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CONTENTS

NATIONAL ECONOMY

ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Draft Law on Competition, Antimonopoly Activity Published
[MATERIALNO-TEKHNICHESKOYE SNABZHENIYE No 4, Apr 90] 1
Gossnab Official Highlights Anti-Monopoly Legislation
[L.I. Yakovlev; EKONOMIKA I ZHIZN No 7, Feb 90] 7

INVESTMENT, PRICES, BUDGET, FINANCE

Scientific-Economic Council Rejects Confiscatory Currency Reform
[EKONOMIKA I ZHIZN No 8, Feb 90] 9

INDUSTRIAL DEVELOPMENT, PERFORMANCE

Intersectoral State Association Expands Computer Production
[V. Chernogorodskiy; PRAVITELSTVENNYY VESTNIK No 6, Feb 90] 10

REGIONAL DEVELOPMENT

Estonian Economics Minister Outlines Priorities
[Ya. Leymann; SOVETSKAYA ESTONIYA, 4 May 90] 11
Role of Banks in Republic Economic Independence 13
Estonian Financial Advisor *[A.A. Norak; MOLODEZH ESTONII, 23 Feb 90]* 13
Tajik Republic Bank Chairman
[K. Kavmidinov; KOMMUNIST TADZHIKISTANA, 16 Feb 90] 14

AGRICULTURE

AGRO-ECONOMICS, POLICY, ORGANIZATION

Primary Concepts of Agricultural Reform Set Forth
[E. Pavlova; ZEMLYA I LYUDI No 15, 6 Apr 90] 17
RSFSR Gosagroprom Chairman on Transition to Market Economy, Pricing
[G. Kulik; SOVETSKAYA ROSSIYA, 19 Apr 90] 19
Future of Agro-Industrial Complex Viewed
[Yu. Shkoda; STEPNYYE PROSTORY No 2, Feb 90] 22
Attitudes Toward Leasing, Poll Results Discussed
[N.N. Alekseyenko; STEPNYYE PROSTORY No 2, Feb 90] 24

REGIONAL DEVELOPMENT

Further Development of Farmsteads Discussed
[A. Cherekayev; SELSKAYA ZHIZN, 20 Feb 90] 27
Deliberations at Kazakhstan Food Program Conference
[KAZAKHSTANSKAYA PRAVDA, 18 Feb 90] 29

AGROTECHNOLOGY

Agronomic Instructions Cover Baby Food Raw Material *[SILSKI VISTI, 2 May 90]* 38

CONSUMER GOODS, DOMESTIC TRADE

POLICY, ORGANIZATION

Government Directives Impede Rural Co-op Development
[V. Yermakov; SELSKAYA ZHIZN, 17 Feb 90] 39

FOOD PROCESSING, DISTRIBUTION

Goods Packaging Technology Problems Remain
[Yu. Vladimirov; PRAVITELSTVENNYY VESTNIK No 7(33), Feb 90] 41

PERSONAL INCOME, SAVINGS

Statistics on Pensions, Retiree Income Published
[POD ZNAMENEM LENINIZMA No 3, Feb 90] 43
Savings Bank Official Details Individual Savings
[L. Batalov; VECHERNYAYA MOSKVA, 27 Feb 90] 46

ENERGY

FUELS

Oil, Gas Construction Work Performance Reviewed
[V.G. Chirskov; STROITELSTVO TRUBOPROVODOV No 2, Feb 90] 48

ELECTRIC POWER GENERATION

Article on Alternatives to South Urals AES Countered
[N. Rabotnov, A. Samarkin; SOVETSKAYA ROSSIYA, 30 Mar 90] 55
Roundtable Debates Nuclear Power Issues 57
'After Chernobyl' *[G.P. Kushnarev; NASH SOVREMENNIK No 1, Jan 90]* 57
Nuclear Waste, Security Issues *[B. Kurkin; NASH SOVREMENNIK No 1, Jan 90]* 57
Nuclear Plants Beneficial *[A.A. Abagyan; NASH SOVREMENNIK No 1, Jan 90]* 60
Increased Energy Production Needed
[V.V. Nechayev; NASH SOVREMENNIK No 1, Jan 90] 62
Dangers Stressed *[M.Ya. Lemeshev; NASH SOVREMENNIK No 1, Jan 90]* 63
Andrey Sakharov Article Calls for Underground AES Siting
[A. Sakharov; PROBLEMY MIRA I SOTSIALIZMA No 2, Feb 90]] 67
Debate Over Post-Chernobyl Radiation Danger Continues
[V. Parkhomenko, D. Popov; SOVETSKAYA ROSSIYA, 14 Feb 90] 68
Republics Cope With Chernobyl Aftermath 70
Belorussian Ukase *[SOVETSKAYA BELORUSSIYA, 24 Feb 90]* 70
Ukrainian Comprehensive Program *[PRAVDA UKRAINY, 13 Feb 90]* 71
Register of Chernobyl Radiation Victims Compiled
[O. Plakhotnikova; SOVETSKAYA ROSSIYA, 2 Feb 90] 75

LABOR

Confederation Created by Congress of Independent Workers' Movements
[A. Parshintsev; RABOCHAYA TRIBUNA, 4 May 90] 77
Economic 'Exploitation' of Workers Refuted
[B. Borisov, L. Mikhaylov; EKONOMIKA I ZHIZN No 15, Apr 90] 78
Work Force Statistics, Implications Viewed *[E. Gonzalyez; IZVESTIYA, 1 Feb 90]* 81
Readers' Questions on Draft Pension Law Answered
[Yu.Z. Lyublin; PRAVITELSTVENNYY VESTNIK No 8, Feb 90] 82
Most Serious Industrial Accident Figures Reported *[TRUD, 13 Feb 90]* 83
Unofficial 'Association of Socialist Trade Unions of USSR' Criticized
[L. Kornilov; RABOCHAYA TRIBUNA, 20 Feb 90] 84
Debate on Cooperatives Continues 86
Congress of Co-Ops Meets *[KOMMERSANT No 5, Feb 90]* 86

Co-Op Union Secretary Comments *[V. Gotlib; KOMMERSANT No 5, Feb 90]* 87
Poll Results on Co-Op Activities *[KOMMERSANT No 5, Feb 90]* 89
Sociologist's Comments *[S. Shpilko; KOMMERSANT No 5, Feb 90]* 90
Fish Industry Minister on Labor, Equipment Crisis
[N. Kotlyar; PRAVITELSTVENNYY VESTNIK No 8(34), Feb 90] 91

MACHINE BUILDING

ROBOTICS

Effectiveness of Industrial Robots, Robot Complexes Analyzed
[G.N. Gladyshev; MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA No 3, Mar 90] 93

TRANSPORTATION

CIVIL AVIATION

Leaders Examine Aviation Performance, Future Goals
[B. Panyukov; VOZDUSHNYY TRANSPORT, 6 Feb 90] 95
Roundtable Discusses Controversial International Commercial Administration
[V. Samorukov, et al; VOZDUSHNYY TRANSPORT, 6 Feb 90] 97
Gosplan Official on Aviation Performance
[B. Kozin, V. Sabolin; VOZDUSHNYY TRANSPORT, 8 Feb 90] 100
Aeroflot Awaits Airbuses, Il-96
[V. Samorukov, A. Brylov; VOZDUSHNYY TRANSPORT, 8 Feb 90] 101

MOTOR VEHICLES, HIGHWAYS

Yelabuga Motor Vehicle Plant Highlighted *[A. Solopov; ZA RULEM No 2, Feb 90]* 102
Non-Chernozem Road Construction Performance Reviewed
[AVTOMOBILNYYE DOROGI No 2, Feb 90] 104
Azerbaijan Road Development Examined
[K.B. Tagiyev; AVTOMOBILNYYE DOROGI, No 2, Feb 90] 105

RAIL SYSTEMS

Railroad Organizational Structure Viewed
[A.D. Chernyugov et al.; ZHELEZNODOROZHNYY TRANSPORT No 2, Feb 90; No 3, Mar 90] 106
Chief Interviewed on Railway Economic Programs *[V. F. Pryadko; GUDOK, 8 Feb 90]* 116
Security Chief on Train-Related Deaths, Injuries *[M. Belan; GUDOK, 8 Feb 90]* 118
Rail Ministry Economic Programs, Problems Detailed *[GUDOK, 10 Feb 90]* 119
Computer Center Chief on Automation Plans, Problems *[G.S. Ivannikov; GUDOK, 20 Feb 90]* 122
Laser Applications in Rail Ministry Studied *[N. Davydov; GUDOK, 4 Feb 90]* 124

