end of the five-year plan) planning and technical economic indicators and economic normatives.

The legal basis for the activity of the contract subdivisions was the agreement concluded at all levels of management. The agreement determines the commitments and mutual responsibilities of the parties for its implementation.

With the introduction of the collective contract in the shops special attention was devoted to material incentives which include payment of the workers from the wage fund and the material incentive fund.

A significant source for increasing the material incentive fund of the shop is the savings on the material resources. In contract shops there are provisions concerning bonuses for workers for economizing on the expenditure of electric energy and materials, which also contribute to increasing the material incentive fund. The bonuses for workers are paid within the limits of money earned by the collective, but the amount of the personal bonus is not limited.

Special significance is attached to economizing on material resources. With a significant increase in the output of tractors, spare parts and consumer goods during the past five-year plan the expenditure of rolled ferrous metals decreased. Economical expenditure of rolled ferrous metals is achieved through improving the designs and improving the weight specifications of tractors; introducing progressive technological processes using modern technological equipment; introducing substitutes for rolled metal; and expanding the volumes of the utilization of commercial scrap metal.

Under the 11th Five-Year Plan we saved 48,400 tons of rolled ferrous metals and the norms for its expenditure per one tractor decreased by 317 kilograms, which is 20.9 percent.

In 2.5 years of the current five-year plan the reduction of the proportional expenditure of rolled ferrous metals per 1 million rubles' worth of commercial output amounted to 15.99 percent while the plan was for 12.6 percent, and 38,900 tons of rolled ferrous metal have been saved.

We have developed a comprehensive program for economizing on metal and other materials which envisions improvement of the design of tractors, their quality, reliability and durability, increasing the service life to 10,000-12,000 motor-hours before the first capital repair.

Under conditions of self-financing and complete cost accounting it is necessary to solve a number of problems for improving material and technical supply for production. Arbitrary, technically unsubstantiated assignments for reducing the proportional expenditures of material resources for 1 million rubles' worth of commodity output have a negative effect on the quality of the items that are produced as well as on their reliability, durability and ability to compete. The association, working under the conditions of complete cost accounting, is itself interested in optimal consumption of material and other resources since they comprise a significant proportion of the production cost of the products that are produced.

It is necessary to refine the relationship between prices for materials and products that are produced. Thus the prices for rolled ferrous metals during past years have increased by an average of 25 percent and for certain kinds of rolled metal—by 80 percent. But the wholesale prices for tractors have remained the same.

Under the current five-year plan it is intended to increase the capacities for the annual production to 120,000 Belarus tractors. They see the solution to this problem in conducting technical retooling of existing production as well as expansion and reconstruction of the enterprise.

It is planned to utilize 250 million rubles for implementation of the program for technical retooling. Before the

end of the current five-year plan production capacities will be increased by 15,000 tractors, more than 825 unnecessary workplaces will be eliminated, and labor productivity will increase by 21.3 percent. Capacities for machine tool building itself will be increased by 5 million rubles.

All sections of production are subject to retooling, as a result of which the technical level of the production and the tractors will increase, the quality of the products that are produced and the working conditions for the workers will improve, and harmful substances discharged into the environment will decrease. During the five-year plan it is intended to update the active part of fixed capital by up to 40 percent.

Last year the association manufactured 100,000 tractors. More than 300 units of highly productive equipment were introduced into production, the capacities of 5,500 tractors were increased, the updating of the active part of fixed capital amounted to 11.8 percent, and 50.2 million rubles' worth of capital investments were assimilated.

The Belarus tractors are in demand among consumers both in our country and abroad. More than 20 percent of the tractors produced are exported to more than 70 countries, including capitalist ones. This year the association began to sell Belarus tractors for individual use to cooperatives, collectives and workers under contract.

According to calculations of the USSR Agroprom, the demand for Belarus tractors for the national economy is being satisfied by little more than 70 percent. The demands of individual republics and oblasts is not being fully satisfied.

The tractors are being technically improved so that they can be utilized more broadly. A comfortable new cab has been installed and work is being done to introduce hydraulic steering, a system for automatic regulation of the depth of plowing, a gearbox for shifting gears while in motion, and so forth.

The installation of these components will make it possible to bring the tractors up to the level of modern world models and will make it possible to utilize them more effectively in agriculture. Even today with respect to individual parameters they surpassed the best foreign models (unification, provision of mounted equipment, automatic engagement of the front axle drive).

The introduction of new components and sets of hearts in order to raise the technical level and increase export deliveries requires accelerated retooling of the machine fleet of equipment. In 1988 it is planned to use 46.2 million rubles for technical retooling. This is a serious problem if one takes into account the difficulties we are encountering. Thus for 1988 only 50 percent of the required quantity of equipment has been allotted. A similar situation is taking shape for 1989. The problem of providing special equipment, sets of machine tools, and automatic lines is especially crucial.

Another important problem is to find a contractor for conducting the construction and installation work. Construction organizations are unwilling to work in existing production—it is disadvantageous. An equally crucial problem is that of distributing new hydraulic components among specialized plants of the branch.

In addition to technical retooling a great deal of attention is being devoted to the social development of the collective. At the present time the leisure time premises are 93 percent of the required norm. There are about 90 recreation and eating rooms and 15 saunas in operation.

The association has 26 children's institutions and the dormitories fully satisfy the needs of everyone. There are two polyclinics, a dispensary, a house and bases for recreation, a stadium, a palace of culture, and a Pioneer camp.

During the years with the 11th Five-Year Plan housing conditions were improved for 1,600 workers. A considerable amount of attention is being devoted to reducing the number of workers engaged in manual labor, but so far their proportion is still significant.

Under the current five-year plan the association is faced with large tasks for further expanding and improving social development. It is intended to increase the number of seating places in plant dining rooms, to put into operation two children's combines, a polyclinic, a hospital, health points, and a Pioneer camp in the city of Smorgon, and to construct 106,500 square meters of dwelling space, which will make it possible to improve housing conditions for more than 1,000 families.

With the association's changeover to complete cost accounting its rights in the area of social development expanded significantly. For the first time they began construction on two residential buildings by the internal financing method, and a house of domestic services, a culinary shop, a self-service laundry, and meat-smoking shops were put into operation. The association has a subsidiary farm whose products go into the sphere of public catering for the workers.

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Gosplan Official Urges Change in Metal Production Priorities

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in Russian No 33, Aug 88 p 2

[Article by USSR Gosplan Deputy Chairman V. Vanchikov: "A Shift in Priorities" under the "Implementation of the Decisions of the 19th All-Union Party Conference" rubric]

[Text] The paradox is that we, the world's largest metal producers, must spend foreign currency on imported

pipes, rolled metal and other metal products because our own production is insufficient. Meanwhile, orders from industry continue to increase. Data have shown that the use of metal in our economy per unit of output is much higher than in other developed countries and that shortages of metal cannot be eliminated simply by raising production. We must change priorities, profoundly altering structural materials in general and the mix of output of the metal industry in particular.

To solve this exceptionally important problem the government has developed the "Metal Utilization" program.

The goal of the program is to ensure maximum satisfaction of the economy's demand for ferrous and nonferrous metals while cutting in half the relative use of metal to produce national income by the year 2000. What are the main means of achieving this goal?

Plastics Instead of Metals

One of those means is replacing metal with other structural materials (which means producing more of such materials). These include composites, plastics, ceramics and other advanced structural materials.

Plastics have long proven their worth as reliable substitutes for metals. For instance, unlike steel pipes, polyethylene pipes do not rust. Automobile bodies do not necessarily have to be made of sheet metal; instead, plastics would do just fine. A ton of plastics saves 3 to 7 tons of ferrous and nonferrous metals.

However, plastics are still rarely used in machine building. It would suffice to mention that their share in total structural materials production barely exceeds 1 percent. The reason is easy to see. Plastics are produced in low-volume runs, which makes them unnecessarily costly. Indeed, polycarbonate costs 24 times as much as metal and ABS plastic 26 to 27 times. It makes no sense for machine building enterprises to use them. For comparison, abroad, where plastics are mass-produced, the relationship between the prices of plastics and metals is somewhat different. Polycarbonate is only 7 to 10 times more costly than metal and the same plastic only 2 to 3 times.

The "Metal Utilization" program calls for an increase of 2.5 to 3 in deliveries of plastics to the machine building industry for replacement of ferrous metals alone, and a 4 fold increase in deliveries to the construction industry by 2000.

However, we must not only increase plastics production; we must produce high-durability plastics. We must also improve the quality of ordinary plastics.

The general program to enhance the role of the chemical industry in the USSR economy by the year 2000 had been developed earlier. The ministries of the chemical,

oil refining and petrochemical industries and the USSR Ministry of Chemical Fertilizer Production have been instructed to modify that program in view of the need to reduce the relative use of metal in national income.

Materials of the Future

We have high hopes for composite materials. Every ton of composites is equivalent to 5 to 11 tons of metal. In particular, the use of composites in the large transport airplanes "Anteys" has helped to make those powerful flying machines considerably lighter.

Significant improvements in economic efficiency will be achieved by the use of ceramics (which are metal oxides combined with other materials), especially in products subjected to extremely high or low temperatures. If moving parts of an internal combustion engine were made of ceramics, it would not need a cooling system. Ceramic parts in color television sets prevent the sets from spontaneously igniting.

The replacement of metals with ceramics has not yet progressed beyond the experimental stage. But the future undoubtedly belongs to ceramics. The goal of science is to make it happen as soon as possible. Ceramics production and utilization technologies are being worked on at a number of leading research institutions of the country: the UkSSR Academy of Sciences' Institute of the Problems of Materials Sciences, the Metallurgical Institute imeni Baykov and others. The work is coordinated by a commission of the State Committee on Science and Technology and the USSR Academy of Sciences chaired by Academician B.Ye. Platon.

It will not be easy, of course, to introduce the above-mentioned advanced materials into industrial production. Large capital investment will be required. However, this is a high-priority area of the economy and it will receive special attention.

More Steel, But of a Different Kind!

Another way to economize on metals is to produce economically efficient types of metal.

Today, we need metals with reinforced and corrosion-proof surfaces, and high-quality rolled metals which, when processed, produce minimum waste, or no waste at all. We need extra-thin sheet metal, specially molded rolled metals, metal powder and aluminum and copper foil.

We should give the metallurgical industry its due: in the past 15 years, the output of those products has grown considerably. Their use saves some 23 million tons of metal every year. In addition, in 1986-1987 alone, the production of some 350 types of steel and over 80 obsolete types of rolled metal was discontinued.

Still, progress in metallurgy has been slow. Last year, plans were not fulfilled for the production of 19 out of 25 types of economically efficient metal. This year, enterprises have failed to make contracted deliveries, which could lead to 600,000 to 700,000 tons of extra metal being used.

Unfortunately, the technological level of the ferrous metal industry has fallen. An inspection of the industry's plant and equipment has revealed that a sizeable share of machinery and equipment must be replaced immediately.

There is great concern over obsolescence at nonferrous metal plants and at plants producing pipes and rolled heavy nonferrous metals and aluminum foil. Efficient technologies have been introduced very slowly into production. Due to the low technological level of the pre-processing, processing and finishing equipment, 45,000 extra tons of rolled metal had to be returned for reprocessing last year. This had a direct impact on the ability of the nonferrous industry's enterprises to fulfill their contract obligations.

The problem is also that in both industries modernization and construction of new, modern plants has been too slow. Moreover, while modernizing factories, metallurgists spend too much on buildings instead of concentrating their funds on new equipment. As a result, retooling of these industries has been slow. The USSR Ministries of Ferrous Metals and Nonferrous Metals should focus on using existing production sites. In order to replace and modernize equipment there is no need to undertake new construction projects.

Designer Seeks a Solution

However, even those economically efficient products that metallurgists have been able to produce are used by their customers with considerable reluctance. Users' ministries demand more of the traditional types of output, turning down metal powders, high-quality nonferrous metals and many other products. The reason is that they are too expensive.

Obviously, it is too costly to use the high-quality steel produced at the Oskolskiy Electrometallurgical Concern in car parts that have been in production for maybe 20 years. The steel from Oskolskiy is meant for completely different technologies.

Amorphous ribbon, a very durable and light-weight material which looks like ordinary aluminum foil, is used mainly in transformers. Thanks to amorphous ribbon, their size can be considerably reduced. However, the USSR Ministry of the Electrical Equipment Industry still sends out orders for ordinary transformer steel. Why? Because amorphous ribbon can not be used in transformers of existing design. The design has to be changed completely. The ministry has only now begun working on it.

Meanwhile, machine building plants continue to function as they always have: they replace the steel in old parts with modern steel and then complain about rising costs. Practice, however, shows clearly that replacing ordinary metal with the most technologically advanced materials in products of old design will not produce any advantages!

Producers and users of new materials often accuse each other of being slow to innovate. The former complain that there is no demand for their output: why bother, in this case? The latter explain that new materials are not produced in sufficient quantities and therefore designers do not use them. Experience has shown that there is only one solution: production and utilization of new materials should be prepared simultaneously.

The USSR Gosplan's task is to set state orders, industry growth targets and materials use limits for ministries taking into account structural changes in production and the use of economically efficient structural materials. In this way, the introduction of advanced materials will be directed at a state-wide level.

No Need for Expensive Technologies

A cheap method to reduce the relative use of metal in national income is full recycling. It does not require expensive technologies or big investments.

In 1987, some 26 percent of the nonferrous metal volume and nearly one half of all steel was produced using scrap metal and wastes. The volume of scrap metal collected rose 23 percent, while steel production only 14 percent. The trend appears to be favorable.

At the same time, the data of the USSR Ministry of Ferrous Metals and USSR Ministry of Nonferrous Metals show that every year over 300,000 tons of nonferrous metal scrap and waste, as well as 4-5 million tons of ferrous metal scrap and waste, is not being collected and reprocessed. Everyone understands that such losses are unacceptable, but the attitude toward recycling remains very unbusinesslike.

For instance, when scrap metal is prepared for reprocessing, different types of metal are mixed together and polluted and their value is reduced drastically. Over 60 percent of the nonferrous metal scrap and waste collected is classified as low-quality varieties. When scrap metal is processed, over 100,000 tons of aluminum, copper, zinc, tin and other nonferrous metals in short supply is irreparably lost.

Every year, over 35,000 tons of copper gets into steel when ferrous metal scrap is recycled.

Along with copper, aluminum, nickel, lead and tin are also melted into steel; the Ministry of Ferrous Metals

estimates that this amounts to 140,000 tons per year. As a result, undesirable nonferrous metal impurities in steel have reached the highest acceptable level.

Shortcomings in collecting and reprocessing scrap metal stem first of all from the fact that the existing economic system does not stimulate enterprises sufficiently to collect high-quality scrap and waste fully and, secondly, from the technological backwardness of metal recycling. There is a shortage of collection and storage facilities; recycling shops and plants have low capacities and are equipped with primitive technology. Perhaps we do not even need too many collection outlets. It may be more rational to use moveable collecting and reprocessing equipment. Yet, our industry does not produce such equipment. The USSR Ministries of Highway Construction Equipment and of Machine Building systematically fail to fill orders for presses, hydraulic cutters and other simple equipment used in scrap recycling.

Such equipment must be put into production as soon as possible. This would make as great a contribution to the task of reducing the relative use of metal as the production of costly metal substitutes.

To conclude, I will explain what is being done to implement the "Metal Utilization" program. By the end of the year, we will review the standards of metal use for various products. In the machine building industry, a very effective way of economizing on metal has been found. When modernizing metal-cutting machinery and foundry and pressing equipment, old steel plate and other large metal parts are used. As a result, machine builders expect to restore up to 30 percent of used equipment in the near future.

Starting next year, all sectors of the economy will have to increase their research budgets to develop completely new structural materials.

There is another proven and easy way to economize on metal: everyone should develop a careful attitude to metal at the workplace. We must create conditions for this, especially given the fact that industry is shifting toward economic accountability and self-financing.

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Kazakh Metal Complex Seeks Independence from Production Association

18200288b Moscow SOTSIALISTICHESKAYA
INDUSTRIYA in Russian 13 Aug 88 p 2

[Article by A. Korolev, mine drifter, deputy chairman of the Zyryanovskiy Lead Complex's worker soviet and V. Gorbunov, correspondent, newspaper RUDNYY ALTAY: "Unite and Rule"; first paragraph is a boldface, italicized introduction]

[Text] For more than 2 months, the Zyryanovskiy Lead Complex (ZSK) and the USSR Ministry of Nonferrous Metals have been engaged in a lively correspondence.

The miners want the ZSK to leave the "Kazpolimetal" production association that has been recently formed in Eastern Kazakhstan, while the ministry stubbornly refuses to listen to the working collective's arguments. The latest letter, addressed to Minister V. Durasov, included a resolution passed at a meeting of the entire collective; the meeting unanimously approved the proposal of complex's soviet to leave the production association. The miners' reasoning is simple: the ZSK is a large enterprise with a multi-million ruble turnover, and it plays an important role in nonferrous metallurgy.

The complex is currently implementing an internal accountability system and automating its technology. It has developed a long-term growth program which includes, among other things, plans to build a mine at Maleyev. When the mine opens, the output of metals will double. On its own, the complex is building an ore enrichment plant. Many measures concern continued construction of housing using the plant's own resources.

What conclusions can be drawn from this?

First of all, the collective is sure of itself and believes that it can solve its problems on its own. Secondly, to carry out a demanding program, the complex needs true independence which includes being able to establish direct links with its clients. It has already begun establishing ties with various enterprises around the country. It is this independence that the collective is defending when it is fighting to leave the production association.

It should be mentioned that originally the ministry was going to set up a "Kazpolimetal" main production association. But, on 2 April 1988, the USSR Council of Ministers issued a decree excluding main production associations from the general command structure in manufacturing. The USSR Ministry of Nonferrous Metals reacted to this by deciding to create a production association instead of a main production association.

By being part of a production association, a complex loses many of its rights, and its scope for independent activity is drastically narrowed: it becomes an equivalent of a department within the association. The outcome of this was described in the article "Under a New Sign" (SOTSIALISTICHESKAYA INDUSTRIYA, 4 March 1988). Indeed, whenever there is a new managerial link between Moscow and an enterprise, a link that has its own administrative interests, there is always a direct risk that true economic accountability and true independence will never reach the subordinate enterprise.

There is little doubt at the complex that this will be the case here. This is especially so since other enterprises in the production association are going through hard times. For instance, the Ust-Kamenogorsk Lead and Zinc Complex, its flagship enterprise, failed to fill orders in the

first quarter, the Irtysh Multi-Metal Complex fell short of planned deliveries by 7.2 percent, and a serious situation exists at the Zhezkentkiy Main Processing Complex.

It is easy to guess what association management's line has been in this situation. The miners' experience also tells them that they will have to deal with their own problems anyway, and that they should not expect any outside help.

And what has the ministry been doing? Here is the reply of Deputy Minister V. Martynov, verbatim: "Taking into consideration close ties of the Zyryanovskiy Lead Complex with the Ust-Kamenetsk Lead and Zinc Complex in their production activity, as well as the need of seeking broad solutions to social development problems and economic efficiency of including the ZSK in the "Kazpolimetal" production association, the ministry, coordinating its actions with the KaSSR Council of Ministers, decided to include the ZSK in the production association. Consequently, to agree to the complex's proposal does not appear possible."

These would have been convincing reasons, but for one problem: the complex was ordered to join the production association from above. Yet, the USSR Ministry of Nonferrous Metals' Order No. 158, signed 3 days before V. Martynov's reply, states: "The above-mentioned organizations can only be formed... voluntarily, with the consent and in the interest of the equal partners that make up such organizations."

In order to fulfill this formality, the opinion of the ZSK's collective was misrepresented: at the meeting of representatives of the enterprises that were to make up the main production association, the USSR Ministry of Nonferrous Metals' order establishing the production association was read. It stated that the complex was joining the association "at the request of and taking into consideration the opinion of the working collective."

Who needed this comedy? The answer can probably be found in the very same Order No. 158. Article 5 of the order states: "Deputy ministers and the Main Economic Administration are instructed to intensify their work of focusing on strengthening the existing production and research associations and on creating new ones." The author of the above-mentioned SOTSIALISTICHESKAYA INDUSTRIYA article was right: industry general staffs invariably find it easier to deal with a dozen of directors general than with a hundred of mere directors, lest they find themselves face to face with an independent-minded enterprise.

Kolpakov on Current Results, Problems in Ferrous Metallurgy

18200273 Moscow EKONOMICHESKAYA GAZETA in Russian No 29, Jul 88 p 4

[Article: "Economic Accountability Makes Strict Demands"]

[Text] Metal has been called "the bread of industry." Unfortunately, in recent years we have been hearing with increasing frequency that machinebuilding enterprises and the most important construction projects are on starvation rations.

Yes, we will be frank: many problems have been building up in ferrous metallurgy. From this have come interruptions of contract shipments and low output quality. Radical economic reform has been called upon to improve the situation in the industry. Delegate to the 19th All-Union Party Conference, USSR Minister of Ferrous Metallurgy Serafim Vasilyevich Kolpakov, tells about the first results of operating under the new system.

About half a year has passed. The industry's enterprises have obtained about 500 million rubles of additional profit—about as much as during the two preceding years put together. They have produced 621,000 tons of steel, 647,000 tons of pig iron, 682,000 tons of merchant mill products and 1.7 million tons of iron ore above the prescribed goals.