MARITIME AND RIVER FLEETS

Maritime Transport Management Problems Aired
[G. Gerasimchuk; MORSKOY FLOT No 2, Feb 90] 126
Automated Navigational Aid System Tested
[L. Alekseyev, V. Nosykhin; MORSKOY FLOT No 2, Feb 90] 128
Ships of the Future Discussed *[Ye. Novoseltsev; MORSKOY FLOT No 2, Feb 90]* 129

ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Draft Law on Competition, Antimonopoly Activity Published

904A0352A Moscow MATERIALNO-TEKHNICHESKOYE SNABZHENIYE in Russian No 4, Apr 90 pp 35-44

[Text of draft law on "On Development of Competition and Limiting Monopoly Activity" published under headline: "Proposing a Draft Law for the USSR"]

[Text] In previous issues of the journal, we have published the antitrust laws of the United States, the EEC, China, Poland, and Hungary. Now it is time to familiarize readers with the legislative creativity of Soviet scientists and practitioners. The following took part in preparing the draft of a USSR antitrust law: G. Avilov (All-Union Institute for Government and Legislation), O. Amurzhuyev (USSR Gossnab), A. Arifullin (USSR Gosarbitrazh), L. Bugayets (USSR Minfin), B. Bogdanov (USSR Gossnab), L. Bondar (NIIPiN [Scientific Research Institute for Planning and Standards] of USSR Gosplan), S. Gorbachev (USSR Minfin), A. Gorodetskiy (Economics Institute of the USSR Academy of Sciences), V. Gurevich (Economics and Management Department of the Bureau for Machinebuilding of the USSR Council of Ministers), V. Dyagileva (USSR Gosplan), O. Zhidkov (Friendship of Peoples University imeni Patrice Lumumba), V. Zalesskiy (All-Union Institute of Government and Legislation), O. Zimenkova (MGIMO [Moscow State Institute for International Relations] of the USSR Ministry of Foreign Affairs), S. Karnaukhov (USSR Gossnab), N. Kleyn (All-Union Institute for Government and Legislation), N. Krylova (Economics Institute of the USSR Academy of Sciences), L. Lykova (Economics Institute of the USSR Academy of Sciences), V. Myasnikova (USSR Gossnab), G. Subbotin (USSR Gosplan), I. Tanchuk (Institute for the State and Law of the USSR Academy of Sciences), V. Tsapelik (TsEMI [Central Mathematical Economics Institute] of the USSR Academy of Sciences), Ya. Chernyshova (TsEMI of the USSR Academy of Sciences), L. Shor (USSR Gossnab), L. Yakovlev (USSR Gossnab), and Ye. Yasin (TsEMI of the USSR Academy of Sciences).

On Development of Competition and Restriction of Monopolistic Activity

I. General Provisions

Article 1. The Law's Objectives

The Law defines the organizational and legal foundations for development of competition and also measures to prevent, restrict, and interdict monopoly activity and disloyal competition on the market for commodities.

Article 2. Sphere of the Law's Application

The Law is effective over the entire territory of the USSR. It is also applied in those cases when the actions or agreements of Soviet participants in commerce occurring outside the USSR result in restriction of competition or have other adverse consequences on the market of the USSR.

The Law does not apply when it violates the right of participants in commerce arising out of legislation on inventions, trademarks, and copyright, or arising out of international agreements to which the USSR is a party.

The Law does not extend to the following sectors and types of activity: the electric power industry; construction and operation of unionwide communications and transportation systems (main pipelines, railroads, communication lines).

The USSR Supreme Soviet, if the interests of the national economy so require, also establishes other exceptions to the effect of this Law and the limits of its application to particular categories of participants in commerce or to specific spheres of activity and markets.

For purposes of regulating the market, the USSR Council of Ministers is entitled in the period between sessions of the USSR Supreme Soviet to establish exceptions to the effect of this Law dictated by extraordinary circumstances or natural disasters. The USSR Council of Ministers informs the USSR Supreme Soviet of the measures taken.

Article 3. Rights and Duties of Participants in Commerce

All participants in commerce possess equal freedom of economic activity within the limits established by legislation.

Actions of administrative agencies or their officials aimed at discrimination against certain participants in commerce and restricting their independence are unlawful.

Participants in commerce operating on the market must use the rights granted them conscientiously, must not frustrate the normal functioning of the market, and must not engage in deception, abuse of confidence, and dishonest conduct of business.

Article 4. Monopolistic Activity and Disloyal Competition Prohibited

The following are prohibited:

—monopolistic activity aimed at or causing the prevention, restriction, or elimination of competition on the market and also constituting an abuse of a dominant position on the market or the economic dependence of other parties to a contract;

—disloyal competition, which inflicts harm on participants in commerce or the interests of individuals.

Article 5. Definitions

For the purposes of this Law, the following definitions apply:

- "participants in commerce" means state, cooperative, public, or other enterprises, associations, other organizations enjoying the rights of a juridical person, structural units of associations, or self-employed citizens carrying on economic activity of producing, selling, or acquiring goods;
- "large organizational structures" means concerns, consortiums, intersector state associations, trade associations (khozyaystvennyye assotsiatsii), and other similar associations;
- "commodity" means a product of activity intended for sale, including jobs and services;
- "market" means the sphere of distribution of homogeneous or interchangeable commodities;
- "competition" means the rivalry of participants in commerce on the market in which none of them is able to exert a decisive influence on the general conditions for sale on the given market;
- "dominant position" means the exceptional position of a participant in commerce on a particular market which affords him the possibility of exerting a decisive influence on the level of competition or of restricting the freedom of economic activity of other participants in commerce;
- "monopolistic activity" means acts of commission (or omission) of participants in commerce and administrative agencies contrary to the present Law which are aimed at preventing, restricting, or eliminating competition and injuring the interests of the economy, other participants in commerce, or citizens.

Article 6. The USSR Antimonopoly Committee

The USSR Supreme Soviet forms the USSR Antimonopoly Committee in order to carry out the policy of the state in the area of developing the market and competition and also that of state monitoring of observance of antitrust legislation.

The jurisdiction and functions of the USSR Antimonopoly Committee are determined by the present Law.

The USSR Antimonopoly Committee forms regional branches of the Committee as needed. The rights and duties of these branches are established by the USSR Antimonopoly Committee within the limits of its competence.

Article 7. The Tasks of the Organs of State Power and Administration in the Area of Developing Competition

The organs of state power and administration must within their respective powers promote the development of competition and prevent monopolistic activity on the market.

In monitoring prices, the USSR State Committee for Prices must interdict an unjustified rise of prices by administrative agencies and participants in commerce and any unjustified income derived therefrom.

Article 8. Antitrust Legislation of Union Republics

The union republics may adopt legislation that does not contradict the present Law on matters related to development of competition and restriction of monopolistic activity on the republic market.

The legislation of the union republics may define the procedure for creating republic agencies to combat monopolistic activity and disloyal competition on the republic market.

II. Prevention and Elimination of a Dominant Position on the Market

Article 9. The Principle That It Is Not Permissible To Create a Dominant Position on the Market

The creation, merger, reorganization, and liquidation of enterprises, associations, organizations, and also large organizational structures must not result in restriction of competition or a dominant position of participants in commerce on the market.

Article 10. State Monitoring of the Creation, Merger, Reorganization, and Liquidation of Participants in Commerce and Large Organizational Structures

The USSR Antimonopoly Committee carries out monitoring of the creation, merger, reorganization, and liquidation of participants in commerce and large organizational structures.

In the cases and in accordance with the procedure established by the USSR Antimonopoly Committee, acts or contracts creating, merging, reorganizing, and liquidating enterprises (associations), organizations, or large organizational structures are submitted for consent to that Committee or its regional branches.

If the creation, merger, reorganization, or liquidation of enterprises (association), organizations, or large organizational structures could result in the dominant position of a participant in commerce or some other restriction of competition on the market, the USSR Antimonopoly Committee, no later than 30 days from the receipt of the acts or contracts, issues a substantiated notification prohibiting the creation, merger, reorganization, or liquidation.

In exceptional cases, the USSR Antimonopoly Committee may not resort to prohibition when these adverse consequences do obtain if the creation, merger, reorganization, or liquidation of the enterprises (associations), organizations, or large organizational structures makes possible an essential reduction of the costs of production and distribution, a reduction of production units operating at a loss, application of scientific-technical advances, a rise in the effectiveness of selling Soviet goods on the external market or optimization of purchases abroad.

If during the 45 days after documents or contracts have been sent to the USSR Antimonopoly Committee no notification of prohibition has been received from it, the acts or contracts are considered in conformity with the present Law.

In cases when legislation has envisaged the registration of enterprises (associations), organizations, or large organizational structures, it may be done only if there has been no notification of prohibition from the USSR Antimonopoly Committee and the deadline for receiving it has passed.

Article 11. Mandatory Dismemberment of Participants in Commerce and Large Organizational Structures

If the dominant position of individual enterprises (associations), organizations, or large organizational structures results in a substantial restriction of competition or disruption of the normal functioning of the market, the USSR Antimonopoly Committee may adopt a decision to dismember those enterprises (associations), organizations, or large organizational structures.

The decision of the USSR Antimonopoly Committee on dismemberment is to be carried out within the period of time set by the USSR Antimonopoly Committee.

III. Monopolistic Activity

Article 12. Impermissibility of Acts of the Organs of State Power and Administration Which Restrict the Independence of Participants in Commerce in the Areas of Planning and Sales on the Market

Acts of the organs of state power and administration and also of large organizational structures are considered unlawful if they aim at restricting the independence and rights of participants in commerce in the area of planning and selling commodities on the market, including the following:

- establishment (or placement) of state orders not linked with other initial planning data;
- distribution according to plan of commodities not envisaged by state order;
- establishment of bans on the sale of commodities from one region of the country (republic, kray, or oblast) in another region;
- other restriction of the rights of participants in commerce to acquire and sell commodities whose distribution is not subject to planning.

Article 13. Impermissibility of Discrimination Against Individual Participants in Commerce by the Organs of State Power and Administration

The organs of state power and administration and also large organizational structures do not have the right to establish discriminatory or exclusive conditions for the activity of certain participants in commerce if such conditions restrict competition, such as:

- preventing the creation of new enterprises, organizations, and other participants in commerce in any sphere of activity;
- establishing unjustified bans on the performance of specific types of activity of participants in commerce or the production of certain commodities;
- issuing instructions to participants in commerce concerning preferential delivery of commodities to a particular group of consumers.

Article 14. Unlawful Agreements of Administrative Agencies

Agreements among administrative agencies frustrating the normal functioning of the nationwide market, the development of competition, and infringing on the interests of the national economy and citizens are not allowed and are considered invalid.

Article 15. Abuse of Dominant Position on the Market

A participant in commerce is not allowed to abuse his dominant position on the market and other acts restricting competition and infringing on the interests of the economy, other participants in commerce, or citizens, including the following:

- cessation or reduction by a state enterprise (association) of the production of commodities envisaged by state orders when the need of the economy and individual participants in commerce for those commodities has not been met;
- the purchase and accumulation of scarce commodities in amounts substantially exceeding the annual requirements;
- restriction or termination of production and also withdrawal from distribution of commodities in order to create or maintain a shortage on the market, or to raise prices;
- the refusal of a participant in commerce to conclude a contract with another party who has submitted an order that conforms to established procedures and deadlines, when the participant in commerce does have the commodities or a realistic possibility of producing or selling them;
- disruption of existing economic relations without consent of the consumer, except for cases when this essentially contributes to the application of scientific-technical advances or otherwise increases production efficiency;
- imposing on the other party to a contract terms and conditions which do not pertain to its subject matter, such as: requiring the transfer of raw materials, supplies, and products not used in filling the order; inclusion in the contract of commodities the customer does not need; unjustified demands for the transfer of money, including foreign currency;
- imposing on individuals a mandatory assortment as a stipulation for the sale of the commodity;
- unjustified hiking up of unrestricted prices.

Article 16. Unlawful Agreements of Participants in Commerce and Large Organizational Structures

Agreements of participants in commerce done in any form are prohibited and considered entirely or partially invalid if they aim at the following:

- division of the market on a regional basis, by the volume of sales or purchases or with respect to a group of consumers in order to restrict competition;
- elimination or restriction of access to the market of other participants in commerce as sellers of specific goods or as purchasers;
- establishment (maintenance) of a price or supplements (reductions) to the price in order to obtain unjustifiably high profit or to eliminate competition, in cases when the participants in commerce have a right to set prices and supplements (reductions) independently or by agreement between seller and purchaser;
- an artificial rise, reduction, or maintenance of prices in auctions and similar public sales.

The USSR Antimonopoly Committee may find that these agreements do not contradict the present Law if they essentially promote a reduction of production and distribution costs; the application of scientific-technical advances; an increase in the effectiveness of sales of Soviet commodities on external markets, or optimization of purchases abroad.

IV. Disloyal Competition

Article 17. Impermissibility of Disloyal Competition

It is not permitted to engage in disloyal competition, to wit:

- the spreading of false or inaccurate information (presentation of accurate information in a false light) capable of doing damage to the business reputation of another participant in commerce;
- misleading consumers concerning the character, method and place of manufacture, properties, fitness for use or quality of commodities;
- unauthorized use of trademark, corporate name, or labeling of a commodity or the unauthorized copying of the form, packaging, or external appearance of commodities of other participants in commerce;
- the advertising of commodities which do not meet the requirements as to quality;
- distortion or omission in advertising of information about the true properties and quality of commodities; improper comparison of commodities in advertising;
- unauthorized use or divulgence of confidential scientific-technical, production, or trade information.

V. Competence of the USSR Antimonopoly Committee

Article 18. Functions of the USSR Antimonopoly Committee

The USSR Antimonopoly Committee has the following functions:

- to systematically conduct comprehensive analysis of the state of markets and competition on them;
- with the help of USSR ministries and departments, councils of ministers of union republics, and other interested entities to draft measures to improve the functioning of the market, to develop competition, and also to overcome monopolistic tendencies; to send to the USSR Supreme Soviet and USSR Council of Ministers reports and proposals on these matters to improve antitrust legislation;
- to submit to the USSR Supreme Soviet and USSR Council of Ministers opinions concerning the drafts of laws and other normative acts pertaining to the functioning of the market and development of competition;
- to make decisions on acts or contracts submitted to it in accordance with Article 10 of the present Law on the creation, merger, reorganization, and liquidation of enterprises (associations), organizations, and also large organizational structures;
- jointly with administrative agencies and with the help of participants in commerce, to draft measures to demonopolize production and distribution, including creation of parallel structures, dismemberment of enterprises (associations), organizations, and large organizational structures;
- to examine cases of violations of antitrust legislation and to make decisions concerning them.

Article 19. The Right of Legislative Initiative of the USSR Antimonopoly Committee

The right of legislative initiative is extended to the USSR Antimonopoly Committee.

Article 20. Powers of the USSR Antimonopoly Committee

The powers of the USSR Antimonopoly Committee are as follows:

- to issue enforceable orders related to application of the present Law;
- to make a decision on confiscating from a participant in commerce income unjustifiably obtained as a result of monopolistic activity or disloyal competition;
- to impose a fine on participants in commerce, their officials, and officials of administrative agencies for violation of the present Law and for failure to carry out the orders of the Committee;
- to present for examination of the USSR Constitutional Oversight Committee matters concerning conformity with antitrust legislation and concerning laws and other normative acts which fall under that Committee's oversight;
- to raise the issue before the USSR General Procurator of contesting acts which are contrary to antitrust legislation and which fall under the procurator's jurisdiction;
- to apply to state arbitration for declaration of the complete or partial invalidity of acts issued by government administrative agencies and large organizational structures which violate the present Law;

- to present proposals to the relevant state administrative bodies on adoption of mandatory licensing, prohibition or halting export-import operations of a participant in commerce when he has violated the present Law;
- to bring cases before state arbitration or the courts on declaration of a contract (agreement) which contradicts this Law entirely or partially invalid or on dissolving or amending a contract between participants in commerce which infringes on the interests of the economy, other participants in competition, or citizens;
- to participate in state arbitration or the courts in taking up cases related to violation of antitrust legislation.

Article 21. Recommendations of the USSR Antimonopoly Committee

In order to promote development of the market and competition, the USSR Antimonopoly Committee makes recommendations to the relevant organs of state power and administration, including the following subjects:

- on the granting of preferential credits and also on reduction or exemption from taxes of participants in commerce appearing on the market for the first time where there has not been sufficient competition;
- on expansion of the sphere of application of unrestricted prices;
- on financing of measures to broaden the production of commodities which are in demand on the market in order to eliminate the dominant position of certain participants in commerce;
- on the attraction of foreign capital and the creation of joint enterprises;
- on the licensing of export-import operations and the amendment of customs tariffs.