The new management methods have awakened the workers' initiative. People have begun to take a serious attitude toward their obligations and are engaged in an active search for ways to increase enterprise profitability and to improve the financial situation. Discipline in delivering output in accordance with contracts is being observed more strictly. There are also the first appreciable results of the restructuring of the economic mechanism that has been conducted within the industry.

Thus, last year the Rustavi Metallurgical Plant proved to be on the verge of bankruptcy. Its losses were more than 22 million rubles. At the same time, 16 million rubles' worth of metal balances from uncompleted production, finished output, and other commodity stocks above the standard level had accumulated.

The first thing that was done here was to rid ourselves of mostly the above-norm balances, selling them for 10 million rubles. At the enterprises, the monitoring of raw-materials consumption during the production of pig iron and steel was tightened up. Thanks to this, with a planned unprofitability of 6.9 million rubles during the first half of the year, the collective reduced it by 2 million rubles. The plant had its own working capital, and the situation began to get straightened out. Right now the enterprise's collective is carrying out the plan's tasks and is operating with greater precision.

Positive changes are being made at the Azerbaijan Tube Plant with the arrival there of a new director. This was E. Dervoyed, a competent specialist and an experienced manager. The activity to which he fell heir was not a simple one. In the past year a profit in the amount of 7 million rubles had been planned for it, but actually the enterprise sustained losses in the amount of more than 10 million rubles. And here are the results for the first six months of this year: under a plan for 2 million rubles, a profit of 5.7 million rubles was obtained.

Many such examples can be cited. Since the start of the year the number of our unprofitable enterprises has been reduced from 31 to 26. Right now these are mainly combines and plants where the assimilation of new production capacity is going on.

A most important indicator of our work is the fulfillment of contract deliveries. And here there have been important shifts for the better. With conversion to the contract form of mutual interrelationships with the customers, for the first time shipments have begun to be met 100 percent by our largest metallurgical combines—the Karaganda, the Nizhnyy Tagil and Krivorozhstal. In relations with customers, there has been greater responsibility and motivation, since fines now hit the enterprises' financial situation more painfully with the ruble.

However, during these six months ferrous-metallurgy enterprises as a whole have carried out contractual obligations by only 99.1 percent. The remaining 0.9 percent is on our conscience. This means that we fell short in delivering 227.3 million rubles worth of output to customers. Among those in arrears are the Dnepropetsstal electrometallurgical plant, the Kommunarskiy and Zaporozhstal metallurgical combines, the Yenakiyevo Metallurgical Plant, and a number of other enterprises.

All this points to the fact that we still have not managed fully to solve such problems as rhythm in the work, output-quality problems, and so on.

Ferrous metallurgy has worked out an industrywide program, Pribyl, which has set as its goal improvement of the financial status of enterprises and calls for a complete set of measures aimed at obtaining above-plan profit. But the program does not start to work all by itself. Economically informed and competent specialists are needed. What is the branch doing to train personnel for restructuring?

The question of personnel is today in the nature of a Hamlet-like question: is the economic reform to be or not to be? An economic council established within the ministry has undertaken the basic work here. Training has been organized at all levels, taking into consideration conversion of the industry to full economic accountability and self-financing. For instance, I and my deputies have had to pass courses of the Academy of the National Economy under USSR Sovmin [Council of Ministers].

Enterprise directors and their deputies for economic affairs have been sent and are being sent to USSR Gosplan higher economic courses and to an institute for raising qualifications.

One of the elements of this multifaceted work is certification of directors for the economic council. The point is that each supervisor not only will take an examination on knowledge of the new management methods but will also defend the Pribyl economic program throughout his enterprise.

At first some supervisors thought of the certification as some kind of a formality. They were severely mistaken. Out of 14 people, only six passed the test. The others were given a time period to prepare for a second examination. The opinion of those who failed was the same: no, they did not offer jokes but held thoughtful and serious discussions that required comprehensive economic training.

The director of the Makeyevka Metallurgical Combine, S. Klyagin, demonstrated a low level of knowledge, for example. The enterprise last year fell short 42,000 tons of pig iron, 9,600 tons of steel, and almost 83,000 tons of merchant-mill output. Rebuilding was proceeding poorly, and the deadlines for overhauling units were missed. There proved to be a direct tie between interruptions in the combine's operations and the economic incompetence of the now former director, S. Klyagin. He was released from his post in accordance with the results of the certification.

Alas, supervisors still have to explain that the standards for the distribution of profit have been worked out under the conditions of the approved five-year plan. And we could not increase the enterprise's economic incentive fund without affecting settlements with the State Budget. It must be remembered: the attempt to get advantageous standards means taking funds from the State Budget. An unjustified increase in wages is a direct road to inflation.

We shall be frank—the branch has many problems. And the metallurgy delegates spoke about them with concern at the 19th All-Union Party Conference. What must be done to solve the urgent problems of the day? The party conference gave answers. As was noted in the resolutions, in developing and intensifying the economic reform, it is necessary to complete the forming of the new economic mechanism and to bring the principles of the reform to each primary laboring collective and to each workplace. And I would like especially to emphasize: all our economic and social tasks can be solved only on the basis of conscientious and highly productive work by each person.

Problems with Ferrous Metallurgy Cited in Ukraine

Unbalanced Development

18200274a Kiev PRAVDA UKRAINY in Russian
9 Jul 88 p 2

[Interview with Aleksandr Alekseyevich Bulyanda, director of Azovstal, by A. Blinov: "Steel and People"]

[Text] A. A. Bulyanda: "Steel and people are for us metallurgists inseparably linked concepts. We have completely set quantity and quality as a function of economic accountability and of the competence and self-reliance of the workers."

[Question] Until now the industry's specialists have been ascribing all the harm to the aging of metallurgical production facilities. That is, they "press" on the technical aspect of the matter: problems of rebuilding, the introduction of new technology, and so on. You, Aleksandr Alekseyevich, have taken a different turn.

[Answer] The state has not forgotten about the development of Azovstal. New departments are being introduced and new technologies are being tested.

[Question] PRAVDA UKRAINY has not been aloof to these processes. Let's say that during construction of the oxygen-converter department, the paper arranged at the time to produce a special supplement....

[Answer] And this helped in no small degree in the competition for timely startup of the new production facility. The city newspaper PRIAZOVSKIY RABOCHIIY writes quite a bit about us.

[Question] I know, and now recently you gave it a big interview in which you spoke also about rebuilding the open-hearth department: it has lasted for a little less than 50 years now. But the open hearth—isn't it old-fashioned today? How do you combine it with restructuring in metallurgy?

[Answer] I understand your concern and the concern of Zhdanov's public opinion: the ecology and other costs. The open hearth has been put in order to fill a temporary gap, we cannot get along without it. But during the 13th Five-Year Plan we shall close this department. We have in the development stage more modern methods for obtaining steel. The country needs the metal right now, much metal and high in grade. So we are searching for reserves, including purely human reserves.

[Question] Please go into this in somewhat greater detail.

[Answer] Three years ago we began to train and assign supervisory personnel. A program was planned and people were trained in the new management methods, we brought to all the workers the basic principles of these methods, and we published many copies of aids and instructions about the procedures for forming, distributing and using profit in accordance with the standards and the plan for the collective's economic and social development. The supervisors of departments, services

and sections were certified as to their knowledge of the basic principles of the concrete economic activity under the new conditions. This certification was conducted also within all the combine's structural subunits. Changes began to take shape. I became acquainted with this example. The management of a blast-furnace department had for many years shown indifference to economically accountable relationships with the steelmakers. After grasping and getting to the heart of the losses to the wage and material-incentives fund to which this will lead under economically accountable conditions, they not only took measures to improve pig-iron quality but they also demanded a review of the economic accountability ties both among them and with auxiliary departments.

Certification also showed the low standing of the economic and accounting services. Various workers of this category for whom the new tasks proved to be beyond their capabilities had to be replaced by other people. I will remark that the process of indoctrination of the new thinking became continuous at the combine. Thus we are training the young and promising workers who were hired as a reserve for replacement, at the Department for Industrial-Production Organizers at the Kharkov Engineering-Economics Institute and at three-year courses for department chiefs under USSR Minchermet [Ministry of Ferrous Metallurgy].

[Question] You mean to say that the new personnel handled even the new business better?

[Answer] Yes, especially in matters of scientific and engineering progress. Here was the beginning of beginnings of the whole economic restructuring. For in preceding years we had relied more on life-giving injections from the state. But the state is not a milk cow. The working collective should take upon itself the main load, and this is the heart of all restructuring. At the basis of everything is economic accountability and self-financing. Otherwise there is failure. What specifically are we falling short in? We practically do not engage in balanced development of the enterprise as a whole. The solution of insignificant particular problems does not introduce radical changes in the reequipping of production. And, as a consequence, the dangerous trend toward aging of the fixed capital is not overcome. Is it a joke that last year 50.2 percent of the fixed capital was worn versus 45.3 percent in 1985?

[Question] What is the way out here?

[Answer] First: take energetic measures to keep the equipment in its normal efficient state, although this also is not cheap. Second: develop before the end of the 13th Five-Year Plan a balanced program for reequipping the combine with machinery, where preference is given to blast-furnace output and to the power activity as the ones that lag most in technical level. We will persistently improve the control structure, planning, and brigade economic accountability, and we will strengthen lagging sections with qualified personnel. The administrations will give

good assistance here to the councils of working collectives, the brigade-leader councils, and the councils of young specialists.

[Question] And still the Secretariat of the Ukrainian CP Central Committee noted that it was precisely in this area that the combine's management and party committee had not been doing enough work.

[Answer] And it was very correctly noted. It was nice to hear praise for us but I did not come to the Ukraine's capital for praise. I say honestly, I strongly hoped for suggestions in the sense of what must be done. Perhaps it was because of this that we were sunk in routine business, we began to get formalized, and in some degree we lost the feel for the new and the promising. This is why the recommendations set forth in the Central Committee on our combine turned out to be extremely timely: to strengthen the work on further developing democratic beginnings in controlling production and in the creative and political activity of workers and specialists; and to introduce economic accountability within the production facility more widely....It was also suggested that we concentrate the efforts of the communists and of the whole collective on strengthening discipline, order, and the state of organization in all sections.

There should be strict discipline in everything—in contractual deliveries and in the execution of orders and instructions. And responsibility should be equal—for the director, for the specialist and for the workers. Here is how it still is with us. The department chief is like a squirrel on a treadmill—there are not enough days. While the foreman and the brigade leader just wait for instructions. And at every trifle there is a complaint to management. This has been overlooked, that has not been considered. And what is more, even hints that we will do some reelecting. Yes, yes, you will not be astonished, somebody precisely understands democracy thus. They are parasitical. It is not simple for me to be a director, it has become more difficult for the party committee to pick an intelligent specialist for a responsible post. The specialists do not want too much trouble. So it is that we need to be strengthened, and we are doing in this area indoctrination work among both the specialists and the workers.

[Question] Your opinion, Aleksandr Alekseyevich, about the party conference.

[Answer] To be brief, and that is all I can say for the present, it is necessary to think over and weigh everything; I will put it this way: the four days of its work were a genuine school in deepening Soviet democracy. A creative school. Much of what was said and decided is applicable in one degree or another to our combine and to our work practices.

Let us take those questions of reequipping. For example, under full economic accountability, with unchanged prices for metal output, we run across unrestrained growth of prices for equipment, especially imported equipment. Specific capital investment for a 3000 mill

which was introduced 10 years after a 3600 mill increased 40 percent. So the illusion of the possibility of modernizing the 3600 mills and the rail-rolling mill at a total cost of 356 million rubles, based on full economic accountability through enterprise savings and initiatives is, I am convinced, mistaken. Here we cannot do without large single budgetary investments. There is another way: a review of the standards for withdrawing deductions for amortization and for profit into the centralized fund. This way is preferable.

[Question] In his speech at the party conference, Boris Vasilyevich Kachura, Secretary of the Ukrainian Communist Party Central Committee, emphasized that the initiative of many collectives has not been bold enough. They do not have the necessary independence. As before, they are weighed down with a leaden weight which often contradicts the principles of reform. State orders, standards, and even certain other innovations are actually transformed into the most bureaucratic willfulness. What do you say about this consideration?

[Answer] I will support the words of the Central Committee Secretary with the example of our own combine. Azovstal has, in essence, been given not a state order but a directive. It makes up 100 percent, plus the counterplan for merchant bar products in the amount of 65,000 tons. Therefore, we have no opportunity to compete with other enterprises in regard to proposals for higher-quality output, primarily for machinebuilding, since all the time state orders for the products list, which come from the top, are being carried out. Moreover, the existing state-order system has created an extraordinarily complicated situation with regard to providing the industry with spare parts and equipment. Machinebuilding enterprises even refuse to conclude direct contracts with the metallurgists because they are overloaded with state orders. Today we are operating through a reserve, but tomorrow we will not be able to do this.

[Question] The mechanism for braking perestroika still is fairly strong. But indeed we are still only at the start of radical economic reform. We shall hope that with the new five-year plan the system of state orders and many other innovations will successfully pass through the development stage. Nevertheless, already in the following year all the country's industry will convert to full economic accountability and self-financing.

[Answer] This is the most important result of the party conference. I am by nature an optimist and, as a decided proponent of perestroika and one of its participants, I am convinced that we shall carry out what has been planned and we shall reach new heights.

Editorial Backs Reform

*18200274a Kiev PRAVDA UKRAINY in Russian
20 Jul 88 p 1*

[Editorial: "The Irreversibility of the Reform"]

[Text] During the 19th All-Union Party Conference the thought was sounded that it will be necessary to fight

with everyone on the spot, primarily our economists and specialists on the national economy. But to fight by no means by command-administrative methods, not by pressuring from above, but by developing and providing for the independence of laboring collectives, strictly observing their rights, and not interfering in the economic-operations activity of enterprises. The conference delegates' expressions in this regard found unanimous support, since they were in harmony with V. I. Lenin's instruction, "do not dare to command."

But if one is not to command, then how does one proceed? The question is not simple. For many managers do not know any other methods of control except pressure. So, ordinary incompetence in matters even dictates severity, a command posture, and various sorts of prohibitions.

Everything, including whether the economic reform is to be or is not to be, depends today upon the competence of personnel. He who does not believe in the irreversibility of the reform, in its difficult but progressive movement, is deeply miscalculating. The party conference once more confirmed that there is no backward movement, that society has chosen the path of radical change and, however difficult the path, we will not turn from it. It is another matter if someone has to part company, not having understood the meaning of perestroika and not wishing to change his work methods.

Last year the Makeyevka Metallurgical Combine fell short 42,000 tons of pig iron, 9,600 tons of steel and almost 87,000 tons of merchant bar products. Why did this occur? Rebuilding was weak, and deadlines for overhauling units were violated. To these causes should be added the following: there proved to be a direct tie between interruptions in the combine's operation and the economic incompetence then of the former director, S. Klyagin. According to the results of a certification that was performed at Minchermet's Economic Council, he was compelled to leave the post he occupied.

And here is an example of another sort. During the first four months of this year, labor productivity at Azovstal rose by 13.9 percent in comparison with the same period of last year, the level of fulfillment of contractual commitments from 97.3 to 100 percent, as a result of which total nonproductive expenses were cut from 3.4 million to 150,000 rubles, or 23-fold. All this has enabled the combine to increase the funds for material incentives and for social development. The production development fund was 10.2 million rubles under a plan for 8.5 million. A stable system of labor incentives was created on this basis, and the average monthly wage rose by 11.4 percent, and since the first of April all the combine's workers have converted to full wage and salary rates. Progressive management methods and the accompanying full economic accountability and self-financing gave a good impulse to development of the social sphere.

The general director of Azovstal and delegate to the 19th Party Conference, A. Bulyanda, a man who seeks and knows well the problems of metallurgical production,

told PRAVDA UKRAINY: "Three years ago we began with the training and assignment of supervisory personnel. A program was planned and people were taught the new management methods....Certification tests were held for managers of departments, services and sections on their knowledge of the basic principles of specific economic activity under the new conditions." And only after being convinced of the full correspondence of people's capabilities to the problems of perestroika being faced did the combine undertake scientific and technical reequipping, which in general also has brought forth its first fruits.

Two approaches—two results. In the first case the truth about the intended measures for restructuring the economics had, in essence, been undermined by the section, in the second the collective had strengthened its wings and it was ready to tackle new goals. This is what it means to take up the business intelligently, to think out with precision the main directions, to seek reserves, and to win people over.

For the industry's enterprises there are no tasks more important now than that of assimilating economic accountability. There can be no doubt that this is necessary for each laboring collective—the overwhelming majority of those that have converted to the new management forms are showing good work results. So, on the first of January of next year, our whole industry should transfer to full economic accountability and self-financing. There is still one step ahead and, in order to take it, thorough preparations must be made. Here is what was said on this account in the resolution of the party conference: "In developing and deepening economic reform, it is necessary to complete the forming of a new economic mechanism, to bring the principles of the reform to each primary laboring collective and to each workplace. It is necessary to intensify sharply people's motivation for the highest final results, to overcome equalization totally, and to be guided more boldly and everywhere by the principle of pay for its quantity and especially its quality, not permitting a situation wherein one can live materially secure while the work is poor."

The most important indicator when converting to full economic accountability and self-financing is fulfillment of deliveries in accordance with contracts. The traditional relationships with one's suppliers must be reexamined. For it is no secret that recently it has become nearly the norm to dump all the blame on allied workers: they, it is said, both fail to meet delivery deadlines and turn out defective output. And is it not better to solve problems in general in order to transform an "enemy" into a friend, one who shares your views? This is how the collectives of Lvov's Elektron and Kineskop associations did it. Specialists of the two enterprises sat down together for new developments and introduced a program for raising the quality and reliability of cathode-ray tubes, which, as a result, began to work better, coordination of joint actions

enabling the time to be so calculated that by the time a new brand of television sets is produced the tubes for them will be completely delivered.

Yet previously these enterprises had not found a common language. Thanks to the friendship, barriers were removed and a fourth-generation television set was created that meets high requirements, including those of the foreign purchaser. The color equipment of the Lvov association Elektron has been included in a catalog of FRG commodities. Well, then, not a bad start in the procedure for preparing for transfer to self-financing and economic accountability!

The economic reform also requires an economical attitude toward resources. For some reason or other we began to remember less the fact that our economy should be more economical. And even more so under economic accountability. The situation in regard to saving resources is unenviable. The problem is posed in essence like this: either we learn how to manage under the new system—thrifty and economically spending each kilogram of metal and coal, each meter of fabric, each liter of gasoline—or we can expect insurmountable difficulties of a technical and economic nature.

As you see, a deepening of the economic reform impels one toward a search for reserves in all directions: from the competency of personnel to the saving of nails. Your welfare and ours is built on this—in order to find and introduce better.

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INTRODUCTION OF NEW TECHNOLOGY

Problems in Introducing New Technology Cited, Planning Changes Urged

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[Article by Z. Korovina, doctor of economic sciences, professor, Donetsk: "Management of the Technical Development of Enterprises"]

[Text] Acceleration of scientific-technical progress is the main line of economic strategy, the principal lever for intensification of the economy and for raising production efficiency, and that also means for solving the most important problems of social welfare.

Unfortunately, it has to be said that a lag was observed until recently in scientific-technical progress. The immense resources committed to the development of science and to the creation and application of new technology in production were not yielding the return they should have.

At many industrial enterprises outlays for scientific-technical progress over the last 11-12 years have exceeded the average annual value of the active part of fixed productive capital 1.1-2.4-fold. This means that the policy existed for replacing all the machines and equipment in place with new ones within their life to obsolescence. But one-time outlays intended for new technology are frequently used to acquire obsolete equipment and do not result in faster scientific-technical progress. That is why the growth of the value of fixed capital (and often the growth of the remuneration fund as well) frequently exceeds the growth of the volume of production and especially its efficiency by 1.5-4-fold. For example, over the period 1975-1985 one-time outlays for retooling, reconstruction, expansion, scientific-technical measures, and scientific research projects at the Donetsk Machinebuilding Plant imeni Leninskiy Komsomol represented 240 percent of the average annual value of the active part of fixed capital. Compared to the value of fixed capital in 1975, 81.7 percent had been activated and 16 percent retired. Its growth over the 10-year period exceeded the growth of sales, the rise of labor productivity and the growth of the profitability of production nearly fourfold (66, 18, 18.2, and 17 percent).

The reasons for the low effectiveness of the outlays lie in the absence or insufficiency of the technology of the new generations, the lengthy periods required to create it and put it into production, the activation of outdated equipment, the low quality of machines and of construction and installation work, and so on. An analysis of the practical experience of enterprises in four branches of industry (ferrous metallurgy and the coal, machinebuilding, and chemical industries) over a lengthy period showed that these and other causes had been affected by imperfect planning, recordkeeping, incentives, and pricing, by the absence of economic standards and allowances, and by the ineffective structure of management in all stages of the "science—technology—production" cycle.

Enterprises lack sound economic methods of management covering all technology that is to be applied to production. Neither their plans nor their reports contain sections or forms that reflect in an integrated way all the lines of scientific-technical progress. What is more, its content and structure have not been defined for them.

Scientific-technical progress is equated in industrial progress with disparate measures related to new technology or particular phases of operations that occur in the shops that already exist. To a considerable extent they are shaped by the assignments of superior authorities,

the targets of comprehensive scientific-technical programs and plans and programs of the branch or sector, and by proposals of scientific research institutes, inventors, and production innovators. The number of such measures runs to 200-300 at machinebuilding enterprises and from 10 to less than 100 in other sectors. In machinebuilding the plans containing such measures run to entire volumes. Depending on the enterprise, they are referred to as plans for new technology, technical development plans, retooling plans, and so on. The recommendations for drafting the 5-year plan¹ contain a section entitled "Scientific-Technical Development and Improvement of Production and Management." It includes one summary form and eight partial forms of the plan for the particular lines of new technology. At enterprises the plans do not conform to the recommendations on methods and are often drafted on the basis of other forms and concerning other directions for activation.

Statistical reporting differs essentially from plans (both in the recommendations as to methods and as actually drafted at plants) both in the name and number of the forms and indicators and also in their content. It is prepared on one summary form—"Report of the Scientific-Production, Production Association (Combine), Industrial Enterprise on Outlays To Conduct Scientific-Technical Measures and on Their Economic Effectiveness" and more than some 20 partial record-keeping forms. Each of the latter contains indicators for particular partial directions of scientific-technical measures, i.e., creation and organization of the production of new products and modernization of products already being produced, application of progressive manufacturing processes, full automation and mechanization of production, automated systems, and R&D. Statistical reporting lacks such partial directions that exist in the plans, such as increasing the efficiency of material resources and fuel and energy, scientific organization of work, and improvement of the management and organization of production.

Outlays for these measures represent 2-20 percent of the total costs of applying all technology to production, and their actual effectiveness is also minimal. The measures have been carried out in existing shops and have been financed from the unified fund for development of science and technology, the production development fund, and current costs. Consequently, they cannot properly be equated with scientific-technical progress. This is having an adverse effect on the enterprise's economics, since it takes the attention of specialists away from the effort to organize the management of the bulk of new technology.

An analysis has shown that disparate scientific-technical measures do not have an essential impact toward speeding up scientific-technical progress and toward production efficiency. The latter depended to a greater degree on retooling, reconstruction, expansion, and new construction, which are financed with capital investments

and are reflected in plans and reports for capital construction, not for new technology. The actual effectiveness of these innovations is often neither determined nor stimulated. The planning and recordkeeping of these lines of application of new technology are concentrated in value indicators pertaining to activation of fixed capital, production capacities, and the structure of capital investments. There is separate sample reporting in which the actual indicators of certain new projects put into operation (following reconstruction and expansion) are compared to the indicators contained in the project design. In addition, forms on replacement of equipment, the movement of capital assets, calculation of production capacities, etc., are filled out in isolation and independently in other sections of the plan and the report.

The various directions of the technical progress of enterprises are planned and recorded independently and in isolation in different sections and forms of the plan and the report, just as in the past, when capital construction was based on an extensive foundation using traditional technology. Another thing that is involved here is that financing comes from varied sources and the operations to update production are conducted under differing departmental subordination (technical administrations and capital construction departments).

We do not deny the need to plan and to record the volume of capital investments and the activation of new capacities in value terms in the section for capital construction. At the same time, retooling, reconstruction, expansion, and new construction, which under present conditions must be carried out and evaluated from the standpoint of innovation and the efficiency of technology, are best planned in the forms on scientific-technical progress in the plan and in statistical reporting.

Since it takes considerable time and effort to prepare product-by-product plans for scientific-technical development and statistical reports on quantitative indicators, and since they have little effect toward speeding up scientific-technical progress, there is no need to continue drafting plans and reports on the diverse measures, which in part are organizational measures as well. It is important to include in the plans and reports only highly effective measures related to the creation, production, and operation of new machines and units and fundamentally new technology. All the lines of scientific-technical progress need to be brought together in a single section of the plan, and all types of new technology should be reflected regardless of the source of its financing or the form it takes (i.e., in existing shops or through capital construction), and also regardless of departmental subordination.

Under the new economic conditions enterprises can reject inefficient technology, technical documentation that has not been prepared thoroughly, and disparate scientific-technical measures which previously they were forced to accept on instruction from superior authorities.

On the basis of direct contracts with scientific research institute, design and project planning organizations, and plants manufacturing new technology they now have the right to select and order those scientific developments and innovations which are effective for their specific production conditions. But this will become feasible if scientific methods of determining the need for new technology and a system and procedures for meeting that need are developed and applied and if the necessary funds and financing are established.

So far, the economic reform has not had any essential constructive impact toward speeding up scientific-technical progress. What is more, the orientation of the new economic mechanism toward attainment of high profit may in a number of cases hold back the use of new technology, which in the period before it is brought up to design capacity brings about sizable losses. Consequently, we need methods of planning, evaluation, incentives, and management of scientific-technical progress at the enterprise which on the one hand would fit into the new economic mechanism, while on the other they would create economic motivation for increasing the actual profit from application of new technology on the basis of shorter time and lower cost for attainment of rated capacity.

In recent years, a trend toward a sharp rise in outlays for scientific-technical progress has evolved and developed. At many enterprises the erroneous opinion has been formed that the lag in scientific-technical development is related to a shortage of resources to finance it. Increasing the volume of one-time outlays for new technology (mainly from centralized financing), then, is regarded as one of the important instruments for speeding up scientific-technical progress. But analysis has shown that such an assertion is incorrect, since the outlays both for scientific-technical progress and also to maintain equipment in operating condition, as we have already noted, exceed the average annual value of fixed productive capital at many enterprises. These outlays are altogether insufficient for effective renewal of operating equipment and for complete retooling of production within the limits of the established life of equipment to obsolescence. The low return and the systematic excessive rise of the costs of scientific-technical progress are explained by the low load on existing equipment, especially new equipment, and by the unsound methods of determining the need for it.

If these causes are to be eliminated, management must extend not only over scientific-technical progress proper, but also all aspects of the activity of production collectives directly or indirectly related to the application of new technology and the use of existing technology, and comprehensively reflecting the single process of the technical development of enterprises. This process includes the production and application of diverse types of new technology, retooling, reconstruction, expansion, and R&D projects. It also includes improved utilization

of equipment, especially new equipment, its maintenance in operating condition, and maintaining capacities in the extractive branches of industry. The latter refers to constant renewal of productive assets being withdrawn so as to maintain the level of extraction of minerals already achieved.

This broad interpretation of the technical development of enterprises results from the interconnection between projects (and outlays) for scientific-technical progress and projects (and outlays) to improve utilization of existing equipment and to maintain it in operating condition. The poorer the load on machines and equipment, the greater the requirement for new types. Quite often enterprises overstate requests for new equipment, justifying this in terms of the need to fulfill the production program and fill orders. For example, coal mines regularly request an increase of capital investments for new equipment, while they underemploy existing equipment. An analysis covering nine mines of two production associations in Donetsk Oblast showed that out of the total amount of cleaning equipment necessary for normal operation of the faces over a 10-year period (1975-1984) 46.1 percent of the continuous miners and coal plows were held in reserve or were undergoing repairs, and only 27.3 percent of the latter were being held in reserve. In the period 1985-1986 the cleaning equipment in reserve and repair amounted to 62.1 percent of the total requirement for it. At the same time, requests rose continuously, and in recent years the mines received between 28 and 58 percent of their total need for continuous miners and coal plows.

When there is an increase in the amount of effort (and expenditures) for technical development resulting in a lower age of assets, the costs of current repairs and general overhauls are reduced. And conversely, the longer equipment has been in service (the higher its wear, idle time, and repairs), the higher the costs of repairing it and accordingly the greater the requirement for new equipment. What is more, repair costs increase not only because machines and equipment are worn-out, but also because of design defects, poor workmanship, and poor installation of new equipment in the first years of operation.

No records are kept at present on expenditures to repair specific types of equipment. Yet that kind of recordkeeping would make it possible to establish the optimum intervals for its replacement on the basis of life to obsolescence and physical service life, the level of repair costs, and the rise of repair costs as machines and equipment get older.

The overstatement of needs for new equipment and of costs of financing is related to a certain degree to the system in effect for planning and distribution of new technology. Requests are made out at enterprises without sufficient substantiation. Higher authorities reduce

them in equal proportion of the amount requested for all plants and mines. The more that is ordered, the more likely it will be forthcoming.

The optimum need for new equipment and the optimum amount for financing new technology can be calculated soundly only on the basis of a comprehensive consideration of the time and costs required to reach rated capacity, the efficiency of utilization of equipment in operation, the service life of that equipment, the degree of wear, and the amount of maintenance work. That is why the application of new technology should be planned and stimulated in close interlinkage with the planning and recordkeeping of improved utilization of all existing equipment (especially new equipment) and improvement of the organization to maintain it in operating condition.

The formal method of drafting plans and evaluating scientific-technical advances, along with the organization of recordkeeping and preparation of statistical reports, occupy an important place in the economic methods for management of the technical development of enterprises. The section "Technical Development of Enterprises" must be the basic and first section of the 5-year (and annual) plan and reports on operation of production collectives. All other sections, and above all the plan for production and product sales and also the plan for labor, production cost, profit, and profitability, production efficiency, and so on, can be substantiated in every aspect only after the plan for technical development has been drafted and production capacity has been determined on the basis of optimum utilization of assets that existed previously and new assets activated through retooling, reconstruction, and expansion of production, as well as through the creation and application of certain major new machines and units.

It would be advisable for the plan and report on technical development to contain 3 subsections and no more than 10 forms instead of the several times as many that now exist. It is important that the first of them—"Acceleration of Scientific-Technical Progress"—include three forms of the plan. The first—"Technical-and-Economic Indicators of the Best World and Domestic Models of New Equipment"—must reflect such parameters of the most progressive technology as operating life, reliability (mean-time between failures), economic efficiency, and so on. This is indispensable to selecting and evaluating the degree of newness of equipment which has been proposed for acquisition with the funds intended for acceleration of scientific-technical progress.

The second form is "Efficiency of New Equipment Activated in the Reporting Year." It needs to include only that new or improved equipment which in its technical-and-economic parameters is more progressive than that in place and brings about a rise in the operating efficiency of enterprises. And finally, the third form—"Condition of New Equipment and Time for Its Attainment of Rated Capacity"—must be devoted to recording

(planning) the dates, level, and costs of realizing innovations activated over the past 5 years. It is essential that this refer to the principal technical-and-economic indicators, above all the volume of output in physical terms and the production cost envisaged when the new technology was created (in the stage of scientific research or in preparing the project plans), the time allowed for attainment of indicators and level of attainment by years, actual attainment of design capacity by years (over the 5 years).

The second subsection of the plan and report on technical development of enterprises—"Efficiency of Utilization of Existing Equipment"—must include one or two forms containing indicators reflecting that efficiency by years of the 5-year planning period, such as capacity per unit time, the shift coefficient, operating time, downtime and reasons for it, operating life and reliability. These planned and actual indicators, along with passport indicators, are the indicators of progressive achievements of domestic enterprises and represent standards of utilization.

The third subsection—"Maintenance of Equipment in Operating Condition"—needs to include four forms. In two of them—"Intervals and Costs for Current Repair of Machines and Equipment" and "Intervals and Costs for Major Repair of Machines and Equipment"—it is advisable to enter and plan downtime (including unscheduled downtime and downtime caused by breakdowns), repair time and repair costs for the most important manufacturing equipment (annually and in the cumulative total for the 5-year planning period), and also for other important aspects of the active part of fixed capital. The third form—"Maintaining Equipment in Operating Condition"—must reflect the volume of outlays to acquire new equipment solely in accordance with intervals for manufacturing equipment and machines to replace equipment that is physically worn-out. And finally, the fourth form—"Maintaining Capacity"—can record the related efforts and costs in the coal industry and other extractive branches.

It is advisable to include in the concluding and summary form of the plan and statistical reporting—"Summary Indicators of the Technical Development of Enterprises"—the basic technical-and-economic indicators reflecting total outlays for these purposes and also to repair equipment, to keep it in operating condition, and for R&D projects. The expenditures must be compared to the average annual value of fixed productive capital. The growth of the value of capital, including growth resulting from activation of new equipment, must be taken into account in a comparison with the growth of the results of production, i.e., the volume of output, the total amount of profit, labor productivity, profitability, as well as the growth of the remuneration fund, the average wage, and product production cost. The summary form must provide a full comparative description of the costs and results of the technical development of enterprises.

Thus, uniform (identical) forms should be introduced into economic practice, forms that have a uniform set of indicators for the plan and for statistical reporting. After all, the plan is supposed to outline the strategies and methods for realizing the particular goals of production, and the purpose of the report is to give an objective description of attainments and to evaluate the level of fulfillment of the tasks outlined in plans. That is why it is important that the forms be the same, so that what needs to be achieved is planned, and what is envisaged in the plan is evaluated.

The indicators used in planning and evaluation are among the most important aspects of restructuring the management of the technical development of enterprises. The decree of the CPSU Central Committee and USSR Council of Ministers dated 17 July 1987 remarked on the need "to substantially revise the content and composition of reported indicators characterizing the development of science and technology, intensify the study of the state of affairs along the main lines of scientific-technical progress and fulfillment of assignments of state target programs and comprehensive scientific-technical programs, and plans for retooling and reconstruction of production..."²

A broad set of planning and reporting indicators are now used separately for scientific-technical progress and the efficiency of capital investments, and they differ considerably both from one another and also from the indicators of enterprise performance as a whole.

The set of indicators used for planning and evaluating scientific-technical measures includes the following: the number of such measures, costs of application, the number of job positions to be eliminated, the growth of profit on an annual basis and in the reporting year (total and the portion resulting from the saving because of lower production cost). But the basic and summary indicator for which personnel taking part in application are awarded bonuses is the annual economic benefit of the measures calculated for the year. It is determined with the formula for annualized costs (*privredennyye zratyaty*). Production collectives are motivated to achieve a high annual economic benefit and in part to achieve a large number of these measures. The size of the benefit calculated according to the formula referred to above ought to be less than the actual growth of profit because of the deduction made from the amount of profit for the one-time expenditures incurred to apply the technology, adjusted for the normative coefficient of efficiency of one-time capital investments. In actuality, the size of the annual benefit has turned out to be greater than the growth of total profit both for individual measures and also for enterprises as a whole. The reason for this is that it is hiked up artificially in order to increase the amount of bonus awards, the distortion of reported data and project planning data accepted in the calculations, including data on the standard rates of consumption of raw materials, supplies, and power, on wages, and on the volume of output.

For enterprises, individual branches, and the industrial sector as a whole the annual economic benefit from application of new technology, inventions, and innovative suggestions have in recent years exceeded the growth of profit 1.5-3-fold. In 1986 this difference decreased considerably, but it still remained: whereas expenditures for performance of measures amounted to 13.5 billion rubles, the annual economic benefit was 6.2 billion rubles, and the benefit from application of inventions and innovative proposals was 8.1 billion rubles. In 1986 the total growth of profit in industry was only 13.5 billion rubles as compared to 1985.³

All of this indicates that at the present time what is being recorded is not the actual benefit from application of scientific-technical measures, but a hypothetical benefit which exceeds the actual benefit. The use of the system of awarding bonuses for the annual (hypothetical, calculated, or anticipated) benefit over many years has created the illusion of high efficiency of new technology and scientific development when it actually does not exist.

At industrial enterprises calculation of the benefit has not aroused explorations and introduction of the most progressive technology, and in scientific and project planning and design organizations it has promoted complacency. The system whereby a fictitious benefit is achieved in scientific research institutes and design offices is quite simple. At the end of every year their staff members go out to enterprises and organizations to collect reference data and documents on application which indicate the total amount of the calculated benefit. The latter then becomes the basis for evaluation and often awarding bonuses to collectives of plants, scientific research institutes, and project planning and design organizations. Even economics institutes quite often overstate in reports the result from application of some method of calculating the benefit from improving working conditions or from the exchange of progressive know-how.

The indicator of the hypothetical benefit, in spite of repeated suggestions that it be replaced by an indicator of the actual benefit, continues to be used widely, distorting reporting and embellishing the real state of affairs in order to receive undeserved bonuses. This happens because it is advantageous to enterprises, to scientific research institutes and design offices, to ministries and departments, and to local authorities. To achieve a real benefit new technology has to be created and applied and brought up to rated capacity within the time allowed. But in the present system the hypothetical benefit can simply be invented. The transition to keeping records of the actual benefit from application of new technology is not only a most important economic stage in restructuring the management of scientific-technical progress, it is also a psychological stage. It is indispensable both to the mastering of economic methods of management and also to mastering new ways of thinking.

It is now widely thought that it would be quite difficult to take into account the real benefit. This does not square with reality, since at enterprises of all branches of industry there are no difficulties in ascertaining the actual result (mainly on the basis of growth of output and reduction of production cost resulting from application of new technology), as calculations have shown. As a rule, when really new technology is introduced, there are lower inputs of raw materials, supplies, energy, and manpower or a rise in the volume of output, which tends to reduce overhead per unit of the product. Under those conditions it is not difficult to determine the reduction of the production cost first on a unit basis and then for the entire output. Problems do arise in calculations of the actual benefit if the new technology has not brought about a reduction of costs or a rise in the volume of output of the product. It is precisely such cases that have allowed the opinion to be created that the actual results cannot be discovered. Calculations of reduction of production cost (growth of profit) related to retooling, reconstruction, and expansion are still simpler. They are made by comparing the actual production cost before and after performance of these projects to the figures in the project design.

So that illusions of prosperity are not created where there is no prosperity, vigorous actions are needed to sharply increase the efficiency of new technology. To that end, bonuses should be paid (and reference data and documents issued to institutes) only if there has been an actual reduction of production costs (growth of profit) at the enterprise over the reporting period thanks to the application of an innovation, and the corresponding portion of the growth of the plant's profit would be credited to the scientific research institute and design office.

Highly qualified specialists have an exceptional role to play in restructuring the management of the technical development of enterprises. For a long time the main goal of any industrial enterprise and of specialists in management was its current activity, i.e., the production of a high-quality product to meet the needs of society at minimum cost. This was the purpose for performance of the entire set of operations—supplying the physical and labor resources, organizing production and work, maintaining equipment in operating condition, and so on. The structure for management of the enterprise was also created in its time with a view to current activity. It contains neither departments nor administrations for scientific-technical progress nor for the prospective development of plants. Specialists concerned with application of scientific-technical measures, retooling, reconstruction, expansion, and so on, ended up scattered in various departments of the plant management, and their duties were largely related to current production.

The scientific-technical revolution now taking place requires solving a number of new problems in a longer time frame related to the development and application

of new technology. The structure and methods of management created for the conditions of current production and extensive enterprise development have proved not to be suitable enough. The restructuring of the management of industry which has been outlined must thus take place so that enterprises and scientific-production associations are capable of independently performing the entire cycle—"R&D—investments—production—sales—service."

At a time when intensification of production on the basis of accelerated scientific-technical progress has become the main direction of economic growth, it would seem advisable to single out technical development as an independent aspect of the enterprise's activity, the aspect related to its future development. It would be justified to create for this purpose within the staff department of the chief engineer a group of specialists from among personnel of departments (the inspection department, the chief mechanic's department, and the department for capital construction) who are concerned with application of technology.

They should be given broad rights and full responsibility for acceleration of scientific-technical progress. To do that, they have to be relieved of current activity in order to concentrate attention on the study of the best domestic and foreign advances of science and technology in their field, performance of intensive development to define the need for innovation, and analysis of the efficiency of utilization of existing equipment. Under the conditions of full cost accounting, independence, and self-financing there is a need for optimum combination of current and prospective activity and, especially important, for the combination of centralized management with the economic independence and initiative of enterprises. Since there has been no practical experience with this kind of combination to date, it is possible to outline only the main directions, which can later be spelled out in more detail. Higher authorities, especially ministries (jointly with the State Committee for Science and Technology), might take on themselves the duty of informing enterprises about world and domestic designs of new technology in a given branch (subbranch) of industry related to the basic manufacturing equipment which is the basis for calculating production capacity. It would be important that technical administrations of ministries promptly communicate to their enterprises data on advanced achievements of science and technology and also the technical-and-economic characteristics of the best innovations at plants where their production and use has been organized.

It would be good if one of the functions of centralized management was to provide enterprises sound progressive standards governing the creation and assimilation of new technology and utilization of existing technology, the service life of equipment, outlays for repairs, etc. One of the important functions of ministries (industrial associations) in the domain of technical development

ought to be monitoring. The essence of it lies in monitoring the actual effectiveness and prices of new technology, the time and costs required to create it and bring it up to rated capacity (in production and use), intervals for replacement of equipment, methods of building up a fund for development of production, science, and technology, and the size of such a fund.

The function of centralized financing of outlays to apply new technology must also go to the ministries. Analysis has shown that it is advisable to allocate from centralized sources one-time capital investments only for those enterprises at which the service life of equipment exceeds 15 years.

There has now been a change in the system for forming the funds for financing the application of new technology. Instead of several funds (the united fund for development of science and technology, the production development fund, centralized capital investments, etc.), plans call for forming a fund for development of production, science, and technology. A model regulation⁴ on procedure for forming and using the fund in the period 1986-1990 has been drafted and approved by USSR Gosplan. The sources from which it would be formed are the profit of the enterprise, depreciation for replacement, proceeds from the sale of unused property, etc.