Article 22. The Right of the USSR Antimonopoly Committee to Unhindered Access to Information

Persons empowered by the USSR Antimonopoly Committee have the right to unhindered access to ministries, departments, other state administrative agencies, associations, enterprises, and organizations to perform the functions placed on them and to familiarize themselves with all the necessary documents.

Article 23. Duties of State Administrative Agencies, Large Organizational Structures, and Participants in Commerce Before the USSR Antimonopoly Committee

The state administrative agencies, large organizational structures, and participants in commerce are required to perform the following at the request of the USSR Antimonopoly Committee:

- to submit documents, reference materials, and other information which the USSR Antimonopoly Committee needs to perform its functions;
- to submit written clarifications concerning violations of antitrust legislation which have been committed.

Article 24. Advisory Council

An Advisory Council operates in association with the USSR Antimonopoly Committee.

The Advisory Council is formed by the USSR Antimonopoly Committee from among scientists and specialists, representatives of central organs of state power and administration and of public organizations.

The Advisory Council evaluates the degree of monopolization of markets and drafts recommendations for development of competition and for improvement of antitrust legislation.

Article 25. Fund for Promotion of Antitrust Measures

The USSR Antimonopoly Committee creates a Fund for Promotion of Antitrust Measures. The resources of the fund are formed with 40 percent of the amounts of fines imposed by the USSR Antimonopoly Committee for violation of the present Law and also 40 percent of amounts confiscated from participants in commerce as income obtained unjustifiably in connection with monopolistic activity and disloyal competition.

The resources of the fund are spent by the USSR Antimonopoly Committee to finance measures to develop competition and restrict monopolistic activity.

Article 26. Glasnost in Proceedings

The USSR Antimonopoly Committee guarantees glasnost in its proceedings, using the news media and its own publication for those purposes.

VI. Consequences of Violations of Antitrust Legislation

Article 27. Orders and Fines

In case of a violation of Articles 11, 12, 13, 14, 15, 16, 17, and 23 of the present Law by a state administrative agency or participant in commerce and also by officials of state administrative agencies and enterprises (associations), organizations, and large organizational structures, the USSR Antimonopoly Committee:

- issues orders stating the deadline for performance concerning cessation of the violation, restoration of the original situation, payment of amounts of income unjustifiably obtained into the appropriate budget and the Fund for Promotion of Antitrust Measures; and on execution of a decision on dismemberment;
- imposes a fine.

Article 28. Grounds for Imposing Fines

The USSR Antimonopoly Committee has the right to impose a fine for the following violations:

- on participants in commerce for disloyal competition (Article 17 of the present Law) in an amount not to exceed 500,000 rubles;

- on participants in commerce for failure to submit on time documents, reference materials, and other information and also written clarifications (Article 23 of the present Law) or for submitting knowingly inaccurate or false information in an amount not to exceed 1,000 rubles;
- on officials of state administrative agencies and large organizational structures for violations indicated in the previous paragraph in an amount not to exceed 100 rubles;
- on participants in commerce for evasion of performance or tardy performance of orders to cease a violation and restore the original situation in an amount not to exceed 500,000 rubles;
- on large organizational structures and participants in commerce for evasion of performance or late performance of orders to carry out a decision on dismemberment in an amount not to exceed 500,000 rubles;
- on officials of state administrative agencies, large organizational structures, and participants in commerce for culpable evasion of performance or tardy performance of orders in an amount not to exceed 1,000 rubles.

Article 29. Recovery of Losses Incurred Through Monopolistic Activity and Disloyal Competition

A participant in commerce who has committed a violation of antitrust legislation reimburses the injured participant in commerce the losses incurred through the monopolistic activity or disloyal competition according to the procedure established by legislation.

Article 30. Recovery of Losses Caused by an Unlawful Act of an Administrative Body

If an act of an administrative body adopted in violation of antitrust legislation and declared entirely or partially invalid by state arbitration or a court has caused a participant in commerce to suffer losses, he has a right to sue the administrative agency for reimbursement of those losses before state arbitration or the courts.

Article 31. Release of a Participant in Commerce From Accountability for Violation of Antitrust Legislation

Participants in commerce and their officials are entirely or partially exempted from accountability for violation of the present Law if their monopolistic activity has resulted from acts of an administrative agency adopted in violation of legislation.

In this case, a party to a contract with a participant in commerce who has incurred losses has a right to sue before state arbitration or the courts for recovery from the administrative agency whose act resulted in the relevant violations of antitrust legislation.

VII. Examination of Cases of Violations of Antimonopoly Legislation and Procedure for Appealing Decisions of the USSR Antimonopoly Committee

Article 32. Grounds for Instituting Proceedings

The USSR Antimonopoly Committee institutes proceedings and examines cases of violation of antitrust legislation. The grounds for instituting proceedings may be as follows: the material of the USSR Antimonopoly Committee; statements by participants in commerce, the USSR Trade and Industrial Chamber, administrative agencies, consumer organizations, and other organizations; the material of people's control authorities, the procurator's office, and state arbitration.

The procedure for examining the cases is defined by the present Law and by the Regulation to be approved by the USSR Antimonopoly Committee.

Article 33. Presentation and Examination of Statements

Statements are presented to the USSR Antimonopoly Committee in writing, accompanied by appended documents containing evidence of cases of violation of antitrust legislation. The content of the statements is not to be divulged without special permission of the USSR Antimonopoly Committee.

Article 34. Procedure for Appealing Orders of the USSR Antimonopoly Committee

Administrative agencies and participants in commerce, should they disagree with the orders of the USSR Antimonopoly Committee, have a right to petition state arbitration or the courts to declare such orders partially or entirely invalid.

These petitions are examined by state arbitration according to the procedure established for examination of petitions to declare invalid acts of government administrative agencies, and they are taken up by the court according to the procedure for special handling established by the Bases of Civil Court Proceedings of the USSR and Union Republics and by the state procedural codes of the union republics.

Article 35. Procedure for Appealing Decisions of the USSR Antimonopoly Committee Imposing Fines

Administrative agencies and participants in commerce have a right to file an appeal with state arbitration or the courts to vacate or amend decisions of the USSR Antimonopoly Committee imposing fines.

Officials may appeal the decision imposing a fine on them according to the procedure established by legislation concerning administrative accountability.

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Gossnab Official Highlights Anti-Monopoly Legislation

904A0208A Moscow EKONOMIKA I ZHIZN in Russian No 7, Feb 90 p 9

[Interview with L.I. Yakovlev, department head of USSR Gossnab, by A. Gnidenko; date and place not specified: "How To Put the Genie Back in the Bottle"]

[Text] A package of documents on anti-monopolistic legislation has been prepared.

The leader of the group which prepared these documents, L.I. Yakovlev, a department head of USSR Gossnab, responds to questions posed by our correspondent.

[Gnidenko] Luka Ivlevich, it is true that it has only been recently that loud pronouncements have openly been heard regarding the monopolistic tendencies in our economy. Some of our readers, if we are to judge by our Editorial Board mail, are under the impression that this monster of clearly foreign origin has appeared among us as a result of perestroyka and that it is a deformed result of the reform. What do you have to say in this regard?

[Yakovlev] I too have heard such opinions being expressed. Even, alas, from professional economists. And, frankly speaking, I myself held this view some time ago. And could it be otherwise? Indeed, for a long period of time we unanimously condemned the vices of the market economy with its monopolistic tendencies and ruinous business competition. We condemned without even suspecting that we ourselves—in terms of the style of our economic thought, the decisions handed down and their results—are monopolists of a type that the world has never seen!

What do we wish? A portion of the competition. A portion of the duplication of any and all functions and alternative (that is, competing) ideas! A portion of the parallel, that is, ruinous production operations! Yes, long live concentration and specialization! But what is concentration and specialization if there is no propagation of monopolism? This substitution of terms played an insidious game with us. If not monopolism, then what is departmentalization or seniority? And what is meant by "group egoism?" Strictly speaking, many concepts of a non-economic nature have been introduced into the economy. And they have come into conflict with phenomena which they clearly designated. But indeed, such designations often furnish us with a false target. We will not be able to conquer departmentalization, seniority nor group egoism if we are unable to understand that this field involves monopolism.

Thus, rather than a result of perestroyka, I would say that this phenomenon is the economic foundation for the administrative system. And it is precisely monopolism that has become one of the chief factors associated with a slowing down in economic growth and scientific-technical progress.

I admit that things should be called by their proper names. Indeed, our group must propose measures for ensuring the destruction of the monopolistic structure of production and administration, that is, that which all of us have become accustomed to, that which we lived for and even took pride in. And how could I not be proud, since I worked at the only plant in the union that produces unique products?