Creation of the single fund for development of production, science, and technology instead of the several funds that existed previously is a progressive direction toward improved financing of the technical development of enterprises. But the procedure that has been approved for its formation does not take into account the service life of existing equipment and its wear, nor the existence of new generations of equipment. For purposes of the fund's creation, newly built enterprises and those which have undergone reconstruction in the previous 5 years are placed in the same conditions as outdated plants where the principal manufacturing equipment has been in service for 20-30 years. Yet they have differing capabilities as to the amount of profit they can generate, unequal needs for outlays to update technology, and consequently, a differing need for funds from which to finance it.

If at an enterprise the equipment has been in service for 15 years or more, then the size of the fund for development of production, science, and technology must allow for replacement of all the existing equipment with new equipment over a very short period of time. Centralized capital investments are indispensable for this purpose. Under such conditions the rates used for forming the fund must be structured above all as a function of the physical service life of capital assets, above all of their active part, the degree of wear, the total value of capital and the prospects for expansion of the enterprise, the existence of new generations of equipment, the size of the fund for development of production, science, and technology, and the allocation of centralized capital investments.

All other functions related to management of technical development of production, including the drafting of plans and preparation of reports, are the prerogative of the industrial enterprise itself.

Footnotes

1. "Metodicheskiye rekomendatsii k razrabotke proizvodstvennymi obyedineniyami (predpriyatiyami) pyatiletnego plana ekonomicheskogo i sotsialnogo razvitiya na 1986-1990 gg." [Recommendations on Methods To Be Used by Production Associations (Enterprises) in Drafting the 5-Year Plan for Economic and Social Development Over the Period 1986-1990], Moscow, Gosplan SSSR, 1985, pp 25-62, 195-228.

2. "O korennoy perestroyke upravleniya ekonomikoy. Sbornik dokumentov" [On Radical Restructuring of Management of the Economy. Collection of Documents], Moscow, Politizdat, 1987, p 181.

3. "Narodnoye khozyaystvo SSSR za 70 let. Yubileynyy statisticheskiy yezhegodnik" [The USSR National Economy Over a Period of 70 Years. Anniversary Statistical Yearbook], Moscow, Finansy i statistika, 1987, pp 67, 75, 100, 318, 329.

4. "The Production Development Fund. New Official Material," EKONOMICHESKAYA GAZETA, No 4, 1988, pp 17-18.

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07045

GOODS PRODUCTION, DISTRIBUTION

Gossnab Chairman on Expanding Wholesale Trade

18270086a Moscow PRAVDA in Russian 10 Aug 88 p 2

[Article by L. Voronin, deputy chairman USSR Council of Ministers and chairman, USSR Gossnab: "Wholesale Trade—The Key Link of Radical Reform"]

[Text] Among the problems of key importance to the full implementation of economic reform, the most crucial is without a doubt the changeover to wholesale trade in the means of production. Without this, it is impossible to introduce real cost-accounting for enterprises, or genuine independence in our labor collectives.

It is well known that the changeover to wholesale trade as the national economy's primary form of material and technical support actually began in 1987. Wholesale trade volumes have increased 4-fold during this time. The circle of consumers obtaining resources without funds and limits has expanded considerably. A number of sectors and regions have changed completely over to being supported without the use of funds.

Nevertheless, the system of limited supply continues to be in effect for the overwhelming majority of enterprises. The proportion of wholesale trade in the overall volume of production and technical output sales is still no more than 15 percent. At this rate, it will take many years to change over to wholesale trade.

At the same time it would be naive to assume that this problem can be solved overnight. Appeals to do just that appear frequently in the press. Their authors employ a simple logic: since the whole matter is one of funds, the funds should be abolished immediately by decree. Then everyone will take his rightful place: the shortages will disappear, the consumer's wish will become law for the manufacturer and demand will control supply.

Our own experience has already shown how far these arguments are from reality. In order to give every enterprise the opportunity to freely acquire any material resources with the moneys it has earned, at least four problems need to be solved. First, it must be an **economic necessity** for each manufacturer to meet the consumer's needs completely and promptly. Second, in order for prices, loans and the other links in the economic mechanism to orient enterprises towards accelerating expanded production of output which is in increased demand, the items produced must be constantly renewed. Third, in order for it to be economically necessary for each labor collective to begin using material resources economically, their stocks must be curtailed. And finally, the ability of labor collectives to really earn their money and the ability of each enterprise to be able to pay depends strictly on the final results of its work. Right now, as we know, this ability comes in large part from bank loans, which frequently go unpaid.

However, this does not mean that there are still no opportunities for widescale development of wholesale trade. They do exist. They need only to be used wisely to turn wholesale trade into a genuine means for expanding enterprises' initiative and independence, and into a powerful stimulus for creating new economic relations in the economy.

There are plans to increase wholesale trade volumes from R10 billion in 1987 to R40 billion in 1989. In 1989 the scope of wholesale trade is to grow by no less than to R115 billion and will exceed R200 billion in 1990.

The year 1989 will be the turning point in the formation of wholesale trade. In addition to the territorial supply organs, enterprises directly involved in manufacturing will be made part of the wholesale trade sector. To do this, they will be provided with over R70 billion in various materials and products to be sold independently by direct no-ceiling orders from consumers and material and technical supply agencies. This will hereinafter become the primary trend in the development of wholesale trade.

As this occurs, it will mean that most of the output sold freely by enterprises will be disposed of by them via direct links with their customers. According to calculations, volumes of such sales should reach at least R90 billion in 1990. And no-limit selling (acquisition) should comprise a considerable portion of these sales, which will be based on long-term economic agreements between enterprises.

The first order of business is to set up direct long-term economic relations between enterprises capable of mass and large-series production and which consume large and stable volumes of material resources. There are a little over 3,000 such enterprises. However, they handle over half of all industrial production. The task consists of providing these enterprises with the opportunity to conduct direct wholesale trade with each other, without excessive regulation and arbitration or interference from outside.

At the same time, there are plans to sharply expand wholesale trade volumes through USSR Gossnab's territorial agencies by no less than R70 billion in 1990. This means that these agencies will make wholesale purchases of output from manufacturers and will then sell it without limits to customers. Taking Estonia's experience into account, we will continue the transition to supplying all individual regions by wholesale trade, first and foremost those supplied predominantly by warehouses. In 1989, all clients in the Yakut, Tuva, Magadan, Kamchatka and Sakhalin oblasts as well as construction organizations in Georgia, Azerbaijan and the Murmansk Oblast will be supplied by wholesale trade.

Particular emphasis is being put on creating the organizational conditions needed to expand wholesale trade. USSR Gossnab is setting up an automated information

system which will be based on a unified state trading information bank and a network of regional trade centers. Any enterprise will be able to use these centers to obtain needed information on the technical parameters of a product, its manufacturers and opportunities for acquiring it and can, with the assistance of the trade center, conclude an economic agreement with a business partner. At present, these trade centers have been set up in 60 USSR Gosplan territorial agencies, and there will be over 100 by the end of this year.

The organization of state and regional trade fairs for selling production and technical products is designed to help develop and improve the effectiveness of direct links between enterprises. The first of these fairs are scheduled for August through October of this year.

The quality of customer service will be improved by sharply expanding the network of wholesale trade stores to 2,500 in 1989 and 3,500 in 1990. The setting up of supply and sales cooperatives affiliated with USSR Gosplan's territorial agencies has the same aim in mind. As early as the end of this year there will be no less than 500 of them, and over 1,500 in 1990.

A number of other steps are being taken to increase the responsibility and motivation of the USSR Gosplan territorial agencies with regard to expanding wholesale trade and making them equal partners with the enterprises. With this in mind, this year the territorial organs have already begun changing over to full cost-accounting and self-financing.

A great deal in this matter also depends on the ministries. Their role should not be restricted to expanding firm-based wholesale trade. One of the most important tasks of sectorial staffs is to create conditions for real economic competition between enterprises, and genuine rivalry in attracting customers. No less important a task is that of overcoming monopolistic trends in the work of the enterprises, as these trends infringe upon customers interests, and eliminating shortages by implementing a well thought-out investment and scientific and technical policy. The ministries have the necessary economic levers to accomplish this.

In the final analysis the expansion of wholesale trade means creating a socialist market for the means of production, which requires special management methods. The point is, we have been using methods which fail to forge together the initiative of the enterprises while simultaneously making full use of the advantages of the planned economy, or ensuring that the goals of attaining the strategic objectives of the national economy or its individual sectors and regions.

We feel that the income and expenditure balances of material resources developed on the state level should execute primary control of the market for the means of production. Developing them should not only evaluate, but form market supply and demand conditions in the

country for specific types of output. This requires orienting enterprises towards necessary production volumes of material resources, purposefully using a pricing, credit and tax policy to accelerate growth in the production of output enjoying increased demand, keeping down consumption of scarce types of output, optimizing reserves in the national economy, etc.

It also needs to be said that the market for the means of production cannot be efficiently regulated by the forces of any one department. This problem requires the creation of a mechanism which is intact and unified as to time, its goals and approaches, and which will mutually involve Gosplan, Gosplan, Minfin, Gosbank, USSR Goskomsn and all sectorial and territorial administrative organs in this matter. This mechanism must be completely worked out without delay. And science must have its say here. Up to now, it should be admitted, the problems not only of the practical organization and management, but the very theory of the socialist market for the means of production, have been the subject of serious scientific research. And those problems directly influencing the rates at which wholesale trade develops, such as the presence of surplus moneys in circulation and prices, need to be solved, and in a practical manner.

There are already a number of cases of enterprises beginning to limit or completely stop production of low-profit and unprofitable items. And this has a serious impact on the interests of allied enterprises. The area of contract prices is completely inadequate. For now it is limited to new machine-building output, and to one-time orders and producing individual complete orders. The proportion of contract prices is no more than 10 percent of commodity production.

The need to solve these problems with utmost dispatch is obvious. And as analysis has shown, some of them can be solved immediately. When that has been done, economic conditions conducive to wholesale trade will appear even without reforming price-formation and the credit and financing system as a whole. The appropriate measures have been decided upon. Their implementation will begin in 1989. They include the granting to USSR Gosplan territorial organs of the right to purchase various types of scarce products at purchase prices, the right for banks to change over to full economic accountability and to increase their interest rates on short-term bank loans, to introduce the granting of commercial credit, to change over to a flexible system of mark-ups and discounts when selling output through a middleman etc.

All this once again corroborates the fact that the transition to wholesale trade is a complicated process. It can be accomplished only with the joint efforts of all links of the economy, and by approaching it as a paramount state task, one which requires an urgent resolution. The decisions of the 19th All-Union CPSU Party Conference direct all of us to finding this solution.

Call for Greater Expansion of Wholesale Trade Production

18270069a Moscow IZVESTIYA in Russian 9 Jul 88 p 2

[Article by V. Romanyuk: "The Paradoxes of Deficit"]

[Text] An adjuster at the Volga Automotive Plant, A. Melnikov, speaking at the 19th Party Conference mentioned among the paradoxes of the economic mechanism the following: the collective has money but it has nothing on which to spend it.

The question of resources or, rather, the changeover to wholesale trade is one of the key issues in the restructuring of the economic mechanism. And it was raised unequivocally at the party conference: we must not prolong this process over many years but complete it under the current five-year plan.

The task, let us say directly, is not simple. There is still something missing from the triumphant reports from those enterprises and branches and regions where wholesale trade is going through experimental testing. We got in touch with an IZVESTIYA correspondent in Tallinn and asked him to report the real changes in the republic's economy after the introduction of wholesale trade.

"Confidence against the deficit"—this is what the IZVESTIYA correspondent from Tallinn, L. Levitskiy, entitled his report. Today about 2,000 enterprises and organizations of Estonia are acquiring means of production and products for industrial purposes through wholesale trade. They are purchasing them from the republic gosplan. There are no restrictions: as long as there is money. In Estonia they have learned to utilize resources flexibly. In the republic more than 60 percent of the material resources are sold without limits or funds. The Gossnab has taken responsibility for complete supply of almost all branches of industry, transportation, and construction. They have also taken over numerous organizations of public health, education and consumer services for which there were never funds previously.

The first results? The increase in industrial production amounted to about 4 percent and construction and installation work—14 percent. But the chairman of the republic gosplan I. Toots clarified: The change for the better in the economy was brought about by the entire course of the reform. But the branches working more effectively are the ones that have changed over to cost accounting and are acquiring resources through wholesale trade. Moreover, the republic has not given anything for the experiment in excess of that which was previously received by industry, construction and transportation. It is simply that the Gossnab, having taken over the funds of the departments, has "closed" the communications with the suppliers....

But are we receiving what we had counted on? At one time centralized supply of enterprises according to previously allotted funds was considered a reasonable measure, although it was forced. For a long time there was the idea that changing over to wholesale trade was possible only after the accumulation of material resources, that is, after the elimination of the deficit. A blind alley? No! Wholesale trade itself, by optimizing material supplies, is already leading to a reduction of the deficit.

It is precisely the system of funding, the "card" distribution of resources that generates deficits. Since there were far from enough products to fully fill the orders, the enterprises tried to make their orders larger. And even if the need for certain items decreased they would still take everything that was given to them so as not to reduce funds in the future. The "card" system became simultaneously a factor in extravagant utilization of resources. And how could there not be a shortage if in 25 years, from 1960 through 1985, we increased the gross social product by a factor of 3.8 and the stocks of resources—by a factor of 6.2. During all these years industry was persistently working for the warehouse, freezing resources, and increasing disproportions in the national economy. And this suited everybody. At least as long as the enterprises were living as dependents on the state.

Principles of self-financing are incompatible with centralized distribution of resources. Moreover, without wholesale trade all that is left of self-financing are declarations. We are speaking about the socialist market for means of production as something remote, although we have its basic elements in our hands—direct agreements between the consumers and suppliers, the freedom to select a partner, and competition. We must develop these elements more energetically.

Well, and what did we gain from our first experience? Is there a reduction of above-normative supplies of the products that have changed over to wholesale trade? Here are the figures: in 1987 with an increase in production and industry of 3.8 percent the supplies increased by only 1.8 percent. Today wholesale trade under direct unlimited orders is conducted by 47 enterprises of the Ministry of Ferrous Metallurgy and 75 of the Ministry of the Petrochemical Industry; it is also used in the Ministry of the Automotive Industry. It has turned out that a large quantity of items do not have to be produced at all. The kolkhozes and sovkhoses have refused to accept technical equipment for an amount of more than 500 million rubles and in the Russian Federation they rejected 54,000 units of various machines and equipment. And in general, as soon as it became possible to select, economic levers immediately went into effect. For example, three enterprises of the Ministry of the Petrochemical Industry, having been convinced that too many tires are being produced, made an agreement: it would acquire a different profile and two others would begin to share their profit with it.

Nonetheless even today many enterprises have not lost their "taste" for above-normative supplies. Such levers as property responsibility for failure to observe the maximum limit of supplies, when the bank is obliged to halt the issuance of credit are practically not being used. Not so long ago the question of the condition of wholesale trade in the national economy and the prospects for its development were considered in the USSR Council of Ministers. It was emphasized at the meeting that if we begin to adapt to the words "wholesale trade" in limits in funds—and also such tendencies are being observed—then we will receive nothing. Wholesale trade is the purchase of material values without limits in funds and there must be no deviations from this principle.

We have discussed the introduction of wholesale trade at the regional level. But the branches? Alas, the changeover of individual ministries to wholesale trade cannot make us happy. The Ministry of Construction, Road and Municipal Machine Building in 1987 failed to fulfill the plan and put 52 million rubles in the bank. But at the same time they managed to collect 152 million rubles' worth of above-normative supplies! The psychological aspect also had an effect here: first they were unable to get anything, and then suddenly they were permitted to take everything—so they took it! At certain enterprises the supplies of metal products reached the amount needed for 60-70 days of operation.

Let us return, however, to the statement of the adjuster A. Melnikov at the Party Conference. Formal abolition of funding does not solve the problem as a whole if only because in the country there is such a mass of payment funds, "paper" money, that even a part of them would swallow up any mass of resources which would be sent to wholesale trade.

"In order for wholesale trade to develop on a broad front," they think in the USSR Gosnab, "it is necessary to adjust the final mechanism and revise the price-setting system. The market of production funds must react flexibly with the help of taxes and progressive payments for bank credit."

What do you say? The supply workers still have weighty justification for their own failures and mistakes. But if one assumes that tomorrow the finances and prices are adjusted, will the state supply agencies be ready to operate in the new way? It seems that they will not. They tell us that mainly products not included in the state order should be changed over to wholesale trade. But with the current all-encompassing state order this "trade" is doomed to stand still. True, next year interbranch and interbranch sections will be excluded from the state order. But one can hardly speak about free buying and selling here—all of these products have specific buyers. In brief, it is naive to associate the development of wholesale trade with a reduction of the proportion of the state order.

Incidentally, this is not the main thing. Let us take a look at how the wholesale trade mechanism itself is formed. Territorial agencies of the USSR Gosnab are now being changed over to complete cost accounting and self-financing. Let us say that they are being changed over formally. Their material incentive in successful sale of products and delivering items in small batches exists on paper: supply workers will unanimously declare that they have not experienced any advantages from this.

In the system of the USSR Gosnab there are 138 territorial agencies that join together 970 enterprises and 800 wholesale stores. Several hundred shops and sections are engaged in cutting glass and other products. There are almost 150 points for renting instruments and construction equipment. The network of cooperative members engaged in the sale of unutilized products is expanding—their number reached 500 this year.

In Vladivostok the Primorskvotorsyrye Association recently created the cooperative Uskoreniye. Its task is to relieve the enterprises of above-normative supplies and bring the "underwater" part of this iceberg of supplies into economic circulation. For everywhere we look equipment that is as necessary as air to one enterprise is rusting in the warehouses of another. How much property like this has been stored away in the Far East?

Digging up nonliquid reserves has turned out to be an extremely labor-intensive matter. During the first 3 months less than 10 agreements were concluded with enterprises and not a single transaction was carried out. The ice was moved when the Law on the State Enterprise went into effect. In a month the number of agreements increased to 70. During the first quarter of this year the cooperative suggested a transaction for almost 100,000 rubles. Things were gradually getting better. Today Uskoreniye has a small store. The assortment here is the most varied—from thread to items from precision mechanics and electronics. The cooperative itself does not buy things but accepts them, as it were, on consignment. It wishes to create an information service for the exchange of material resources.

Firm stores, of which there are about 1,400 in industrial ministries today, can be a buttress in the development of wholesale trade. So far only 100 of them engage in trade in items for production and technical purposes. They include the Kharkov Yubileynny Firm Store. It has changed over to direct ties with 20 plants of the Ministry of General Machine Building. The store began with an annual volume of 2.7 million rubles and today it has tripled its commodity turnover.

Our Kharkov correspondent A. Kleva writes that the success of the firm store lies in the fact that here they have combined trade and services and created a technical-trade center. In the store they have begun to have regular meetings between consumers and developers of

innovations. Well, what is holding things up? The intervention of the departments that have abolished direct contracts with plants that have taken over the right to distribute goods. Again "card" distribution!

And what is the result? Wholesale trade has not yet become a stable element in the anticost mechanism. We have also retained from the previous system the economic irresponsibility of enterprises as consumers and the rigid administrative control from above. It is still advantageous to increase orders! In the Mosgormetallosnabsbyt alone the demand of the enterprises that have been changed over to wholesale trade increased in 1987 by 10-15 percent, and for a number of items that are in short supply—by a factor of 2-3. At the Moscow Machine-Building Plant imeni Kalinin, the supplies of hot rolled metal under the conditions of wholesale trade were determined in the amount of 291 tons (with a normative of 175) and rolled pipes—227 tons (with a norm of 42).

The changeover of enterprises to wholesale trade has clearly not been prepared for economically either. As the course of the conclusion of agreements for 1988 showed, the enterprises are striving to reduce the output of products that are produced at a loss or even to remove them from production completely. And this is a natural desire under the conditions of self-financing. But then the base for wholesale trade becomes narrower.

Wholesale trade cannot be carried out in any other way than in the form of free buying and selling, through direct agreements, or with intermediaries (territorial agencies of the Gossnab). And, of course, with extensive application of contractual prices and the possibility of selecting a business partner. All this will continue in the future to mean the creation of a socialist market in means of production where supply and demand mutually regulate one another. Unfortunately, from the very beginning the possibility of the appearance of such a market was blocked by the fact that the enterprises were given and still are being given control figures, normatives and limits which are supposed to determine the buying capacity of the consumer and the capabilities of the manufacturer, but in fact they turn the distribution of resources into the old direction.

We are not the first to introduce wholesale trade. The experience of Hungary, the GDR and China show that paths to the creation of a self-regulating socialist market. In many countries it is possible to purchase items from various firms, while here so far we can purchase them only in one department. What kind of market is this when there is only one seller? There should be no fewer sellers than buyers. Herein lies the essence.

11772

FUELS

Coal Industry Reorganization Includes Body for Hydraulic Extraction

18220102a Moscow PRAVDA in Russian
29 May 88 p 2

[Article: "Hydraulic Mining: New Frontiers"; first paragraph is PRAVDA introduction]

[Text] The rates of developing hydraulic coal mining are lagging behind the requirements for existence, and need a new organizational and technical basis. The USSR Ministry of the Coal Industry, in conjunction with interested organizations, adopted a resolution to create a new Prokopyevskgidrougol NPO [scientific production association]. A special commission tested and discussed various suggestions expressed in the press concerning this problem, and considered the creation of the above-mentioned NPO to be expedient.

In the course of the preliminary discussion of the problem of creating a new NPO on the basis of two associations—Prokopyevskugol and Gidrougol, the Gidrougol collective (A. Gontov, general director) regarded it as inexpedient. Their objections were set forth in the articles in PRAVDA by G. Smirnov, chairman of the work collective council of the association and Hero of Socialist Labor, "They Counted Up the 'Step-Daughters'" (29 March 88) and "Are They Not Splitting It Up Like a Log?" (30 April 88). B. Sinyukov, deputy technical director of Gidrougol also criticized the stand of the Ministry of the Coal Industry (PRAVDA, 16 May 88).

The publications provoked a sharp controversy. Along with G. Smirnov's support, opposite views were also expressed. A. Aksenov and N. Kreshchenko from the Donbass, directors of a hydraulic mine, presented a detailed analysis of the strong and weak points of hydraulic technology. They write, specifically: "...The article by hydraulic miner G. Smirnov, highly respected in the Donbass, surprises us, unfortunately, by its one-sided interpretation. Restructuring requires rapid, economically expedient technical decisions from us. In turn, the defenders of hydraulic mining should not depart from real life, not pass off what is wished for as what is real and not lose a sense of measure."

Also disagreeing with G. Smirnov is a group of brigade leaders of the Yuzhkuzbassugol Association—V. Gvozdev, V. Devyatko and V. Bardyshev, heroes of Socialist Labor, and their colleagues. They write to the editors: "Although in our time it is not an accepted thing to defend ministers, in a large industry there is always something to lash out at, and during a personal meeting we always tell him about our grievances on some subject or other. Sometimes we find support, sometimes not. But we have brigade leader questions and he has a minister's problems." In the opinion of the authors of the letter, there is no reason for G. Smirnov to feel that the potential accumulated by Gidrougol will "be split up

like a log" in the course of reorganization. In a joint letter, N. Nichik, a mine worker of the Yubileynaya hydraulic mine, and A. Semenkhin, docent of the Siberian Metallurgical Institute, sharply criticize A. Gontov, general director of Gidrougol, and the stand taken by G. Smirnov.

The editorial board also received official replies to G. Smirnov's articles appearing in PRAVDA. Their topic is the fate of the advanced hydraulic method of coal extraction. V. Bakatin, first secretary of the CPSU Kemerovo Obkom, in his reply to the editorial board, informs us:

"The articles in PRAVDA by G. Smirnov do not touch on the party organs' attitude toward the creation of the NPO, but the CPSU Obkom Bureau considers it necessary to inform the editors of our opinion, especially since the ministry's decision was coordinated with the obkom.

"Comrade G.N. Smirnov reflects the stand of the management and staff of the association's administration, who are not in accord with the reorganization being carried out and have developed active work on preserving their satisfactory existence. Organization of the Prokopyevskgidrougol Scientific Production Association is undoubtedly creating serious inconveniences for some of the administrative personnel of Gidrougol and Prokopyevskugol, the two associations abrogated, since, in forming the new administrative staff, there is the prospect of reducing their number approximately from 350 to 250 persons.

"As for the production collectives of the mines and other enterprises and organizations, no changes or reorganization are specified in a single one of them. All the subdivisions of Prokopyevskugol and Gidrougol at this stage will enter the structure of the Prokopyevskgidrougol NPO in full complement."

Farther on in the reply it is mentioned that the reasons and motives of the reorganization being carried out are very complex, and that they cannot be fully disclosed in a brief answer to the editors. The experience in operating the Tyrganskay and Krasnogorskaya hydraulic mines, gained in Prokopyevsk, confirms the effectiveness of hydraulic mining in this coal region. Labor productivity at these mines is doubled, and the cost of one ton of coal extracted is lower by a factor of 1.8 than at the mines of the Prokopyevskugol Association. Attempts made here to expand hydraulic mining through "attaching" the new mines to Gidrougol ran up against the opposition of the Propopyevsk people, since they ran counter to the territorial social structure that has formed.

Comrade Bakatin has continued, for a year, repeatedly, at all levels, with the active participation of the Gidrougol management, to seek ways of solving the problem of extending hydraulic extraction to the Propopyevsk mine. All the variants, except one—to leave everything as it is—were rejected.

It is a question, not of eliminating hydrotechnology, but of creating a scientific-production system that will be forced to introduce advanced technology, not where it is convenient from the standpoint of territorial location or where traditional "dry" technology could compete with it, but where, without this technology, further development and safe work would be impossible.

The CPSU Obkom Bureau feels that in this case the technical council of the Ministry of the Coal Industry made the correct decisions, creating the actual conditions for the development of hydrotechnology.

At the same time, the letters to PRAVDA attest to the fact that the obkom and party committees did not do enough timely explanatory work in the work collectives of the Gidrougol PO.

The other day the editors received a reply from Minister M. Shchadov. It says, in particular:

"The collegium of the ministry has never doubted the need to develop hydrotechnology. At the same time, considerable lagging behind was permitted in carrying out the programs, mainly through the fault of the ministry, as well as for a number of objective reasons. All the same, the volume of hydraulic mining in 1987 increased by over a million tons, as compared with 1985. The ministry, in conjunction with GKNT USSR [State Committee of the USSR Council of Ministers for Science and Technology] and the USSR Academy of Sciences, worked out a program to increase coal extraction by the hydraulic method to 30-35 million tons in the year 2000.

For this purpose, a decision was made on creating a qualitatively new large scale scientific production association, Prokopyevskidrougol, the first in the sector, under the direct jurisdiction of the USSR Ministry of the Coal Industry. These reforms, carried out in the interests of tens of thousands of miners, conflicted with the personal interests of both the directors and the administration of special personnel of the Gidrougol Association and with their striving, no matter what happened, to preserve the existing structure of the Gidrougol Association administration. Therefore, the board of the ministry is pursuing the goal, not of eliminating hydrotechnology, as the articles assert (by G. Smirnov—editor), but of creating and strengthening a comprehensive association for hydraulic mining which will gain the possibility of making efficient use of its forces and means in solving many critical social and technical problems.

The ministry, M. Shchadov goes on to say, will implement measures for specialized employment and use of expert specialists with experience in practical work from the personnel of the Gidrougol Association in the newly created association.

The decision to form the Prokopyevskidrougol NPO was widely discussed in the work collectives of the enterprises of the Prokopyevskugol and Gidrougol associations, with local party organs participating. On 21 May of this year, a conference was held to select a general director for the newly created association. M. Naydov, acting general director of the Prokopyevskugol Association, was elected to this post by an absolute majority of votes.

The editors of the newspaper PRAVDA write, in conclusion to the minister's reply, that it is right to submit to its pages a discussion of any pressing and topical problem. On this plane the ministry is grateful to the editors, since publication of the articles helped the collegium to give another critical evaluation of the results of its work on developing hydrotechnology and to check the correctness of its stand. At the same time, the collegium feels that a one-sided, non-objective interpretation of any problem does not further, but hampers the search for truth.

12151

Republic Decrees Changes in Petroleum Industry Organization

*18220102b Kiev PRAVDA UKRAINY in Russian
7 Jul 88 p 1*

[Ukases of the Presidium of the Supreme Soviet of the Ukrainian SSR; signed in Kiev on 6 June 1988]

[Text] **Ukase of the Presidium of the Supreme Soviet of the Ukrainian SSR**

On the Reform of the Union Republic State Committee of the Ukrainian SSR for Provision of Petroleum Products to the Republic State Committee of the Ukrainian SSR for Provision of Petroleum Products

The Presidium of the Supreme Soviet of the Ukrainian SSR decrees:

Reform the Union-Republic State Committee of the Ukrainian SSR for Provision of Petroleum Products to the Republic State Committee of the Ukrainian SSR for Provision of Petroleum Products. Signed: V. Shevchenko, chairman of the Presidium of the Supreme Soviet of the Ukrainian SSR; N. Khomenko, secretary of the Presidium of the Supreme Soviet of the Ukrainian SSR.

Ukase of the Presidium of the Supreme Soviet of the Ukrainian SSR

On Appointing Comrade N.S. Kotenko Chairman of the State Committee of the Ukrainian SSR for Provision of Petroleum Products

The Presidium of the Supreme Soviet of the Ukrainian SSR decrees:

Appoint Comrade Nikolay Stepanovich Kotenko Chairman of the State Committee of the Ukrainian SSR for Provision of Petroleum Products. Signed: V. Shevchenko, chairman of the Presidium of the Supreme Soviet of the Ukrainian SSR; N. Khomenko, secretary of the Presidium of the Supreme Soviet of the Ukrainian SSR.

12151

Gushers at 28 April Field

18220002a Baku BAKINSKIY RABOCHIY in Russian 14 Jun 88 p 2

[Unattributed Azerinform news item, Baku: "A Weighty Reinforcement"]

[Text] Another four oil gushers, tamed one after another in new wells of the 28 April Field, have supplemented the commercial reservoirs by over a thousand tons a day. This addition has assured the area first place among offshore fields in the volume of petroleum being produced.

12821

Kirovneft Recovers from Flood

18220002b Baku VYSHKA in Russian 1 May 88 p 2

[Article by Kirovneft [Kirovabad Petroleum] NGDU [Oil and Gas Production Administration] Chief T. Mamedov: "Equipment is Needed"]

[Text] The collective of the Kirovneft NGDU continues to work doggedly on eliminating the consequences of the flood of Lake Beyuk-Shor. These days two fields—TsDNG No 1 and No 4—have already reached the plan level for liquid-fuels production and have met the April target.

Some 70 of the three hundred wells that were halted have returned to service. An additional 26 compressor units on which we are counting for a cumulative daily increase in production of up to 70 tons of oil are in the rehabilitation stage.

The daily shortfall of fuels has decreased by 50 tons thanks to the efforts of the workers and specialists of the administration. The rate of dike filling and the drainage of inundated field territory, however, still does not satisfy us. Today it is even lower than the initial one. The Azneft [Azerbaijan Petroleum] Association has cut the quantity of dump trucks and excavators allocated to us by half. As a result, the deadlines for the completion of the work have all been postponed. According to our calculations, they could be accelerated by double, but being without equipment is like being without hands.

12821

Exploratory Wells at Mangazey

18220002c Moscow IZVESTIYA in Russian 12 Jul 88 p 2

[Article by IZVESTIYA correspondent Yu. Perepletkin, Tyumen Oblast: "The Mangazey Bubbles Gold Again"]

[Text] *Many are again saying the name of legendary ancient Mangazey—"the golden-bubbling state lands"—as they used to say of the largest center for holding the fur trade fairs.*

Several years ago, between the settlements of Tazovskiy and Sidorovsk, the instruments of the Yamal geophysicists "felt" a characteristic uplift in the underground formations. The possibility of oil and gas in the interior could not be ruled out. The promising area was named Mangazey. The ancient name thus returned to the maps.

The drilling of the first exploratory well of 3,820 meters was recently completed. Team tester V. Opryshko opened up one of the formations. And the oil came! The report from the Krasnoselkup Expedition was transmitted to the Purneftegazgeologiya [Purovskiy Oil and Gas Geology] Association. Another day the specialists announced officially that a new oilfield had been discovered.

Commenting on this fact, the chief of the administration for oil and gas exploration and survey operations of Glavtyumengeologiya [Tyumen Main Geological Administration], USSR State Prize Laureate Ye. Tepl'yakov, said: "We are, of course, glad of the discovery. But it is still premature to evaluate the capacity and reserves of the field—after all, only one well has been drilled, and just one level has been tested in it. No doubt there are grounds to expect good news. Testing is continuing. The Mangazey Field makes it possible to assume that other uplifts in that region will also prove to be promising."

12821

Sovetabad Gas Complex Progress Seen

18220002d Ashkhabad TURKMENSKAYA ISKRA in Russian 11 Jun 88 p 3

[Unattributed item: "Sovetabad Demarcation Line"]

[Text] Less than three months separates the construction workers employed in the infrastructure of the Sovetabad Gas Field from the start-up of the capacity of the first launch complex of lead structures. The complex being constructed not far from Serakhs is intended not only for the treatment of Sovetabad gas for transmission in the gas-pipeline system of Central Asia—Center, but also to free it of sulfur impurities, the content of which is exceedingly high in the reserves of the field. Several

billion cubic meters of gas will pass through the sulfur-scrubbing installations every year. Sovetabad will become the largest supplier of the blue fuel in the republic.

The construction of the lead structures has now entered a decisive phase. In August of this year the capacity of the first start-up complex should be put into service. This will make it possible to raise the annual processing of Sovetabad gas.

The construction of the facility was entrusted to the collective of SMU-5 [Construction and Installation Administration] of the Shatlykgazstroy [Shatlyk Gas Construction] Trust and a group of Romanian construction workers. A creative camaraderie was established between the international collectives, and competition developed for the fastest start-up of the facilities. The Shatlyk gas-construction workers are successfully employing the team contract and a pay system without job sheets.

12821

Gas Processing Equipment From Tyumen to Yamburg Via Ob

*18220002e Moscow IZVESTIYA in Russian 3 Jul 88
p 2*

[Article by IZVESTIYA correspondent Yu. Perepletkin, Tyumen Oblast: "Profit in the Tens of Millions"]

[Text] *An operation to deliver thirty super-units with a high level of plant pre-fabrication from Tyumen to the Yamburg Gas Condensate Field has been completed.*

Some 26 of them were shipped by barge from Tobolsk to the Ob Inlet, and the other four—the heaviest, 400 tons apiece—were kept afloat through their own specially

designed pontoons. Three icebreakers took part in their passage from the mouth of the Ob to the place of unloading.

The workers of the Ob-Irtysh River Shipping Company began delivering the gigantic elements of future gas fields for the first time in 1985. There was no experience then, and three of the super-units sank. Each new navigation season became the next test. It is, after all, one of the indispensable conditions of passage—maximum efficiency. The river workers were forced to use convoys following the retreating ice, and at the Ob Inlet the icebreakers had to break a corridor. Only in that case would they be able to transport the super-units along a frozen snow road the tens of kilometers to the place of installation after their unloading. Just delay a little and the ice road would thaw and the enormous structures would remain on the bank until the snows, and the construction workers would lose a whole year.

"In the last season we brought a convoy of 13 super-units to the North," said the chief of the navigation safety service, V. Gushchin, upon returning from Yamburg. "The fifth gas field was then fully installed using them. The economic impact of this operation was 42.3 million rubles. It is even more sweeping now."

The chief specific feature of the passage just completed was the use of large freight barges. All thirty pontoon units from Tyumen were towed to Tobolsk, where there are cranes with a lift capacity of 32 tons. There the super-units (aside from the four) were lifted onto the barges.

The new method was discussed for a long time before the opening of the northern navigating season. Aside from the production workers, scientists from the Gorkiy Institute of Water Transport Engineers, and in particular the collective for the prolongation of the navigating season headed by Candidate of Technical Sciences S. Zheleznov, were engaged in the analysis.

12821

ORGANIZATION, PLANNING, MANAGEMENT

Creation of Intersector Machinebuilding Complexes Urged

18230006 Moscow *EKONOMICHESKAYA GAZETA* in
Russian No 36, Sep 88 p 10

[Article by O. Belorus, deputy director of the Economic Scientific Research Institute of the Ukrainian SSR Gosplan, doctor of economic sciences and professor, and V. Gab, sector chief of the machinebuilding complex: "Path to a Breakthrough; Through Interdepartmental Barriers of the Machinebuilding Complex"]

[Text] The piece on socialist concerns and Leningrad's experience in creating a number of intersector associations (EG No 25) aroused great interest in the readers of this weekly. The authors of the article being published today put the question more broadly—on the fate and the paths toward organizational development of the machinebuilding complex as a whole.

Ensuring the outstripping intensive development of machinebuilding puts the crucial question of the choice of paths for resolving the key organizational and economic problems of the sector on the agenda. In general, these problems can be divided into three groups: Renewing and achieving quality machinebuilding products, surpassing the world level; ensuring the output of the necessary number of products for technical retooling both of machinebuilding itself and of other sectors of the national economy; and the maximum lowering of material, energy, and labor expenditures in producing products of the sector.

But here is the question. Do the existing organizational structures of the machinebuilding complex allow effective administration of its development and resolution at accelerated rates of the sector's key problems?

If one critically observes the organizational structures of all the machinebuilding ministries through the prism of new tasks, the conclusion, on the basis of technical and organizational-economic criteria on which they are formed, will be a unanimous no. The country still does not have an integrated machinebuilding complex. For example, the enterprises and associations of Minselkhovmash have a single consumer for their products—agriculture—but they produce a number of articles for other sectors. Only the functional designation of products—for measurement and control—unites the enterprises of USSR Minpribor and for USSR Mintyazhmash, the size and metal intensity of articles.

Thus, the associations and enterprises of the machinebuilding ministries engaged in the production of products of a defined nomenclature specialize mainly according to objects. Huge reserves of technological, territorial, and intersector specialization remain behind. And in

these conditions it is difficult, if not impossible, successfully to conduct a unified technical, economic and structural policy intended to increase the quality and volume of products produced, to improve technology, and to lower losses.

In addition, the critical shortage of progressive equipment and its dispersion in ministries and associations practically brings to naught the economic effect of an integrated introduction of technical innovations. Thus, the distribution of machine tools with NC and robots among associations of various ministries and their use outside the limits of integrated technological systems leads to a threefold or more increase in the normative time for recoupment of expenditures for acquiring progressive equipment.

The existing departmental structure of administering the machinebuilding complex holds back the growth in the volume of products put out, since it does not provide a proper level for resolving the problem of coordinating and synchronizing the development of intersector capabilities, and realizing large reserves for intersector and territorial integration and cooperation of the enterprises. In sum this leads to a significant unjustified growth in expenditures for the development of production and output of machinebuilding products.

Under the departmental structure of administration, the huge number of intersector cooperatives inside machinebuilding and their complexity does not give us the possibilities to consider all the the local priorities.

Thus, in the conditions of objectively complicated intra- and intersector ties, departmental barriers are becoming the main obstacle on the path toward resolving the key problems of machinebuilding. With the creation of the USSR Council of Ministers Machinebuilding Bureau the question cannot be taken off the agenda. As before, for example, great complications are arising regarding financing scientific-research and experimental design work having an intersector character. With the creation of new equipment we will not succeed in coordinating the interests of various ministries, let alone enterprises.

Scientific-technical progress has been nudging the machinebuilding ministries toward the integration of associations for a long time. Attempts to create large machinebuilding complexes are being undertaken, but the steps are still timid. For example, Minpribor is gathering under one "roof" its enterprises located in Kiev and the Southwest economic zone. But here we are talking about intrasector concentration of production, which is characteristic of state production associations.

A similar "association of associations," even under a two-link system of vertical administration (ministry-association) in conditions of maintaining the departmental organizational structures (ministries) does not save them from the multilink horizontal administration. The average machinebuilding association has about 150

cooperative ties, dozens of which are interministerial. Each such tie, relating to any sphere of the association's production activity requires, as a rule, coordination on the ministerial level. And this is nothing different than veiled horizontal administrative links, which sharply lower the dynamism for developing and using the association's production potential.

Matters are no better inside the ministries themselves. This year, for example, the ministry changed its cooperative procedure regarding procurements for the Karpatpressmash production association. If earlier the Ivano-Frankovsk people received procurements from Kaunas, now they deal with the city of Rustavi. As a result, transport expenditures increased and the quality of the manufactured items decreased.

All this points to the fact that it is impossible to solve intersector problems by half-measures; as before the machinebuilding complex remains split. Even worse, a study of machinebuilding enterprises and associations in the Ukrainian SSR indicated that the ministries do not intend to give up administrative methods of management, but instead are maximally hardening and constantly changing the economic normatives provided to the associations. In essence, as before this leads to planning "from what was achieved," using normatives. Therefore, many associations and enterprises are not able to create the necessary funds for production development or fulfill the tasks for technical retooling.

Where is the way out? First of all, it seems necessary to change from departmental administration of the sector to a structure organically uniting in itself both structural and territorial aspects of production administration. It is possible to resolve the problem by organizing large intersector and specialized scientific-production machinebuilding associations. It would be efficient to form them on the basis of lead enterprises, producing finished products, as well as plants producing for them the basic mass of parts and networks, excluding those which produce general machinebuilding sets (bearings, instruments, etc.).

A single leadership of the majority of processes for the creation and production of finished types of products would allow a significant decrease in the number of outside ties and would place them under strict control. The associations, of course, must be given powerful scientific-design subunits, guaranteeing development of new types of articles as well as the enterprises and design bureaus of USSR Minpribor, USSR Minelektrotekhprom and other ministries, a large share of whose production and development work is designated for fitting out productions of a given association. The latter can be gradually redesignated for output and development of complete sets of articles for the lead enterprise.