[Gnidenko] But then the efforts of producers would not lead to such negative consequences as we are experiencing at the present time.

[Yakovlev] Actually, during the pre-perestroyka period there was worthy opposition to our monopolism—stern administration, the same degree of monopolistic comprehensive planning, limited logistical supply and forcible marketing even in products that were not needed and on the basis of centrally established prices.

The presentation to enterprises of independence, with a simultaneous and substantial weakening of the administrative control levers, opened up a broad expanse for ensuring that monopolism flourished in its own double-flowered blossom. Hence, there was unrestrained growth in prices and inflation, with the latter becoming an independent and destabilizing factor, and a deficit which assumed a new quality—it was transformed into a means for realizing profit. The dictates of a supplier became the talk of the town. It was equivalent to a natural exchange. It is useless to combat each of these phenomena separately if their overall root—monopolism—remains untouched.

[Gnidenko] Thus, on the one hand there is a need for demonopolization of the production system and, on the other, for developing and introducing a completely new mechanism, one which is capable of extinguishing these tendencies towards monoplization that are constantly being generated by the market.

[Yakovlev] Yes, the task is twofold in nature. And when we were developing our recommendations, we based our position precisely upon this fact. And later there appeared not only the draft law entitled "Development of Competition and Opposition to Monopolism On the Socialist Market," but also recommendations concerning priority measures for overcoming the monopolistic structure of production and control. A rather harmonious program for carrying out an anti-monopoly policy and a system for introducing appropriate legislation appeared.

It bears mentioning that a legal mechanism for regulating competition and limiting monopolies has long been in operation in our country, with its traditionally market economy and we have tried to take this experience into account to the maximum possible degree and also the experience accumulated in Hungary and Poland (including negative experience). Yes, rich experience has been accumulated in international practice in the use of anti-trust legislation. Actually, such an instrument was created for the first time in the U.S.A. as far back as

1890, that is, the well-known Sherman law will be 100 years old this year. And it turns out that appropriate scientific studies have not even been carried out in our country in this area. As a result, statistics have triumphantly reported a strengthening and expansion in the processes concerned with production concentration and specialization.

[Gnidenko] What measures will be undertaken first of all?

[Yakovlev] We will necessarily begin with the creation of an anti-monopolistic structure which is in keeping with the market conditions. Indeed, the very concept of a "market" assumes the existence not of one or two but many (not less than three) producers of the same product. In this regard, we consider it advisable to proceed along the path leading to a judicious breaking up of associations and enterprises and to orient investment policy towards the creation of parallel functioning production operations and relatively small and medium-size enterprises. As you can see, the process of demonopolization will be rather prolonged. Moreover, the policy here must be flexible. In some instances, the elimination of a monopoly (communications, electrical engineering, gas supply) will be optional or inadvisable, but invariably there must be measures which strongly restrict monopolistic actions. Measures must be undertaken to ensure that a consumer has a selection and producers have equal conditions for economic competition. Obviously, the chief consideration here is that of eliminating the economic prerequisites for the reproduction of monopolistic tendencies. Conditions must be created for the development of competition: freedom to select a supplier; a distribution between the producers of market shares that will preclude the possibility of any one of them occupying a dominating position; market price formation; competition among the producers and not the consumers of products and others.

The solution for this task assumes the implementation of a vast complex of measures of an economic, organizational and legal nature, which will constitute the foundation for the anti-monopolistic policy. Its chief trends will be incorporated in the government's program, which was approved during the 2d Congress of the People's Deputies of the USSR.

The anti-monopoly law must be closely linked to other laws, the drafts of which are currency under discussion. Hence, with their adoption, the basic principles of this anti-monopolistic policy will become a reality.

[Gnidenko] And who will be responsible for carrying out this work?

[Yakovlev] We are proposing the creation of a USSR anti-monopoly committee and similar organs in the union republics. After being granted appropriate rights, they could implement a uniform state anti-monopoly policy in connection with regulating the market and developing competition and they could exercise state control over the observance of anti-monopoly legislation.

[Gnidenko] What are the principal tasks of this law?

[Yakovlev] It must contain clearly formulated legal means for influencing the formation of the socialist market and it must provide for encouraging competition and prohibiting and suppressing the various types of monopolistic practice, including that exercised by the organs of state administration and participants in economic operations.

[Gnidenko] What should be banned?

[Yakovlev] The draft law will not tolerate actions associated with the use of a dominating attitude in the market or those which infringe upon the interests of other participants in economic turnover. These actions could include such distressing facts as a cessation (reduction) in the production of goods, the requirements for which are not being satisfied, a refusal to conclude an agreement with a contractor in the presence of free capabilities, disruption of economic relationships in the absence of agreement by partners, imposing of one's own contractual conditions and unjustified increases in prices.

[Gnidenko] But indeed, is not a prohibition viewed primarily as administration?

[Yakovlev] True, and we must be prepared for the possibility that the use of such measures will arouse criticism among the producers and those social groups that oppose solving economic problems through the use of administrative methods. Nevertheless, we must employ such methods. The draft law also forbids agreements between the participants in economic turnover, that is, their collective actions directed towards preventing access to the market by other competitors and creating an artificial deficit for the purpose of raising prices. In addition, actions which constitute unfair competition are forbidden—the use of false information capable of inflicting harm upon a competitor's reputation, unfair advertising, unauthorized use of someone else's product symbol and others.

[Gnidenko] At the present time, there is a fair number of prohibitions and the enterprises have learned how to avoid them.

[Yakovlev] For violating anti-monopoly legislation, the plans call for various legal actions to be taken, including mandatory reimbursement for damage and instituting criminal proceedings against the officials of administrative organs, the decisions of which infringe upon the independence and economic interests of those participating in economic turnover. It bears mentioning, for example, that those who violate anti-trust legislation in the U.S.A. are held criminally responsible.. In addition, for declining to carry out the mandatory instructions, the anti-monopoly organs will exact fines and withhold

unjustifiably earned income. It is expected that up to 40 percent of the funds so collected will be added to the fund used for the carrying out of anti-monopoly measures, with the remainder being turned over to the appropriate budget.

On the other hand, the plans call for a system of measures which will stimulate the development of the market and competition.

The draft law on the whole is rather extensive and I would like to refer all those who are interested in it to the journal MATERIALNO-TEKHNICHESKOYE SNABZHENIYE [Logistical Supply], the fourth issue of which for this year will publish the complete text for preliminary discussion. Our group is very interested in constructive recommendations which will aid in improving the draft.

[Gnidenko] And the last question: who is included in the group?

[Yakovlev] Economists, lawyers, practical workers and scientists—workers attached to the central economic departments, scientific institutes of the USSR Academy of Sciences, USSR MID [Ministry of Foreign Affairs] and economics and administrative departments of bureaus of the USSR Council of Ministers for machine building—in all, approximately 30 individuals.

INVESTMENT, PRICES, BUDGET, FINANCE

Scientific-Economic Council Rejects Confiscatory Currency Reform

904A0207A Moscow EKONOMIKA I ZHIZN in Russian No 8, Feb 90 p 7

[Unattributed article: "An Intolerable Measure"]

[Text] The question concerning the possibility of a monetary reform was discussed in detail by a Scientific-Economic Council of the State Committee for Economic Reform of the USSR Council of Ministers, at which time eminent scientist-economists and important economic leaders were introduced. The chairman of the council, Academician A. Aganbegyan, in summarizing the results of the discussion, noted: "The scientific-economic council was unanimous in its view that the use of such a measure as monetary reform of the confiscatory type in order to stabilize the consumer market is unacceptable. Arguments? I believe that they are set forth rather completely in the conclusions drawn by the council."

And these conclusions are as follows.

During an analysis of the methods for normalizing the consumer market, a recommendation is often made calling for the restoration of balanced demand and supply through the carrying out of a monetary reform. The issuing of new banknotes with a regressive exchange for those presently in circulation. In evaluating this recommendation, we must first of all take into account thoroughly the possible consequences of such a reform.

Statistics on savings, for example, reveals that 77.7 percent of all savings (as of 1 January 1989) are concentrated in deposits ranging in amounts of from 1 to 10,000 rubles. Such deposits constitute 59 percent of the overall number of accounts in the USSR Savings Bank. In all, there are 2.3 million deposits throughout the country that are greater than 10,000 rubles and they accumulate only 30.3 billion rubles (10.2 percent of the population's total amount of savings). There are only 592,000 deposits containing funds ranging from 25,000 to 50,000 rubles—this amounts to only 1.5 billion rubles. Amounts greater than 50,000 rubles are found in only 4,000 accounts (average deposit amount of 76,000 rubles) and their overall amount is only 297.5 million rubles. The maximum amount of a single deposit—200,000 rubles.

Given the country's existing wage level (7.1 percent of the country's population, or approximately 20 million individuals, have an average income in excess of 250 rubles monthly) and price level (a small automobile—7,000-12,000 rubles, a one room apartment—8,000 rubles, furniture suite—3,000-7,000 rubles, the construction of a garden shed and improvements to a plot—5,000-8,000 rubles), the highest amount that could be exchanged for banknotes in a proportion of 1:1 cannot be established lower than 10,000 rubles. (This figure was mentioned during a Moscow meeting organized last year by the trade unions, where appeals calling for a monetary reform were heard).

However, the object of a regressive exchange in this instance will turn out to be only a small portion of the overall amount of savings (the above-mentioned 30.3 billion rubles). Even if these savings are exchanged in a proportion of 1:10, the overall gain for stabilizing the market, according to estimates, will amount to only 27 billion rubles and this in no way will bring about a basic change in the economic situation. This amount can change if the money exchange is carried out not according to individual deposits but rather by citizens, that is, a violation of the principle of guaranteed secret deposits and a conversion over to the principle of "one citizen—one deposit."

However, a solution for this task will be rather complicated from a technical standpoint and also, in the opinion of the scientific council, it will signify a disruption in civil rights and will undermine the reputation of the USSR as a country which observes the generally accepted norms for economic relationships, as seen by foreign governments and firms which are examining the potential for collaboration with our country.

The chief objection against the monetary reform is the following. The withdrawal of money from the population based only upon the total amount accumulated by a citizen is an act of economical arbitrariness which today cannot be justified by any objective factors (a reference to which eliminated the social friction to a considerable

degree during the monetary reform of 1947). In view of the fact that many workers in the state sector (particularly workers in the northern and equivalent regions of the country) are receiving wages of 1,000 or more rubles and are unable to spend the money received for acquiring needed goods and services, a regressive exchange adversely affects precisely those people who have truly earned savings and who without caution store their money in a savings bank.

"Shadow economy" businessmen do not suffer from a monetary reform. As a rule, they convert their gold and valuables into currency or they invest in the development of their "affairs." With regard to the large sums of cash that they have stored, the carrying out of an exchange in these cash funds will not solve the problem, since the experience acquired during the 1947 reform revealed that the inclusion of false people in the exchange did not constitute any serious problem for the "shadow economy" businessmen.

In the basic plan, the monetary reform (even when carried out with a maximum degree of success) is capable only of weakening somewhat the imbalance in the consumer market, but it cannot eliminate those factors which produce this imbalance.

The result of such a reform will be a loss of prestige for bank savings. And this will lead to the following action. The population will strive to spend a larger portion of money and this will intensify pressure on the market for so-called "hot" money, that is, money used for purchasing any counter goods, regardless of the degree of true reqruirement for such goods by the owner of the money.

Increased pressure upon the "hot" money market will bring about an unprecedented flourishing of the "black market" and rapid enrichment of the "shadow economy" businessmen.

There is still one other inevitable result—the circulation of cash will by-pass the state banking system and this will inhibit to an extreme degree fulfillment of the cash plans and the regulation of cash circulation and it will also increase interruptions in the payment of earnings and require an increase in emissions.

The state is deprived of a stable source for credit resources and this will inhibit economic administration to an extreme degree. And finally, confidence in the monetary obligations of the state will be undermined to the extent that any attempts to distribute state loan obligations among the population, obligations issued for the purpose of covering a state budgetary deficit, will be unsuccessful.

The Scientific-Economic Council drew the conclusion that the consumer market problem cannot be solved by means of a monetary reform of the confiscatory type, without simultaneously engendering even more complicated and dangerous economic and socio-political problems. A monetary form of the confiscatory type will eventually undermine the authority of the ruble.

Moreover, under conditions in which only 10 percent of the overall amount of savings (approximately 30 billion rubles) is concentrated in deposits which are greater than 10,000 rubles and the unearned income of "shadow economy" businessmen is invested in valuables, the carrying out of a monetary reform will not produce a large scale or, even more important, a long term result.

In order to achieve such a result, a complex of extreme economic measures aimed both at immobilizing the monetary funds of the population and increasing commodity supply must be carried out on an urgent basis.

INDUSTRIAL DEVELOPMENT, PERFORMANCE

Intersectoral State Association Expands Computer Production

904A0190A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 6, Feb 90 p 5

[Interview with V. Chernogorodskiy, sector head of the USSR Council of Ministers Machine-Building Bureau, by correspondent G. Dmitriyev: "A Formula for Success"]

[Text] *A governmental decree has created the intersectoral state association "Kompyuter" [Computer].*

Thus, the disposition of forces in the computer industry has changed. And here is what is curious: a higher result is anticipated from the rearrangement of the components, which would be impossible in mathematics. What is the basis for such a calculation? We have asked V. CHERNOGORODSKIY, sector head of the USSR Council of Ministers Machine-Building Bureau to talk about this.

[Dmitriyev] Valeriy Petrovich, isn't this a situation in which a vegetating institution changes the signboard and continues to drag out a quiet existence?

[Chernogorodskiy] No, that's not the way it is. We're talking about several enterprises capable of the intergrated production and servicing of modern computing equipment. Their labor collectives have decided to operate independently, to come out from under ministerial subordination and to join together on an equal rights basis in a kind of non-departmental union. A board will manage them and it is intended that their relations with other organizations will be carried out on a commercial contract basis.

On the whole, I am profoundly convinced that matters will not get better in computerization until powerful competitors emerge in this field that are prepared to

saturate the market with up-to-date computing equipment. The creation of associations like MGO [Intersectoral State Association] "Kompyuter" and of enterprises and associations combined with foreign firms such as "Interkvardo" or "Stroytekhinformatika," which we already have in the USSR, is a very sensible measure. But in order for them to have a significant influence on the state of affairs in the country, it is desirable that there be more of them and that they vary in their specialization and internal organization.

[Dmitriyev] The decree states that MGO "Kompyuter" will also engage in the development of new personal computer models. I would like a clarification—just the creation of new domestic models or, as is now being done, the copying of old foreign models.

[Chernogorodskiy] I wouldn't say that we really copy foreign equipment models. It would be impossible: our component base, raw materials and production technology are completely different. Agreed, we are creating domestic models similar in form to the best world analogs. But is this a bad thing? One cannot cut oneself off from the outside world, keep to oneself and create an autarky. It's foolish to invent the wheel, bent though it be, but ours, anew each time.

What will the MGO do? It will take on itself part of the responsibility for developing a series of personal computers compatible with machines of that class made by the American firm IBM. However, it is contemplated that the association will basically participate in the creation of instructional and applied programs.

[Dmitriyev] One of the most acute problems in the computer industry is the quality of the equipment produced. The reliability level of our personal computers (personalka) is a hundred [!] times lower than the best foreign analogs. And now, if only to somehow come close to the world level, one must make a gigantic spurt forward and raise the reliability by almost two orders of magnitude. Does MGO "Kompyuter" have any hopes?

[Chernogorodskiy] Yes, increasing reliability is not a simple problem. Everyone who has at any time encountered modern industrial production understands at what price an increase in its level for series-produced output by 10-15 percent, for example, comes. However, one must say that today computer reliability suffers basically from the low quality of the component base alone, the producers of which, in turn, can complain about the quality of the raw materials. And these problems, unfortunately, we are as yet not in a position to resolve independently.

The intention of MGO "Kompyuter" to participate in the international division of labor will, I think, help, if only partially, to overcome such difficulties. And certain well-known foreign firms have already expressed a desire to collaborate in this area.

And yet perhaps economic measures cannot increase the reliability of the output produced. They can. But how can one link the financial well-being of an enterprise with the actual efficieny of its product for the consumer? Moreover, with the idea that the sum of the payments, let's say, over three years would fetch the plant a normative profit only if its output operated in good working order. And, on the contrary, an enterprise which risked producing poor machines or machines not provided with the proper service or spare parts would be inevitably ruined.

The intention is to use such a mechanism in MGO "Kompyuter." Its scheme is simple: all equipment produced by the association will be returned for servicing. And during the time a defective computer is in repair the user will be compensated for the corresponding losses.