The composition of specialized enterprises and scientific-design subunits should include, in our view, enterprises of chiefly one subsector of machinebuilding

which, as a rule, ensures mass or large series output of production having a general machinebuilding character, as well as some complex consumer goods.

On the higher level of administering the machinebuilding complex, such a restructuring presupposes the most far-reaching transformation of the machinebuilding ministries into one [body] and the organization of five-six territorial machinebuilding complexes (TMC) according to the country's economic zones. These TMCs can include three-five of the existing economic regions of the USSR. It would seem that such an approach to the structure of machinebuilding production would allow the realization, practically without expenditures, of large sectoral and national economic reserves.

UD/325

AUTOMATION, AUTOMATED SYSTEMS

Space-Age Technology for Civilian Use
18230010 Moscow SOTSIALISTICHESKAYA
INDUSTRIYA in Russian 25 Sep 88 p 2

[Article by L. Skoptsov: "'Export' of Space Technology"]

[Text] The scientific-engineering center "Impuls" offers to consumers automatic presses and universal presses in a broad range of capacities from 10 to 25 tons.

The innovation weighs $\frac{2}{3}$ to $\frac{1}{2}$ as much in comparison to existing models. Its size is correspondingly smaller. But its productivity is twice that of the best world models.

The Frunze presses correspond to the strictest norms of technical safety. They are exceptionally reliable.

According to the customer's wishes the presses can be fitted out with robots of an original design or with high speed feeder mechanisms.

The price is according to agreement, but it is not much higher than the cost of presses of the old design, well-known to consumers.

Address suggestions to: 720055, Frunze, 23 Ultisa Skryabina. Telephone: 44-34-58 or 44-34-78.

Specialists can become familiar with one of the existing models at the USSR VDNKh [Exhibit of Achievements of the National Economy].

This is the public announcement. One must say that it is unusual. It is perhaps more usual to hear complaints about domestic presses. They are unreliable, noisy, bulky, and low in productivity. And how many people have lost their health, or been deprived of fingers, hands or even arms? What is this miracle they have created in Frunze?

It turns out to be an actual miracle. And this miracle is not so much a part of the machine itself, although it is not worth searching for analogs in world press manufacturing. There is nothing similar in Japan, in the United States, or in Western Europe.

The miracle is something different. The "iron curtain" which has so long separated space-age developments from the civilian sectors of industry has been breached. The Frunze presses are the realization of technical ideas born during the time of work on the Luna-24 space station. At that time a group of scientists from the Kirghiz SSR Academy of Sciences' Institute of Automation, headed by Oleg Alimov, were tasked with creating an automatic drill for taking up moon soil. It was impossible to control the drilling from Earth: the signal was delayed. They did not want to rely on electronics. So they developed a device which would operate upon impact with a hard surface.

We are not going to disclose the secrets of its design—a good idea is expensive. In the end it turned out that not only a "lunar" but all domestic machine tool manufacturing could benefit from it. Thus, the non-clutch automatic press was born. And what does a press without a clutch mean? It has the very reliability which is missing not only in ours, but in all the best foreign models. Forty percent of all rejections are due to this capricious mechanism.

A press without a clutch weighs less and is smaller. There is also a huge advantage in its useful work. Under any stamping speed the press's power, unlike that of the old designs, does not decline.

It is well known, however, that thousands of interesting research projects remain lying on institute shelves. How does science get a production base for series output? But here the interest of the Frunze machinebuilders was behind the Kirghiz scientists. Of course, for them the presses were a non-profile production. But today the logic of economic accountability is breaking down departmental stereotypes. Profit is the cornerstone. And non-clutch presses are guaranteed a many-year demand. After all, in the near future there simply will be no competitors, either in our country or beyond its borders.

We asked Mikhail Paryshkura, general director of one of the machinebuilding enterprises, what kind of export potential the new product has.

"I think that Western consumers would easily swallow up the whole output of the next few years. But for now we are not consciously planning export. The priority is the Soviet customer. We must repay our debts."

One of the creators of the new approach, Samudin Abdraimov, wanted to notify potential clients.

"The new presses are highly productive. They can easily be installed in automatic lines. This means that they will force people from their usual work places. In planning technical retooling it is necessary to take this serious aspect into account."

The debut, therefore, has been a good one. We hope for an interesting continuation.

UD/325

New Laser Metalcutting Machine Tool Created
18230007 Moscow SOTSIALTICHESKAYA
INDUSTRIYA in Russian 6 Oct 88 p 1

[Unattributed article: "A Laser Cuts Metal"]

[Text] A laser machining center, designated for series production, has been created at the Ivanovo Toolmaking Association imeni 50th Anniversary of the USSR in cooperation with specialists from the Bulgarian city of Plovdiv. Yesterday assembly of the first units of the new aggregates began.

The size of the center is impressive, since it is intended for cutting large sheets of metal.

At the command of the electronic control system, a laser ray pierces a steel sheet with a thickness of 10 millimeters and quickly, accurately and almost noiselessly cuts a part of the most complicated configuration.

Such an instrument does not need sharpening, and it is indispensable for milling arc-welded alloys of ferrous and nonferrous metals, ceramics and composite materials, where the usual cutting tool would be useless.

Increasing the output of laser equipment, as intended by the Ivanovo tool makers, would allow the introduction into machinebuilding enterprises of principally new technology—simple, reliable and highly effective.

UD/325

RAIL SYSTEMS

Interview with Deputy Minister on Safety Issue
*18290158 Moscow SOVETSKAYA KULTURA in
Russian 6 Aug 88p 2*

[Interview with G.I. Kozlov, deputy minister of the USSR Ministry of Railways, conducted by SOVETSKAYA KULTURA Correspondent Yu. Grechanin: "Safety on the Rails"; on the occasion of 7 August 1988, Railroad Worker's Day]

[Text] The country's railroads have been and still are the safest type of transportation. Nevertheless, their reputation has slipped in the last few years. Breakdowns and wrecks, causing people no end of worry, are the object of constant attention on the part of the public.

Following is an interview with USSR Ministry of Railways Deputy Minister G.I. Kozlov conducted by Yu. Grechanin, our correspondent.

[Question] Radio, television, and the press are reporting with increasing frequency on train breakdowns and wrecks. What is the matter? Has travel safety taken a turn for the worse, with the number of accidents on the rise? Or is it simply a case of more glasnost?

[Answer] Indeed, the mass information media previously did not cover all unfortunate events in railroad operations. Now, however, the newspapers inform their readers of each incident. This automatically creates the impression that the number of railroad accidents is growing.

This is not really the case. Here are data for this year. The number of accidents has fallen by 35 percent, while for passenger travel the figure is 41 percent. Or take irregularities in train operations and switching—train collisions, derailments, failure to heed warning signals, i.e., incidents without serious outcome. They show a 13 percent decline.

Nevertheless, taking a closer look at our branch, it may be said that railroad travel safety has generally deteriorated. As you know, safety is rated largely in terms of people's lives and health. And the number of wrecks claiming lives and causing injuries has risen. On top of that, the consequences have become more serious. The railroads in the last four five-year periods claimed an average of 50 to 60 lives a year. Last year the loss of life nearly tripled...

As you know, wrecks also have a negative effect on railroad operations. The end result is poorer transportation service for the population and the national economy. Lost freight, damaged tracks, and wrecked rolling stock are associated with enormous losses. Unfortunately, this year they have already exceeded five million rubles.

[Question] To combat an ailment effectively, one must know the cause. What are the causes of the present alarming state of train safety?

[Answer] Reliability of railroad operations is closely connected with how industry supplies the railroads with the necessary technical means. The situation here is far from satisfactory. We do not receive sufficient quantities of what we require—electric locomotives, diesel locomotives, passenger cars, rails, ties. There is an enormous gap between what we receive and what we need. There are many other causes. A major one is inadequate professionalism on the part of certain railroad workers directly involved with the transport process. They are poorly trained for their work and do not exhibit competence, on-the-job discipline, and a sense of responsibility. Their attitude toward their duties at times borders on criminal negligence.

Here are a few examples. On 31 March, near the Termez Station on the Central Asian Railroad, Moscow-Dushanbe Passenger Train No 24 was wrecked. Seven cars and a diesel locomotive derailed. One passenger died, 14 were hospitalized with injuries.

The derailment was due to excessive speed—three times faster than the posted limit of 25 kilometers per hour for that particular zone. The fact was that the locomotive crew had in their possession a written warning of the speed limit. This means that they committed a flagrant violation of the Rules for Technical Operation of Railroads—the basic law of the railroads.

On 17 May, at the Yashma Station on the Azerbaijan Railroad, there was a derailment of a passenger train—two cars and a locomotive. The wreck was the fault of KuliyeV's crew, who had been at work eliminating a track hazard. Although they had not completed their work, the workers and crew leader left the area to eat, in criminal violation of the Rules for Carrying Out Rail Work...

On 20 May, on the Kiev freight section of the Southwestern trunk line, a freight train collided with an electric locomotive. Twenty-five cars were wrecked; the state suffered a large material loss; and transport operations on this highly important section of the route were suspended for 30 hours. All because yard master Gurskiy and locomotive engineer Shulga violated the mandatory switching procedure. They decided to shift all 57 cars to an adjacent track at one time, instead of performing this in stages as prescribed.

[Question] What is the MPS [Ministry of Railways] doing to assure train safety? And may we say that this work is being carried out in the spirit of perestroika - democratically and openly?

[Answer] Ministry experts, working with scientific, design, and railway planning organizations, in collaboration with experts in other departments, have developed a program to bring about fundamental improvement in train safety for the 1988-1990 period. This program, implementation of which has already been initiated, provides for the development, manufacture, and delivery to railroad users of the necessary technical means, with emphasis on devices assuring safe train operation and reliable diagnostic monitoring of rolling stock, tracks, equipment, power supply, signalling, and communications.

At the heart of the program are organizational and educational measures. They are designed to strengthen industrial and labor discipline, improve professional qualifications, encourage broad implementation of advanced experience, and heighten awareness. Each railroad worker must achieve a thorough knowledge of train safety—his most important duty. He is personally responsible for passengers' lives and freight integrity.

However, there is something else on our mind. There is more to the problem than merely levelling requirements on every worker; it is also necessary to look in to his needs. It must be said in truth that the heavy work load and physical and mental stress heaped on railway workers—from the locomotive engineer to the passenger car conductor—are such that not everyone can handle them. That is why we place a high priority on providing people with housing, timely medical care, hot food during runs, and, if you please, even the chance to watch a new moving picture or attend a concert or the theater. It is true that the best masters of culture ignore railroad workers.

The organization of fundamental improvement in train safety has necessitated new thinking and a restructuring of methods employed in our work, based on principles of democracy and glasnost. I can say that starting last year every session of the MPS Collegium opens with the "worker's tribune." Given a chance to speak are locomotive engineers, dispatchers, route specialists, yard masters, car inspectors, innovators, and inventors... They speak of difficulties, state problems which in their opinion demand immediate intervention by the ministry, and suggest various solutions. This enables us to maintain direct contact with people and acquire a better understanding of their production and personal problems.

Last year we set up a simplified procedure for any person to write directly to the minister on problems connected with train travel. And the branch manager organized a special file exclusively for incoming correspondence related to this particular problem. To date we have received more than 500 complaints and suggestions, which have been acted on or are under consideration.

We hold regular press conferences. We recently started to hold them much more frequently. Although each one

deals with a specific pressing problem related to branch development, attempts are always made to address difficulties, problems, shortcomings in railroad operations, and train safety.

[Question] Incidentally, how do you feel about the interest in train safety displayed by the mass information media, about their criticism? Are they helping to resolve the problem?

[Answer] Railroad workers do not take offense at the interest journalists display relative to train safety. In the last few years this coverage has increased and it continues to grow. And this is natural in a situation of glasnost, as long as there are operational problems on the railroads.

Publicizing problems which are more than of passing interest to everyone has a place in solving these problems, of course. However, at times the journalistic coverage loses sight of the fact that travel safety depends to a great extent on the builders, the industry that produces the transportation machinery. Railroad workers take the brunt of the criticism levelled by mass information media.

We realize that seeds for improvement can always be extracted from criticism. But much more useful is criticism which is objective, well-wishing, and constructive.

13005

Construction Chief Cites BAM Problems

18290152 Moscow GUDOK in Russian 2 Aug 88 p 1

[Article by T. Andreyeva: "The BAM Needs Rehabilitation"]

[Text] This is what Yefim Vladimirovich Basin, delegate to the 19th All-Union Party Conference, chief of the Bamtransstroy industrial-design and construction association, and Deputy Minister of Transport Construction, thinks.

...There was something of the spirit of the All-Union Party Conference in the atmosphere of this meeting. When one of the engineers came to the podium and began to read generalities from a piece of paper, disapproving clapping broke out in the hall, forcing the speaker to set his paper aside.

Certainly it could not have been otherwise. For everyone still remembered the stirring days of the conference, with its sharp polemics, heated addresses, and the uninhibited dialog of the presidium with the audience. What is more, there was a witness here, at the association's open party meeting, to everything that had happened in the Kremlin's Palace of Congresses. And it was he who was granted the first word.

The Deputy Minister of Transport Construction reported to those who had delegated him to the All-Union Party Conference. He told about how strenuous the delegates' work had been and about the atmosphere at the conference. There were no posturings, no gifts, no trading. He shared his impressions of the report of General Secretary of the CPSU Central Committee M. S. Gorbachev: it was constructive and the most important problems in the life of the party and the country were addressed. He told about how uneasy he was in getting ready for his address. But he did not have to go up to the podium. He gave the text of his brief speech to the Secretariat and, to all appearances, it is being published in the conference papers.

During the intermissions, television and radio reporters interviewed many delegates about the main question of the day:

"What would you say if they had given you the floor at the conference?"

They put this question also to Basin. Now, during the meeting, he actually repeated what he had already said over the All-Union Radio.

During recent years the BAM has passed, on the newspapers' pages, from "the construction project of the century" to the "enterprise the country does not need." And today this construction project is being called both a "diversion-of-rivers" type of adventure and a "brainchild of stagnation." However he personally would call it not a "brainchild" but a vent for stagnation, because there was no stagnation on the BAM—they worked full blast there. BAM workers correctly resented the press: first it rushed to announce completion of construction of the railroad, while now it is trying to bury it, together with all the good that was there.

The BAM must be rehabilitated, the experience of the laboring and international education of youth that exists here must be studied. The lessons of this gigantic construction project must be analyzed in order not to repeat its mistakes in the future. This is useful in carrying out the state's long-term program for developing the Far East's productive forces. Today it is "towing" because it was adopted in the milieu of a five-year plan already made up, without wide discussion. Moreover, under the new conditions for managing the ministries that should participate in assimilating the BAM zone, they proved to be uninterested in the construction of expensive facilities for the country's east. Therefore, there is this proposal: let the state take on itself part of the costs for carrying out the program. The interests of man, enterprise and state must be combined—only then will the affair succeed.

Basin also wanted to answer USSR Ministry of Health Ye. Chazov, who at the conference criticized the builders: it is said that in Tynda they built a railroad station out of marble, while the sole city hospital is sheltered in rundown barracks. He should ask: why does the Ministry

of Health not allocate money for its construction? Until now there have been no actions on the ministry's part except for promises and criticism.

And he thought about raising at the conferences still another serious problem—referring to the construction of the Amur-Yakutsk Mainline. The necessity for this road is obvious: because of its absence, millions of rubles are being lost. It has been estimated that the costs for building it will be repaid in three and a half years, but nevertheless, something incomprehensible is going on: 13 times financing of the project has been opened and...closed.

He would also talk about the Procrustean bed of directives, and about the bank, from which the builders are awaiting a partnership, about granting greater independence to economic supervisors and the enterprises themselves. He would cite this figure: in the last two and a half years, 32 checking commissions have visited the BAM. So much time is consumed, so much paper covered with writing!

This problem also must be solved: the former main administration has been converted into an industrial-design and construction association, Bamtransstroy. Party, trade-union and other social organizations on the BAM also require the corresponding changes.

Basin returned from Moscow with a feeling of high responsibility for those decisions which were made with other conference delegates. He passed along the BAM route, encountering working collectives, he told them about the conference, and he tried to bring its spirit to the consciences and hearts of the people. He looked at the construction project with new eyes and he saw how much still needed to be done.

The association had good indicators during the first half year and it overfulfilled the production plan. The profit obtained was as much as all of last year's. The housing-construction program is being carried out successfully. But the association must not be seduced by this. The Uoyan-Angarkan section has not been accepted. One man—the representative of Promstroybank [Industrial Construction Bank]—did not sign the state commission's report. The environment for construction of the Severomuysk Tunnel bypass is grave. Additional forces are needed on the Chara-Khani section.

But the worse bottleneck is industry. Matters at the Tayshet Construction-Industry Combine are being corrected but slowly. All the prerequisites have been created—pay has been raised, supply has been arranged for—but the people are apathetic. The chief of the association visited the collective's labor council. He discussed matters at the BAM Brick Plant with them. Since 1 July a cooperative has been operating there. Sixty men were cut and they began to produce 40,000 bricks per shift, although previously they yielded no more than

15,000. The Tayshet people decided to serve as an example after creating a cooperative in the ceramics department. Well, that is when the misfortunes began.

After Basin, L. Belkin, chief of the contract-planning section, took the floor at the meeting and told about the results of an analysis to which the operation of this same combine in Shimanovsk had been subjected. Curious facts were observed. For example, the combine did not carry out the plan for the products mix, yet the managerial staff and department chiefs as a whole got extra earnings. Or take this one. A bonus was awarded for saving materials. But how did they figure it, if there were no monitoring instruments, the dials on the batchmeters were worn down, and the scales in the department are not working? And there is more. The granite department brought the combine some losses—a cubic meter of granite obtained at its own quarry costs 132 rubles, but they prefer to import it from Krasnoyarsk and to pay almost twice as much. Where will the profit be in this?

Specialists proposed the following: introduce low-level economic accountability at the combine, not a formalistic one but a real one. Today this is the sole method for arranging rhythmic work here....

There were many speeches. All of them spoke about various problems, correlating them with the main line developed by the conference.

And opinions diverged, as on the occasion of the decision of the party gathering. The proposal "Insure introduction of the section due for early startup....," which set people's teeth on edge, was withdrawn by a majority of voices. The communists announced firmly: we will not mix party and economic functions. And "Extend support to Ye. Basin, delegate to the 19th All-Union Party Conference, in executing the measures planned by him, which are aimed at improving the association's operation," was written down as clause number one in the resolution.

A correct decision.

11409

BAM Development Examined

18290132 Moscow ZHELEZNODOROZHNY
TRANSPORT in Russian No 6, Jun 88 pp 50-54

[Article by N.Z. Atarov, candidate of economic sciences and leading scientific associate of the USSR Academy of Sciences Commission for Studying Production Forces and Natural Resources: "BAM and the Development of Production Forces in Siberia and the Far East"]

[Text] The Long-Term State Program for the Integrated Development of Production Forces in the Far East

Economic Rayon, Buryat ASSR and Chita Oblast to the Year 2000 was approved in August 1987. The task of ensuring the active inclusion of these regions in the all-union and international division of labor system was presented.

In order to resolve this task, the establishment of a highly effective national economic complex in the Far East and Transbaykal area is planned. The complex will have its own large resource and scientific production base, an optimum economic structure and a developed social area. The growth rates of commodity production in the industry of these regions must increase 2.4-2.5-fold before the year 2000; the production of electricity—2.6-fold; the extraction of oil and gas condensate—3.1-3.8-fold, and of natural gas—7.2-9.3-fold. Special attention is being paid to the social area—its development rates are outstripping the all-union ones by a considerable margin. It is planned to direct 232 billion rubles of capital investments from centralized funds and enterprise assets toward the realization of the program that has been adopted.

Special attention in the long-term program has been paid to expanding the fuel and energy complex. During the 13th Five-Year Plan, the region must completely satisfy its requirements for electricity and fuel using its own production and become an exporter of them by the year 2000.

The program stipulates that the accelerated and highly effective involvement of the diverse mining, metallurgical and chemical raw materials and forest and biological resources of the land and ocean in the national economic turnover be assured primarily by building complete-cycle enterprises. A new ferrous metallurgy base must play an important role. The first phase of the complete-cycle plant must provide an output of three million tons of rolled products by the year 2000, and 8-10 million tons of rolled products a year when its capacities are fully developed. In nonferrous metallurgical enterprises, especially the Solnechniy Mining Enrichment Combine and the Dalpolimetall Association, processing facilities will be built for the complete recovery of useful components from polymetal ores.

The machine building complex of the Far East and Transbaykal area is receiving priority development. Its commodity production volume must increase 3.4-3.9-fold during the 1986-2000 period. The measures planned for the radical technical re-equipping and reconstruction of existing enterprises will permit their maximum orientation toward the output of machines and equipment for the needs of Siberia and the Far East. Primary importance is attached to the formation of a modern construction complex. The establishment of large regional and mobile bases for the construction industry and the development of the construction materials industry and advanced designs have been planned. A series of important steps to solve social problems has strengthened the

achieving of production goals. Expenditures for expanding the social and cultural area represent up to 30 percent of the assets provided for the program's realization.