REGIONAL DEVELOPMENT

Estonian Economics Minister Outlines Priorities

904A0354A Tallinn SOVETSKAYA ESTONIYA in Russian 4 May 90 p 2

[Interview with Yaak Leymann, Estonian SSR Minister of Economics, by Yaroslav Tolstikov: "Development Is Proceeding Along a Sine Curve"; date and place not given]

[Text] **He was born in Vyru in 1941. Upon graduation from the Tallinn Polytechnical Institute he worked as an engineer at the Vyru Gas Analyzers Plant and then as director of the Vyru Computer Station, graduate student and instructor at the Tallinn Polytechnical Institute, and deputy director of scientific research at the Maynor Special Design and Technological Office. As of 1987 he was director of the Estonian Institute of Managerial Personnel. He is Doctor of Economic Sciences. In April 1990 he was appointed Estonia's minister of economics.**

Yaroslav Tolstikov, our correspondent, talks with Yaak Leymann.

[Correspondent] The basic directions of your ministry's activity—perhaps we will begin from this question.

[Leymann] This is a very good question. Taking this opportunity, I would like to stress from the very beginning that economics is a very broad concept. However, the Ministry of Economics by no means deals with all economic problems. After all, we have the Ministry of Industry, the Ministry of Agriculture, and the Ministry of Transport. Of course, problems of economics are not alien to them either. The ministry, the head of which I have become recently, deals basically with the following problems. I will try to enumerate them.

First, we must prepare and coordinate the holding of negotiations with Moscow and, in general, with Union bodies, first of all, on the republic's transfer to economic independence—there are more than enough unsolved problems here.

Next. We are also the Ministry of Economic Reform—it could be said so. We are preparing all the materials and documents for the transfer of the republic's national economy to market relations. These are numerous documents, including of a legislative nature. In other words, we deal with the future of Estonia's economy and work for the long-term period. For example, we are now working out key problems concerning the utilization of our forest resources and timber processing. Today I have received materials connected with problems of growing and processing potatoes—to what extent will this problem also be important to us subsequently and does it have prospects? And many other things. In brief, we examine problems connected with a market economy and with the openness of the republic's economy to trade both with the East and the West.

Third, we deal with state regulation of the economy—with state orders; for example, finding optimal proportions between the market and the plan. More precisely, we deal with state regulation of market relations.

[Correspondent] Some practical specialists today cast doubt on the IME [Self-Managing Estonia] program itself. What do you think of such statements both as a scientist and a minister?

[Leymann] It is clear to the overwhelming majority of economists and practical workers throughout the world that there is no alternative to a market economy. All developed states widely use market relations in their national economy and, in fact, have become highly developed thanks to the market. We should not deceive ourselves and others, saying that it is possible to find some other lever, some perpetuum mobile. If such a mechanism had existed in nature, it would have been found a long time ago and would have been used. However, practice shows that mankind has devised nothing better than the market. IME is a program for the republic's transfer to market relations. This is quite a realistic program, which takes into account the republic's specific features. So, it is incorrect to say that IME does not justify the hopes. Precisely through cost-accounting Estonia, we will be able to change over to the market, although we will still have to do a great deal of work here. We now deal with this entire set of problems.

[Correspondent] What problems does the ministry intend to solve first of all? What can the new minister say about this?

[Leymann] It is necessary to continue the preparation of documents connected with the IME program. In particular, we are preparing materials for the Law on Property for the republic's Supreme Soviet. They also include laws and decrees connected with taxation. Jointly with the Ministry of Finance we are more closely examining the republic's present budget, what should be emphasized, and its revenues and expenditures. And, of course, we are getting ready for price reform. Problems connected with entrepreneurship are also being examined. However, not only these long-term problems concern us today. We also have to examine our current affairs, in particular those connected with Lithuania, every hour and every day. Reserves must be created.

[Correspondent] Just in case?

[Leymann] No, not only, but also from the conceptual aspect. For example, Finland has grain reserves for at least a year, but we have been satisfied with a more modest reserve so far. As far as I know, the same Finland has crude petroleum reserves for 2 years, but we, for a few months and even weeks. To be sure, developed countries have such a concept of reserves not for nothing. We should adopt it in any case.

We also deal with the scenario of behavior in case of any unexpected developments. Here it is not only a matter of Lithuania. I think that the country's economy can bring us more than one surprise in the next few months. We must be ready for them. After all, we are realists.

[Correspondent] A sore subject, which has long been debated, but the decision on it has not been made. I have in mind the proposed increase in prices of meat and dairy products—of course, an increase with compensation.

[Leymann] I would like to discuss the problem more broadly. Prices are rising in the country and, whether we want it or not, there is a continuous process of inflation. On the one hand, earnings are rising, but labor productivity and efficiency are increasing slowly and lagging behind such a rise. Therefore, on the other hand, prices are also rising—after all, the money for a wage increase must be taken from somewhere. Moreover, there is a decline in production efficiency.

Now meat and milk. At present we are collecting money from the population according to the same income tax, or the turnover tax on consumer goods. This last tax is quite high. Therefore, retail prices, for example, of suits, dresses, and so forth are also comparatively high. We take away money from the population for the budget and then we transfer it as a subsidy for meat. Rates of transport services do not cover their true cost and the population—although indirectly, through taxes—is forced to pay for them. It appears that our economy is turned upside-down. It must return to a normal state. An increase in price and rates, including of meat and dairy products, is the most realistic way for this.

[Correspondent] With compensation for losses?

[Leymann] Yes, of course. It should, however, be taken into account that, when the economy declines, there cannot be one-to-one compensation. It will be possible to do this for some strata of the population, but not for all. However, a decision on when this increase will occur has not been made so far. The radicals demand: Let us begin from the second half of this year. Other economists, who are more moderate, insist on beginning price reform in 1991. I think that this is a more realistic date.

[Correspondent] Now the following question: In the last 3 or 4 years several people—Tynspoyeg, Paulman, Otsason, and Savisaar—in succession have been replaced from the post of director of Gosplan, now the Ministry of Economics. Now there is Leymann. Does this fact not bother you?

[Leymann] I would not answer this question unequivocally. Let us take Italy. Governments, not only ministers, change there—sometimes several times a year. In the meantime, the economy advances. If there is no Leymann, another person will come and I will wish him success. However, under our conditions a quick replacement of the government is still a rather negative phenomenon.

[Correspondent] In the meanwhile, I would like to wish you success. My questions have been exhausted for today. Would you yourself like to add something to what has been said?

[Leymann] Sometimes people ask: How is that? In the 1960's and 1970's people lived relatively normally. Then perestroyka came and the economy went downhill. Why? When answering this question, it is necessary to take into account that during those years the Soviet Union, basically, lived at the expense of its natural resources—petroleum, gas, and timber. At that time the country obtained these resources comparatively cheaply and world market conditions were favorable. We obtained currency, purchased consumer goods, and were even able to build the Kama Motor Vehicle Plant with the currency. However, at the end of the 1970's and at the beginning of the following decade conditions on the world market changed and our internal affairs went downhill. This, of course, is one of many reasons, but, perhaps, the main one. In addition, there is the transition to the market. Former administrative command levers no longer operate and the new market mechanism is not yet in operation. Moreover, there is a wage increase, which I have already discussed—an increase not secured by goods and services. This entire set has led to a sharp drop in economic indicators and to a decline in the real standard of living. If we work incompetently, we live poorly.

[Correspondent] In your opinion, will this recession last a long time?

[Leymann] The decline inertia will last several years. We hope that the upsurge will begin in the second half of the 1990's.

[Correspondent] Nevertheless, will there finally be an upsurge?

[Leymann] It is inevitable, because economic development proceeds along a sine curve.

Role of Banks in Republic Economic Independence

Estonian Financial Advisor

904A0226A Tallinn MOLODEZH ESTONII in Russian 23 Feb 90 p 2

[Interview with Albert Aleksandrovich Norak, governmental advisor for financial matters, by I. Kraynyuk; date and place not specified]

[Text] What new economic reforms are awaiting us and what difficulties confront the republic on the way to complete independence? At the present time, not only our economists but the republic's entire population are excited by these questions. Albert Aleksandrovich Norak, a governmental advisor for financial matters, answers questions raised by our correspondent.

[Kraynyuk] Taxation, wages, the financial-credit system, price reform and the budget—all of these questions fall within the competence of a financial advisor. But, Albert Aleksandrovich, in connection with the fact that the banking system plays an extremely important role in financial reforms, a question arises as to what the relationship of the government to the Bank of Estonia will now be, following the creation of this bank which is not subordinate to the government?