Considering the important role of the Baykal-Amur Railroad mainline, the start of whose permanent operation is planned for 1989, the long-term program contains an independent subprogram for the economic development of the territory adjacent to the railroad. The volume of industrial production in the BAM zone will grow 2.9-fold in the year 2000 in comparison with 1985; and the number of people—1.7-fold. The production of electricity, the coal industry, nonferrous metallurgy, the cellulose, paper and woodworking industry, and the construction industry and construction materials base will expand here at high rates (in comparison with the averages for the Far East Economic Rayon).

The principle of forming large territorial production complexes (TPK) and industrial hubs lies at the basis of the expansion and distribution of production forces in the BAM zone. Along with continuing the formation of the Southern Yakutskiy and Komsomolskiy TPKs and the Sovgavanskiy Industrial Hub that have already been developed, it is also necessary to form a number of new ones in the future. They are the Verkhnelenskiy TPK (the timber, woodworking, cellulose, and paper industry), the Northern Baykalskiy TPK (the production of asbestos, alumina and potassium raw materials and nonferrous metallurgical products), the Mamsko-Badaybinskiy TPK (a large mining and ore industrial center), the Selezhdzhinskiy TPK (the mining industry, wood industry, ferrous metallurgy—as one type of distribution), the Udokanskiy Industrial Hub (the mining and processing of copper ore from the Udokanskiy deposit), the Tyndinskiy Industrial Hub (an important transport distribution center, woodworking industry, zonal-wide infrastructure installations), the Zeyskiy Industrial Hub (electricity and the woodworking industry with complete processing of the wood), and the Urgalskiy Industrial Hub (the mining of coal and procurement of timber). Before the year 2000, we plan to erect 17 million square meters of housing in these rayons and to satisfy the population's requirements for children's preschool establishments and the single shift operation of schools completely.

Along with providing for the permanent operation of the Baykal-Amur Mainline, the long-term program raises important tasks in the further formation of the rail network in the northern rayons of new industrial development. The new Amur-Yakutsk Railroad Mainline must be commissioned and additional sections constructed on BAM. The rail network in the rayons, where new territorial production complexes and industrial hubs are being formed, will be expanded further.

The most important tasks in the long-term program for the integrated development of production forces in the Far East and Baykal area, especially in the BAM zone, must be solved under difficult natural, climatic, mining, geological, and seismic conditions. This requires the development and implementation of a long-term

regional scientific and technical policy and the concentration of forces and resources on the most important problems in the program's scientific and technical support. Along with solving the general task, the program must guarantee the formation of an effective infrastructure and production potential for the successful realization of our future long-term economic plans in the country's sparsely populated rayons of the Near and Far East as well as for an increase in the effectiveness of export production and the improvement of foreign economic ties with the countries of the Pacific Ocean basin.

The question naturally arises: What are the characteristic peculiarities of the regional scientific and technical policy and what are the preconditions, conditions and factors determining it?

One must consider the fact that a regional policy has to proceed from the general directions in the scientific and technical policy for accelerating the country's social and economic development. As is known, it is expressed in building up the science-intensiveness of all areas of our activity; in raising the power availability per worker and the machine-worker ratio; ensuring the chemicalization of the national economy; further increasing the unit power of machines and equipment; completely mechanizing and automating all production and management processes through electronics, robotics, computers, and the widespread introduction of production processes with few operations; increasing complete processing and improving the use production resources; and optimally combining the achievements of science, new equipment and production.

The objectively existing natural, climatic, social, and economic conditions in some zone and region or other determine the concrete definition of the general avenues of scientific and technical policy in a territorial regard. It is necessary to point out the following as the most important distinctive features of this kind that are typical of Siberia and the Far East, including the BAM zone:

The very rich complex of natural fuel, energy, mineral raw material, land, forest, water, and other resources of all-union importance;

The peculiarity of the natural and climatic conditions of management and the prevalence of rayons with an extremely cold climate and widespread permafrost; the juxtaposition of industrially developed and poorly developed rayons on the territory;

The dynamic nature of the rates of industrial development and change in the branch structure of the economy;

The clearly expressed regional specialization of national economic complexes in which branches concerned with mining and the primary processing of raw materials predominate;

The insufficient development of the larger portion of the territory and the considerable distances of the main

regional industrial and population centers from the large user centers in the country's European part as well as from foreign trade markets;

The prevalence of a large-scale programmed development of the territory;

An active economic movement toward the North, an increase in requirements for equipment designed for northern use and the introduction of fundamentally new production processes;

An increase in the role of the continental shelf as a source of renewable biological resources as well as for the mining of hydrocarbon raw materials;

The high susceptibility of the ecological system to injury and the importance of carrying out special environmental protection measures;

The requirement to form a scientific, technical and economic potential for expanding foreign trade, economic ties with the socialist countries, and assistance to developing countries.

Each of the noted peculiarities in the programmed development of Siberia's and the Far East's production forces, including the BAM zone, requires special scientific and technical solutions whose sum total must be the basis for forming a single scientific and technical policy in the region.

The involvement of the BAM zone's fuel, energy and mineral resources in the national economic turnover requires the widespread use of advanced geological survey and geological prospecting oil and gas industry equipment and technologies as well as a skillful organization of mining work. The significant expansion of the scales of mining solid fuel and mineral raw materials using the open-pit method and—in a number of cases—the shift to deeper mine levels for their extraction require the establishment and use of fundamentally new sets of prospecting, driving, quarry, and transport equipment. The formation of new oil and gas drilling bases in the future and the development of a number of large deposits of solid fuel and mineral raw materials in rayons with complicated natural, climatic and geological conditions determine the requirement to design equipment for infrastructure, mining and processing installations using a unit and modular design with a high level of completion at the plant. In turn, this requires the appropriate regional engineer and technical production bases and lifting, loading, transport, construction, and installation machinery and mechanisms.

The development of the BAM zone's significant timber resources requires the massive introduction of industrial methods for logging and the primary processing of the lumber and advanced technologies for the thorough mechanization and chemical processing of the wood raw

material. In this regard, special attention must be paid to organizing the reproduction of the forests using specialized equipment and technologies adapted to the region's conditions. The establishment of centers of agricultural land use and the development of a local base for the production of food products, which are not very transportable or are highly perishable, have led to a requirement to use nontraditional forms for organizing animal husbandry and agriculture and storing, processing and delivering raw materials and products to consumers.

An analysis of the distinctive features in the future development of production forces in the Far East and BAM zone permits the most important avenues and distinctive features of the scientific and technical policy to be formulated and the appropriate tasks for machine building and other branches of industry, transport and construction to be determined. The special-purpose tasks of the regional scientific and technical policy include the providing of: maximum savings of resources, especially, labor resources and extraordinary capital investments; an increased percentage of machinery and equipment in the structure of capital investments (in comparison with the average level for the union); the complete automation of technological processes and the mechanization of labor; a reduction in operating and repair expenditures; a high level of labor productivity and return from the main producer goods; and considerable changes for the better in resource use and in the relationship between the infrastructure and production installations and the mining and processing works.

Considering the adopted five-year plan, the approved long-term program and preplanning studies, it is advisable to divide the BAM zone's economic development cycle into three stages: the first one—the period out to 1990; the second one—1991-2000; and the third—beyond the year 2000. Its own special-purpose arrangements characterize each of the mentioned stages in implementing the specific tasks for developing the zone's production forces. These purposes fundamentally differ from each other in the investment, production, social and ecological strain on the territory; the opportunities for maneuvering scientific, technical, financial, material, and human resources; etc.

The following are the primary tasks for the first stage in the BAM zone's economic development:

1. Insuring the permanent and effective operation of the railroad mainline throughout its length. In this respect, it is necessary to provide a high level of electrification, computerization of the dispatch service and automation of management work. The widespread introduction of highly productive organization and technological systems and complexes for loading and unloading operations and for rehandling goods is required. The railroad must be supplied with dependable and powerful locomotives and specialized rolling stock having a high level of container shipments. It is necessary to establish an

advanced technical base for operating services and the current maintenance and major overhauls of rolling stock and other railroad equipment. The capacities of the ports of Vanino and Vostochnyy need further building up using highly productive equipment, advanced technologies and the organization of all port and transport operations.

2. The acceleration of scientific and technical measures to establish and widely introduce highly productive domestic mining, construction and transport equipment for the installations being built in the Southern Yakutsk Territorial Production Complex and a number of others that have already been begun or are planned for construction during the current five-year plan.

3. The technical re-equipping and development of the construction base and construction industry on an advanced technological basis in order to complete the territory's transport preparation and to support industrial and civilian construction. During this, special attention must be paid to the integrated introduction of pre-cast, large-panel and modular-unit construction industrial methods.

4. The territory's scientific and technical preparation for economic development. The formation of specialized scientific, testing and experimental bases for the subsequent development of useful mineral deposits must be further expanded and begun on many avenues.

5. Scientific, design, testing, and experimental support for the formation of the new territorial production complexes and industrial hubs that are planned for construction during the second stage in the program's implementation. First of all, it is necessary to complete the design work for building a new metallurgical complex in the BAM zone using the latest achievements in nonblast-furnace technologies.

Primary attention must be paid to building up electricity capacities in the Far East and the BAM zone. The formation of a unified Far East and Southern Yakutia electricity system must be basically completed during the 12th Five-Year Plan.

During the second stage, 1991-2000, the development and introduction of scientific and technical achievements must be mainly subordinated to the tasks involved in the large-scale industrial construction in the BAM zone. The testing and experimental development of fundamentally new technologies for the Udokanskiy GOK [Mining Enrichment Combine], copper smelting combine and the main installations in the future Northern Baykalskiy TPK—the Molodezhniy Chrysotile Asbestos GOK and the Kholodninskiy Lead and Zinc and Synyrskiy Potassium and Alumina combines—are relevant to these tasks. The completion of preparatory work and the construction of individual installations in

the new ferrous metallurgical combine and the establishment of industrial capacities for the thorough mechanical, microbiological and chemical processing of wood raw material in the Upper Lenskiy TPK and Tyndenskiy, Zeyskiy and Selendzhinskiy industrial hubs are included here.

A great deal remains to be done in expanding the BAM zone's infrastructure. Using a modern scientific and technical base, it is necessary to ensure the fulfillment of the tasks involved in further expanding and reconstructing the main line of the Baykal-Amur Railroad Mainline, the completion of secondary routes here, the expansion of station networks, and the elimination of bottlenecks on its western, central, and eastern sections. It is also necessary to build a transport network in the places where TPKs and industrial hubs are being formed and on the Pacific Ocean coast. Questions concerning the further expansion of the ferry crossing network from the port of Vanino deserve attention.

The most important avenue of scientific and technical progress in establishing a specialized base for the repair of construction, transport and mining equipment is the widespread use of highly productive reduction processes and the development of cooperation ties with the base machine building enterprises in the area of replacement parts, units and assembly deliveries and the organization of repairs by the firms.

Measures to form an agroindustrial and food complex in the BAM zone and the development of plant-growing and vegetable farms using enclosed soil, highly productive dairy farms, and a reliable and ramified system for storing and selling food products have a great deal of importance.

The requirement to complete the formation of new ferrous and nonferrous metallurgical bases having a complete production cycle, the meridional and latitudinal development of the Baykal-Amur Mainline, and the establishment of a developed social infrastructure and environmental protection system determine the main avenues in scientific and technical progress after the year 2000.

It is especially necessary to select scientific and technical progress measures that insure strict savings in labor and the achieving of the highest labor productivity. This must be provided for by raising the qualifications of the workers and their special-purpose professional orientation; by supplying labor with as much equipment as possible; by broadly introducing advanced work forms, production processes using few operations and the modular unit method of assembling and constructing production installations; etc.

In our opinion, questions concerning the regionalization of science, equipment and production processes in accordance with the distinctive features of the natural, climatic, mining, and geological conditions on BAM

require solution first and foremost. The location of two-thirds of the territory, which is being economically developed, in the permafrost zone; the complicated mountain, geological and seismic conditions occurring in a majority of the large deposits; and the region's poor infrastructure preparation determine the requirement to build construction, transport, mining, prospecting, and oil and gas drilling equipment of a special design.

At the present time, considerable experience has been accumulated in using domestic and imported equipment to construct the railroad mainline, the installations in the Southern Yakutsk Coal Basin, and a number of others. In particular, practice has shown that the use of our native machinery and equipment in their standard and noncold-resistant design leads to their significant downtime because of the frequent breaking of a number of assemblies and to a lowering of their productivity to 50 percent and more. The use of imported equipment under Southern Yakutia conditions has required additional field changes that have continued for several years. For example, the "Marion" excavating machine, which costs more than three million exchange rubles, at first provided only 30-40 percent of its design productivity. Considerable design changes were required for it to become sufficiently capable of working.

A number of decrees were adopted during the years of the 11th Five-Year Plan about a special-purpose organization for developing and producing construction, transport and mining equipment. As a result, the production of EKG-20S excavating machines, SBSH-250S drilling machines, and other equipment was set up at the Uralmash Scientific Production Association and other plants in the country. The Belorusskiy Large-Cargo Dump Truck Works in the city of Zhodino received the task of producing quarry dump trucks with a load-carrying capacity of 110 and 180 tons and special 120-ton coal carriers.

Nevertheless, the final solution of this task will entail great difficulties. The base for cold-resistant design metals and rubber items and for the production of electrical and pneumatic units and special lubricating materials is still poor. The shortfall in arranging the series production of a special diesel engine with a power rating of 2,300 horsepower has been a significant obstacle in achieving the planned timeframes for producing the 180-ton quarry dump truck. The use of an engine from the French Atlantique firm on the first batches increased the cost of each vehicle by 150,000-200,000 rubles.

It is advisable to carry out the solving of the problem of regionalizing equipment along two avenues. The first one of them would be to supply specially designed series-produced machinery and equipment using cold-resistant materials and equipping them with additional assemblies and attachments conforming to northern conditions. The advantage of this avenue lies in the comparatively short timeframes for realizing it with moderate additional specific expenditures (on the order

of 15-25 percent). In this respect, each additional ruble of expenditures for regionally designed series-produced equipment permits a savings of up to four-five rubles to be obtained in operation. At the same time, the adaptation of this equipment to the extreme northern conditions does not permit its productivity to be increased in the required way.

The second avenue in regionalizing equipment is to establish and organize the series production of special machinery and equipment that is fundamentally new in design and execution. This avenue requires significantly more time for realization and increased initial expenditures. In order to develop and organize the series production of such equipment, the majority of cases require the establishment of specialized regional scientific and production complexes with the appropriate scientific, engineer and technical preparations. The solution of these tasks can be partially carried out through the technical re-equipping and reconstructing of existing machine building enterprises and the establishment of new production capabilities in Siberia and the Far East. The machine building bases of Bratsk, Blagoveshchensk, Komsomolsk-on-Amur, and other large industrial centers in the BAM zone and the rayons contiguous to it must make a contribution to this task.

Optimizing the capabilities of the machinery and equipment production technological complexes in conformity with the specific plans for developing the deposits and for regional development is no less an important question. The justification of the optimum number for these capabilities has a great deal of significance not only for the BAM zone's economic development but also for the realization of the all-union "Regional Equipment" program.

New technologies are playing a significant role in the development of production forces in the Far East and the BAM zone. As has been pointed out, it is necessary to provide for the outstripping establishment of the appropriate scientific back-log and specialized testing, experimental and industrial bases for its development and broad introduction. This primarily pertains to insuring the integrated mining and processing of the iron ore in the Charo-Tokinskaya group, the copper ore in the Udokanskiy deposit, Seligdarskiy apatite, synnyrite, etc. The timeframes for the economic development of each of the deposits and the effectiveness in forming territorial production complexes and industrial hubs based on them depend to a significant degree on the scientific, testing and industrial work on different types of technologies for the complete processing of useful minerals.

The importance of establishing the region's own base for the production of mineral fertilizer to intensify farming in Siberia and the Far East is well seen in the example of synnyrite. Research conducted in different scientific organizations has confirmed the possibility for a waste-free complete processing of this highly effective raw material with the receipt of chlorine-free potash fertilizer

and alumina, potassium nitrates, silicate products, rubidium, caesium, and various construction materials in one production process. In order to solve this multi-branch problem practically, it is necessary to accelerate the establishment of a testing industrial base at the Zabaykalskiy Apatite Plant in the city of Ulan-Ude and to develop an industrial technology in it for the complete processing of synnyrite. This requires the combining of the appropriate scientific, research, laboratory, and industrial testing work in a single interbranch special purpose-program.

The development of leaching technologies and steam-cured sulphurization methods for the oxidized copper ore and its subsequent flotation has a great deal of significance for the scientific, technical and industrial preparations for the complete development of the Udokanskiy copper ore deposit. The industrial development of more effective technologies for all avenues in developing this deposit also requires the establishment of a specialized testing industrial base.

The development of ferrous metallurgy in the BAM zone is closely connected with the realization of the general concept for the development of this branch in eastern Siberia and the Far East. In this connection, it is necessary to accelerate the technological inspection of the schedules for using Southern Yakutia iron ore and to complete the feasibility study of ways to construct the new metallurgical plant using a nonblast-furnace process.

In conclusion, it is necessary to point out that the carrying out of the above-mentioned avenues of scientific and technical policy and its most important tasks requires the accelerated development of scientific and industrial potentials in the Far East, the Transbaykal area, and directly in the BAM zone. Significant academic, branch and VUZ scientific forces, which are capable of solving complicated tasks in scientific and technical progress, already exist here. They must become a strong point for further advances and the realization of everything that has been planned and worked out.

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Draft General Work Agreement Published
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[Draft of general agreement on railroads' work responsibilities, signed by chiefs of railroads: "Draft of a General Agreement on the Railroads' Mutual Obligations and Responsibility for Ensuring the Regularity and Continuity of the Transportation Process and Efficient Use of Rolling Stock and Technical Facilities Under the Conditions of Self-Financing and Self-Recoupment"]

[Text] For years the railroad sector—as all other sectors, incidentally—has operated under the conditions of a command and administrative system. Today, at a time when

important work related to the organization of a legal socialist state is being carried out, labor under the conditions of cost accounting and economic methods requires strict juridical regulation which clearly defines the rights, obligations and responsibility of all sides.

A general agreement on the mutual obligations and responsibility of the railroads should become one of the most important legal documents in this plan. The draft of such an agreement has been worked out and is being submitted for discussion by railroad workers.

We, the undersigned chiefs of the railroads [names not listed] after studying the opportunities for applying economic methods of management in rail transport operations and taking their specific nature into account, have come to the conclusion that a unified economic agreement defining the many-sided interrelationships in organizing transportation is absolutely necessary.

Taking into account that the railroads are linked technically with each other and are engaged jointly in transporting national economic freight and passengers and that the economic results of each line's activity depends directly on the quality of work by the other lines under the conditions of the shift to cost accounting and self-financing, the negotiators, on behalf of and on instructions from the labor collectives, have agreed on the following.

The railroads commit themselves:

1. To provide for the continuous movement of trains, for the high quality of freight and commercial operations, for regularity in the transportation of national economic freight, and for the efficient utilization of rolling stock and all technical facilities through the active and coordinated work of all subunits.

2. To strictly respect the interests of each railroad in accordance with Article 2, Paragraph 5, of the Law on the State Enterprise (Association) and not to allow an increase in one's own profits by infringements of the normal operating conditions of other railroads, in particular:

2.1. By turning over to neighboring lines:

—technically defective cars and containers (according to TsV [possibly: car evaluation] characteristics), and

—cars and containers with commercial defects by violation of the rules for freight handling and changing the address of shipments, and by lack of conformity of the packaging (packing) and the marking of freight to the Gosstandart [state standard] and the agreements in force with respect to:

—open cars, flatcars and gondolas that have not been cleaned (with a broom) of the remnants of freight carried earlier;

- cars that are not those designated, in violation of the plan, for shape and capacity, including cars that are leased or owned;
- tank cars with residues which exceed the GOST [state standard] norms;
- refrigerator cars that have not been prepared for loading and cars that have not prepared for transporting livestock;
- hopper cars and cement-carrying tank cars in which concrete has been set;
- empty tank cars for carrying liquids without bills of lading put together correctly;
- cars without documents;
- empty cars of all types that are coupled, where such delivery has not been provided for, as well as when the number of cars is more than the established norm (where there are no special instructions by the MPS [Ministry of Railways]);
- passenger trains that are unscheduled or freight trains that are in front to the detriment of passenger trains (without a scheduled run);
- paired, tripled, or long-consist freight trains that are unscheduled or not coordinated with the receiving railroad;
- locomotives that are defective (in accordance with TsT [possibly: prime mover evaluation] characteristics;
- locomotives as a reserve and crews as passengers without coordination with the neighboring railroad;
- locomotive crews with trains which do not have the service life needed for them to arrive at their final destination in accordance with the established norm for continuous operation; and
- trains of incomplete weight and composition.

2.2. The transmission of train information that is unreliable or of poor quality, including the absence of way-bills for trains being dispatched.

2.3. The use of locomotives on unassigned runs without coordination with the neighboring line, and dispatching them from turnaround points without the supply and maintenance stipulated by the plan.

2.4. The dispatch of unit trains to points which do not have the necessary technical facilities and the contracts or written agreements with consignee enterprises to accept freight unloaded from unit trains.

Compression [sgushcheniye] of loading in all types of rolling stock without the consent of the unloading line.

2.5. The dispatch of bulk freight to other lines for unloading without measures to prevent freezing.

2.6. The unauthorized removal of a load from a run by cars that are owned or leased, and the removal from a run or partial substitution of empty cars in transit that are being returned.

2.7. Turning over above-plan trains to neighboring railroads in the last 3 hours of accountable days if this has not been provided for under an agreement between the connecting lines.

2.8. Nonfulfillment of the loading plan by the lines assigned and the norm for returning empty cars.

3. To ensure the regular loading of no less than 90 to 95 percent of the volume established by the monthly transportation plan, including the loading of open cars, flat-cars and gondolas.

4. To particularly verify the supply of cars carrying freight for export and in mixed rail and water transport, including shipments to the Far North and remote rayons.

5. For each empty car fit for loading in technical and commercial respects (except those owned or leased) which comes to a railroad in accordance with the norm, or above the norm with the line's consent, to pay the line which prepared it and turned it over after unloading in accordance with the system's average economically substantiated rates established by the MPS and the VNIIZhT [All-Union Scientific Research Institute of Railroad Transport].

6. When the flows of empty cars being directed to lines from two or several lines which are not joined with them merge together, the MPS determines and advises where the cars that actually arrive belong (it is coordinated with the MPS).

7. In the event of natural disasters, wrecks and accidents which result in interruption or irregularity in train schedules, the sides are relieved of financial responsibility when passenger trains are not turned over according to schedule. In these cases, a bill for being late is not presented to the line turning over the train.

8. In the event of nonfulfillment or improper fulfillment of the commitments undertaken, the sides are obliged to compensate the lines which incurred a financial loss by such actions in accordance with economically substantiated rates recommended by the MPS and the VNIIZhT (it is coordinated with the MPS).

Disputes arising between the lines are settled by the MPS Central Arbitration Commission.

This agreement is in effect until 31 December 1990 and may be extended if none of the sides call for changes or amendments to individual provisions later than 3 months before expiration of this period.

The agreement enters into effect as of the moment that it is signed by all the chiefs of railroads. It is made up in 33 copies which are equally valid; one copy is kept in each line's administration and in the Legal Department of the Ministry of Railways.

The railroads reserve the right to conclude supplemental agreements on matters of local significance or which have not been included in the present agreement.

8936

Poor Safety Record Scored

18290010b Moscow GUDOK in Russian 3 Sep 88 p 2

[Article by GUDOK correspondent G. Isakov under the rubric "Traffic Safety, the Law of Transport": "The Procurator Issues a Warning"]

[Text] Alma-Ata—With respect to traffic safety, the Alma-Ata Railroad is now the worst in the system. There have been seven wrecks since the first of the year, whereas there were two for all of last year. Two accidents as opposed to one last year, nine derailments of rolling stock, and more than 700 cases of defective items, including over 200 that were given special attention. The direct loss to the state is close to 2 million rubles.

The mainline has seen better times. For the results of its work last year it was awarded the Challenge Red Banner of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee. The railroad's collective possesses enough potential to provide for high-quality transportation. So what happened?

Judging by the fact that not one of the emergencies was caused by natural disasters or other insurmountable circumstances, serene confidence that everything was going well led to complacency. People have been affected in all the dramatic situations. Low technical and labor discipline and the inability of employees to act competently in extreme situations have affected many collectives of railroad workers like a disease. There have been particular complaints about those who operate the locomotives. The preparation, training and education of the teams, particularly the young locomotive engineers, have been lax. The accidents which have taken place attest to this.

A wheel pair on a "cold" diesel engine that was following in a freight train consist was jammed at the Aspara station in April. The Ayaguz depot sent the engine for plant repair in a condition that was not safe for following. But at night, locomotive engineer Yu. Baranov managed not to notice the sparking from under the wheel

pair which continued so long that a creep [polzun] more than 30 millimeters in depth was formed on the rim. In June, three diesel units and 16 cars were smashed so badly on the line from Aspara to Chu that they are only fit to be written off. A rail joint failed on a leveling run of continuous welded track. However, engineer N. Suntsov dragged the last car, which had derailed, for 8 kilometers to the fatal joint, although thick dust was flying on all sides of it.

There were three wrecks at one time in July. An unprecedented situation. The continuous welded track on the line from Lugovaya to Kuragaty, which had been laid and maintained poorly, presented a "surprise." On the Badam-Kalash line, nine cars in a freight train were derailed and a passenger train ran into them. Reinforced concrete items were scattered over the line of travel. The load was sent by the same plant which had "brought" a wreck last year in exactly the same way. The engineer of the freight train radioed his colleague, who had stopped because an unexpected drop in brake line pressure, and warned him to be more alert in the darkness. Engineer S. Auezov, who did not respond, allowed the train to collide at a speed of over 50 kilometers per hour.

On the Otar-Kurday line, engineer A. Luzanov did not apply the brakes to a consist after uncoupling a diesel engine from it to put out a fire. The consist that rolled down the grade hit a stopped passenger train head-on.

The crashes continued in August as well. When its automatic brakes failed, a freight train had to be taken to a siding after it "dropped" a diesel engine and 186 cars loaded with coal. The speed had been relatively slow. Engineer T. Akhmetov had not taken all the steps to stop the train that went out of control, although he was able to avert the consequences. Fortunately, the railroad workers were not to blame for any casualties.

A sad situation has been brought to light by a commission of the Ministry of Railways' Traffic Safety Main Administration. Of the three railroads in Kazakhstan, crashes are taking place nowadays only on the Alma-Ata Railroad. The Dzhambul and Chimkent Divisions, the Arys Locomotive Depot and the Lugovskaya Subdivision, where safety matters are handled extremely unsatisfactorily, appear to be the worst. Major claims have been made against K. Kobzhasarov, the chief of the railroad, his deputies, M. Shalabayev and A. Omarov, and the managers of the emergency services and divisions themselves.

Inspector B. Dvoretzkiy of the TsRB [possibly: Central Safety Inspectorate] did not conceal his indignation in describing what he had seen. He removed the diesel engine from operation at the Dzhambul depot until the malfunctions were corrected. And on the same day they released the engine for a train, although nothing had been done. At Dzhambul, the causes of more than half of

the nearly 400 cases of unscheduled repair on locomotives are still undetermined. Some 60 percent of the crews have not familiarized themselves with the documents on the crashes that have occurred and are not being given instructions.

At the Chu station, eight of the 10 switches inspected here had to be closed for use. Half of the inspector's entries with the notation "correct at once" are not being observed. An epidemic of slipshod work is spreading freely.

The traffic safety problem on the mainline was reviewed at a meeting of the collegium of the Procurator's Office of the Kazakh SSR on 20 August chaired by the republic's procurator, G. Yelemisov. Yu. Shalukhin, chief of the locomotive service, was given an official warning. V. Pobiaykho, deputy transport procurator for Alma-Ata; D. Baygushkarov, the Chu transport procurator; and V. Tsay, the Dzhambul transport procurator, were heard in addition to the railroad's managers.

Reinforced supervision over the important work area has been ordered, inasmuch as intolerable neglect is being permitted because of errors in investigatory actions and difficulties in conducting an expert appraisal. Not one of the nine criminal cases instituted for crashes and accidents has been brought into court. The matter of safety on Kazakhstan's railroads has been examined in the republic's Council of Ministers. A number of steps were suggested to erect a reliable screen for the accident rate.

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Train Remote Control System Encounters Obstacles

18290146a Moscow GUDOK in Russian 17 Jul 88 p 2

[Article by A. Pyrov, candidate of economic sciences, under the rubric "How To Find a Billion": "They Checked and Verified It, but the New Technology for Increasing Train Weight Has Remained on the Old Psychological Tracks"; first two paragraphs are introductory]

[Text] For 3 years now, GUDOK has been writing regularly about the multiple-unit remote control system (SMET), which makes it possible to increase traffic efficiency.

A temporary intersectorial scientific production complex has been created for the first time in the sector, uniting the designers, project engineers, scientists—everyone connected with the promising innovation—under one roof. It has been shown that the SMET opens the way to a fundamentally new technology in transportation. But this is precisely what has become an obstacle in the way of the innovation's widespread introduction.

They are attempting to add the SMET within the framework of present technology, without substantially changing anything. But the system requires another "ideology" in operating the transportation production line, a different psychology. They have not managed to overcome this barrier yet. As a result, the SMET cannot display the advantages incorporated in it to the full extent.

It is no secret that the mainlines of steel are operating under a strain today. On many lines, the reserves of traffic and carrying capacity have been practically exhausted, and locomotives operate at the limit of their power in moving heavy trains up slopes.

A way out of this impasse cannot be found by traditional methods. Fundamentally new and highly efficient technologies are needed. One of the promising trends is increasing the size of a length of a train. The MPS [Ministry of Railways] developed a program to increase train weight by 500 tons over the five-year plan. But this program is slipping. And largely because they are attempting to carry it out by the usual methods—using more and more powerful new locomotives. This involves huge capital outlays which do not produce the appropriate results.

It is not hard to figure out where the quest for "Herculean" locomotives will take the national economy. Tremendous overconsumption of electricity and fuel, huge capital investments, and inefficient use of equipment—these are only a few of the "bricks" in the foundation of trouble we are laying with our own hands today.

We do not have to be convinced of this, in particular; this is demonstrated by experience. The subunits that have shifted to cost accounting are groaning that the powerful VL15's and VL85's are very expensive and perform worse than their brothers.

In addition, their capacity is already insufficient today in some places. But what will happen tomorrow: will we need an even more powerful locomotive? But these supergiants should have a stable section of track for handling. Otherwise they cannot be justified. Meanwhile, the amount of special-purpose track that has been guaranteed is very small.

No, there is no way out on that path. It is modular in principle: they increase the power of the locomotive by building up the base elements.

This method is not new, and it is utilized extensively in other countries. In the United States, let us say, they make up a train with locomotives of the required power in 4- to 6-axle units. This makes it possible to drive consists of practically any weight. As a result, the average weight of a train on U.S. railroads is 4,600 tons. And this is where about 40 percent of the runs are with empty cars!

Under our conditions, the effect of "modulation" will be much greater. The prerequisites for introducing such technology exist.

As long ago as 1979-1980, a system for remote control of locomotives—SMET—was developed in the VNIIZhT [All-Union Scientific Research Institute of Railroad Transport]. It makes it possible to combine or uncouple locomotives within 3 to 5 minutes without any preparation and selection in accordance with circuit diagrams, electromechanical features and other parameters. In addition, it provides for automatic diagnostics of the control circuits and routes, and it makes it possible to automate the processes of monitoring the working order and accuracy of the operations performed when the locomotives are released from the depot after planned maintenance.

The remote control of locomotives with the aid of the SMET opens up a fundamentally new path for plotting the electrical circuits of traction rolling stock. The bulky equipment and control instruments, which will be replaced by microprocessor modules with sensory control, can be eliminated from the engineer's cab.

Since 1983, the locomotives equipped with the SMET have been undergoing testing under conditions on the South Urals Railroad and a number of other mainlines with heavy traffic. The experience accumulated on the section from Chelyabinsk to Kropachevo is particularly noteworthy. Introduction of the SMET here made it possible to bring trains weighing up to 5,700 tons across the Ural range—and up to 6,500 tons after renovation of stations. Previously, the norm for the weight of a train with an 8-axle VL10-series locomotive has no more than 3,300 tons.

But the gain from using the SMET is not limited to this. The load coefficient of the electric locomotives on the Chelyabinsk-Kropachevo section is one of the highest in the system—0.75. Backup runs by locomotives have been reduced by more than half. So the "threads" of the schedule and locomotive crews are being economized and electricity is being saved.

The high efficiency of the SMET has been demonstrated on many other lines as well. But introduction of this promising system is unacceptably slow. One of the reasons is the shortage of industrially manufactured equipment. Industry must be given an order to turn out new electric locomotives with the SMET equipment within short periods of time; the traction units should be made up of locomotive sections capable of operating independently, as well as coupling and uncoupling expeditiously.

Introduction of the SMET is an important stage in the transition to radio-controlled locomotives. And this is not far off. Radio control will make it possible to sharply reduce the amount of traffic on overloaded sections of track. At the same time, it is obviously more expedient to

have coupled trains than long consists on certain routes. And for this we must have the technical means to provide for both the long consists and coupled trains with high performance. These technical means will make it possible to shorten the interval between trains and to increase the average speed between stops up to 60 to 65 kilometers per hour. This in turn will make it possible to extend the reach of maintenance and consequently reduce the number of servicing depots, increase schedule speed, reduce the fleet of locomotives and the requirement for locomotive crews, and increase the cars' speed on runs.

For example, the 491-kilometer section from Chelyabinsk to Dema now has four servicing depots and accordingly, four points at which locomotive crews are changed: Chelyabinsk, Zlatoust, Kropachevo and Dema. In operating with the new procedure in this section, the stop at Zlatoust can be completely eliminated. We would not have to build a station at Yakhino, to develop Kropachevo, and to maintain a transfer depot there. The teams for servicing this section can be stationed in Chelyabinsk and Dema and partly in Berdyaush, especially as there is a locomotive depot here. Zlatoust can be turned into a major repair center.

Operational tests of the SMET-radio system on the South Urals and Kuybyshev Railroads have demonstrated that combined trains are being coupled and uncoupled efficiently. However, the introduction of radio control is being held up by the poor quality of accessories for the driver's remotely-controlled brake valve which industry is providing.

In addition to performing the basic functions, the SMET also provides diagnostics for the system and the locomotive's control equipment. A transportable instrument—a tester which checks all the control circuits of an electric locomotive when the current collectors are raised or lowered—has been developed. I would remind you that two mechanics check the locomotive under the current system. One is in the cab of the engine and sets the switches and the engineer's control unit manually, and the other goes from the high-voltage room in one section to another to see how the equipment has been operating. After this, the latter calls the first person to tell him to go to the next step in the checkout. The total time required for this check is 20 to 30 minutes. At the same time, when one piece of equipment or another is turned on, it is sensed only visually or aurally. But the tester provides for 120 "steps" in the check. Up to 90 control points in the locomotive are checked in each "step." The instrument can be built into the locomotive. At the depot where they have become familiar with the SMET, they say that the tester is an uncompromising state inspector.

With radio control, the status of the engines can be recorded at the depot when they are still approaching; repair orders can be prepared in advance or authorization can be given to continue to the turnaround point

without stopping in the main depot. On-board diagnostics will sharply improve the quality of repair on locomotives and their reliability, and their average daily run will be increased.

It is time to put an end to futile discussions about the new technology. Practice has already demonstrated its viability and efficiency. Operations and maintenance personnel, managers and specialists on a number of lines, primarily the South Urals Railroad, have checked out the new technology and verified it, and they have taken an active part in its development and introduction.

Careful calculations indicate that the promising technology will save 468 million rubles in capital investments and 78 million rubles in operating expenses.

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Moscow Metro Tests Remote Control System
18290146b Moscow SOVETSKAYA ROSSIYA in Russian 5 Aug 88 p 2

[Article by G. Tugarinova: "Experiment on the Underground Lines"]

[Text] At first glance, the electric train appeared to be the most common type, with eight cars. Until this it had been in scheduled service on the Zhdanovsko-Krasnorchenskaya line of the capital's metro. It never occurred to the passengers sitting in it that they were participants in an unusual experiment: a remote control system to run an electric train—the SMET-metro [metro multiple-unit remote control system]—had been put into use for the first time on a domestic metro line.

Next to the standard panel in front of Engineer First Class S. Shatilov is a small warning panel. The basic data on the status of the train's cars are reflected on it.

"I see the status of each car," the engineer says. "I monitor the traction and brake operation, check to see if the doors are closed and determine if there are malfunctions and how severe they are. Now we don't have to wait until passengers tell us about malfunctions, because everything is shown on the panel. I have been working on the metro for 13 years and I can objectively evaluate the innovation; the instrument is needed for engineers, because traffic will be safer with it."

The "brain center" of the remote control system is in a metal cabinet about the size of a refrigerator. There is less space in the cab now with its installation. What is this, an unfinished job?

"No, this is simply a test model for the present. The unit was taken from an electric locomotive and refitted for the metro," A. Sukhorukov, chief of the SMET laboratory for servicing the Moscow Metro's rolling stock, explains. The series model of the instrument will e four

to five times smaller in size. We are making changes in the design curing the trains' running-in period, taking the engineer's observations into account."

The SMET-metro is very promising. By using it we will be able to combine cars of any types in one consist. Now an entire electric train remains idle when one car is being repaired. Introduction of the remote control system will enable us to remove the electrical contact box of the automatic coupling between the cars. This will make it possible to significantly reduce the cost of a consist.

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EXPERIMENTAL SYSTEMS

Magnetic Suspension Transportation Project Delayed

18290145 Moscow IZVESTIYA in Russian 5 Aug 88 p 2

[Article by V. Lvov: "While Correspondence Is in Progress: Why Magnetic Suspension Transportation Is at a Dead End"]

[Text] It will soon be 13 years since the beginning of research and testing to develop a fundamentally new type of transportation. On 26 August 1976 the collegium of the USSR Ministry of Construction of Petroleum and Gas Industry Enterprises, based on its directive organs' decision, adopted its first decree "On magnetic suspension transportation." It is difficult to say why they decided in the USSR Council of Ministers, the USSR Gosplan, the USSR GKNT [State Committee for Science and Technology], and even the USSR Academy of Sciences Presidium it was necessary for precisely the Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] to become involved with magnetic suspension.

We have to give the Minneftegazstroy its due for catching the feeling of the time and assuming a heavy burden, along with improving the methods of pipeline transport—development of so-called noncontact transport. A magnetically suspended car, as if soaring over an overpass, is capable of easily overcoming any grades and slopes and of even operating in a "lifting mode," that is, of rapidly moving vertically. The new form of transportation is silent, it makes it possible to increase the speed and comfort of travel severalfold, and it can reduce the effect on the environment to a minimum. As far as the capital investments per kilometer of travel are concerned, they are from three to eight times less than for a metro.

Let us return to the feature at the beginning, however. As to be expected, the developers of magnetic suspension began experiencing difficulties. They were not successful

in building either the experimental trestle of the planned length or a prototype of the car. Nevertheless, based on very meager test data, they worked out technical and economic substantiation for construction of a new type of freight and passenger line in Alma-Ata. The USSR Gosplan's commission of state experts approved the study, carried out at the order of the Kazakh SSR Council of Ministers, on 26 January 1977. And the engineering plan was approved after 3 more years. Under a joint decree by the USSR Gosplan, the USSR State Committee for Science and Technology, and the USSR Academy of Sciences, these operations were included in the comprehensive special-purpose scientific and technical program of the State Committee for Science and Technology for 1981-1985.

But the ink had not dried on this document, as they say, when the USSR Council of Ministers decided 8 days later (!) to build a metro in Alma-Ata. Naturally, the Kazakh SSR Council of Ministers rescinded all its previous instructions on the construction of a magnetic suspension line in the republic's capital.

However, enthusiasts of the new form of transportation in the Minneftegazstroy did not lose heart. They began drafting a TEO [technical and economic substantiation] for a magnetic suspension line from Yerevan to Abovyan to Sevan, which was soon approved by the USSR Gosplan's state commission of experts.

There have been dozens of documents approved at extremely high, high, and other levels of authority with one idea: speed up the development of magnetic suspension transportation in the country. Alas!

At the time of our intensive exchange of "fire" with documents, the new form of transportation acquired more and more of the features of the reality of our time. Six special-purpose lines with overpasses 0.6 to 2.4 kilometers in length were built in the FRG in a brief period of time. An overpass built in Emsland [sic] is 31.5 kilometers long! The supertrain weighs 122 tons, and it has seats for about 200 passengers.

The introduction of commercial transportation systems using magnetic suspension are expected in 1990 in the

United States, Canada, Japan, Saudi Arabia, and a number of European countries.

But we have to sum up the dismal results. Work on magnetic suspension within the framework of the special-purpose scientific and technical program of the USSR State Committee for Science and Technology has come to an organizational dead end. The efforts of the head organization—the Minneftegazstroy—have not been supported by the machine building sectors.

A new alternative solution of the problem made its appearance last September. It was proposed that the Ministry of Railways be charged with the functions of the principal client and that the Ministry of Heavy, Power, and Transport Machine Building [sic]—the head organization which carries out scientific research, experimental design, and planning and surveying operations—be charged with the functions of general project planner; this department, in cooperation with the Ministry of the Electrical Equipment Industry and the Ministry of the Aviation Industry, was instructed to develop, manufacture and deliver the rolling stock in complete units. The Ministry of Transport Construction was assigned the responsibilities of general contractor.

The plan provided for the transfer to the Mintyazhmash [Ministry of Heavy and Transport Machine Building] of the organizations and subunits of the Ministry of Construction of Petroleum and Gas Industry Enterprises which have been engaged in resolving the problems involved and which have accumulated certain experience.

It seemed that a ray of hope had appeared in the darkness of departmental confusion. However, everything came to a standstill again in the last stage. Last December, instructions signed by I. Silayev, deputy chairman of the USSR Council of Ministers, came to all the organizations and departments involved in developing the government decree: to give their comments on the project to the Mintyazhmash within a 2-week period. More than a month has elapsed since that time, but the matter is still caught in a snare stronger than the most powerful magnets; it is called bureaucratic red tape.

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