[Norak] Truly, the Bank of Estonia is not subordinate to us but rather to a more central organ—the republic's Supreme Soviet. In order to carry out economic reforms, we must have free banks that are administratively independent of the government. On the other hand, we must be aware of the steps undertaken by a bank and in my opinion we must select the most natural form for collaboration—coordination of decisions.

[Kraynyuk] If we are discussing a reform of the banking system, then how will the remaining five banks, including the Savings Bank of Estonia, appear in the future?

[Norak] As is well known, in accordance with a decree of the USSR Council of Ministers, all union republic savings banks have been placed under the jurisdiction of Gosbank. However, we are not in agreement with this decision, since according to the law governing economic independence for the Baltic republics, we are authorized to have dealings with all banks with the exception of the State Bank. For the development of a free market and financial relationships throughout the republic, special importance is being attached at the present time to the availability of temporarily free monetary savings of the population that are stored in the Savings Bank and that are being used as credit resources (the total amount is 2,400,000,000 rubles at the present time).

With regard to the remaining banks, they must be converted over to commercial banks in the near future. Moreover, this process has already commenced: an

industrial-construction commercial bank is being created based upon Promstroy bank [Industrial Construction Bank] of Estonia. It includes 70 of the republic's enterprises and the official fund of this new bank amounts to 10,600,000 rubles—quite adequate for a start.

[Kraynyuk] Commercial banks represent a completely new stage of economic development for us. And it is obvious that at this level we no longer have in mind a mere reform of the financial-credit system. From your standpoint, what are the most pressing problems at the present time?

[Norak] The price reform, wages and taxation all taken together. For example, it is known that the wages for socio-cultural and domestic services workers are lower by 85 rubles than the average wage for the republic. In addition, pensions and grants are lower than the living wage. But since our budget is showing a loss and the funds for raising wages are not available anywhere, the republic's Supreme Soviet created a social fund for Estonia through the establishment of mark-ups to the retail prices for alcoholic beverages and tobacco products. I believe that in the future, when we will be able to pay wages entirely from the budget, the resources from the social fund for Estonia can be used for solving other equally important social problems, particularly the payment of allowances to mothers who are on maternity leave, initially for up to 3 years and subsequently for a period of up to 5-6 years.

Moreover, the wage conditions for enterprises are changing. First of all, a minimum level has been established for all enterprises—a wage "ceiling" must be established for an enterprise based upon its cost accounting income.

Simultaneously with raising wages, a reform must be carried out in prices and taxation—appropriate price and tax departments have even been created. The ESSR law on taxation provides for 15 different types of taxes and the laws governing nine of them must be adopted this year.

In connection with raising the prices for products, a mechanism must be developed for compensating the population for such increases. In my opinion, these increases in the prices for goods and products will be completely natural—indeed the expenses for materials, raw materials, equipment, wages and feed for agriculture are all increasing. And only a partial reduction in production costs is possible through a reduction in prices.

[Kraynyuk] Does a certain governmental concept exist for converting over to one's own currency?

[Norak] Economic independence is impossible in the absence of one's own money and thus a conversion over to the crown is needed. The very mechanism of converting over to new money is still in the developmental stage and thus it is still too early to discuss this problem.

Tajik Republic Bank Chairman

904A0226B Dushanbe KOMMUNIST TADZHIKISTANA in Russian 16 Feb 90 p 3

[Article by K. Kavmidinov, chairman of the administration of the Tajik Republic Bank of USSR Zhilsotsbank: "The Bank and Self Government"]

[Text] Today even the most ardent skeptics cannot fail to recognize the increasing activity of the population in discussing the vitally important problems concerned with the development of the republic. An opinion can be formed in this regard merely by participating in an evaluation of the concept. Several years ago this discussion was carried out in accordance with a scenario that was written in advance: several scientist-scholars and a like number of rank and file readers who invariably supported the document. Today this circle of those who are discussing the matter is rather extensive: from students to academicians and from officials to informal individuals.

The preparatory committee of the republic's Council of Ministers and the concept were unexpectedly subjected to sharp criticism. Some authors were irritated by the similarity in the logic of reporting the principles of self-government and the platform of "General Principles," recommended by the country's organs and, it bears mentioning, developed taking into account the opinions of all of the union republics, including our own.

The draft is not irreproachable. It was for this reason that the national discussion, by means of common efforts, was called upon to bring it to the proper condition. At the same time, some opinions differ in terms of a more arch-radical nature, engendered by a simple understandering of regional independence rather than a sober judgement. Here we have in mind the so-called "republic self-feeding."

Each individual who thinks in a normal manner must understand the unpromising nature of a maximum division of labor within the framework of a region, based upon its requirements. In many instances, it will be more profitable to acquire something on the side rather than create something new or expand the existing production operations. Certainly, beyond any doubt, it would be best here to import fabric rather than the fiber. But what else do we need in order to build textile combines? Thought must also be given to this question.

As a specialist, I would like to discuss the subject of a monetary economy and credit operations. In this regard, articles have appeared in the republic's papers which, in my opinion, have not been altogether acceptable. The subject of the republic's attitude towards the banking system is being criticized. Moreover, diametrically opposed opinions are being expressed. Many are advocating the transfer of the administration of the banks over to the republic. They view this as representing true independence. And another author—favors no changes in the situation in this matter. At the same time, the

Concept mentions those union-republic banks which are authorized to engage in commercial activities.

Unfortunately, not all of the recommendations are distinguished by competence. It is felt that some authors lack an understanding of the essence of banks during the transitional period, at which time their mechanism is needed for a general consolidation of the elements of cost accounting, for state financial discipline and for the stabilization of monetary circulation. Without this, it will be impossible to realize the results desired from the reform. Understandably, such tasks can be carried out by those centralized (republic or union) banks which are subordinate to the government.

Many individuals possess only a weak understanding of the role played by commercial or cooperative banks. Actually, they belong to a definite circle of cost accounting-independent enterprises and thus they function within the framework of their interests. The union of bank capital with the capital of its customers (an inevitable process during their functioning) strengthens such interest. Can this type of bank be charged with safeguarding state interests? What is to be done with regard to servicing the many institutes and socio-political organizations which, from a commercial standpoint, are of no value to them? Will they resent having to maintain their monetary-cash accounts free of charge? Yes and the effective use of credit resources requires experience in servicing a large number of enterprises and organizations. And the last point—will the banks really be able to restrain the galloping inflation? All of these questions require simple answers.

Certainly, the crisis situation in the budget is having an effect on the use of resources. Their decentralization will cast doubt upon the effectiveness of support for the budget, which today is suffering from a considerable deficit. Thus, during the first stage devoted to modernizing the administration of the regional economy, it makes sense to discuss the union-republic banks which, within the framework of national interests, will invest their own (earned) resources for the carrying out of especially promising measures, that is, they will engage in commercial operations. Within this framework, there will be an intelligent merging of the cooperative and state forms for banking structure. Moreover, some authors have failed to mention that the need for developing a network of commericial and cooperative banks within the republic is reflected in the Concept.

It goes without saying that the commercial banks (similar to cooperative banks) are more mobile and satisfy to a greater degree the cost accounting requirements in a form that firmly consolidates independence (a link with the state only through the budget). But here we have in mind cost accounting which still needs to be introduced. On the other hand, commercial banks can be created by combining the net resources of enterprises and organizations. Fine results can be realized from their use. For example, a depositor receives only 5 percent annual interest for his savings in a bank, while the use of such money in active circulation furnishes more profit. At the present time, the commercial banks could organize a group of kolkhozes in Kurgan-Tyubinsk Oblast entitled "Tadzhikglavenergo."

Interest policy is the most important aspect of banking operations. At one time, the banks in our country had complete freedom in this work. How this turned out is also well known. The campaign for liabilities and customers led to complete atrophy in banking control over the carrying out of monetary and accounting operations and it produced chaos in economic relationships. Thus, should this system be revived? Will not such freedom lead to the introduction of collective egoism in the banking sphere and cause our economy to falter? What will happen to those enterprises and organizations which, owing to low profitability, will be unable to pay the high interest rates for credit?

The ignoring of these questions today will result in serious mistakes being committed tomorrow. In the Concept, mention is made of the transfer of interest policy for the use of credits over to the republic's government and also the introduction of general payments for resources both to the center and also to lower elements. The idea is directed towards ensuring a rational approach in resolving this question. It bears mentioning that the indictment of the Concept, with regard to that portion concerned with the introduction of limitations and resources within the framework of the republic (1 February 1990 issue of the newspaper KOMMUNIST TADZHIKISTANA), is not justified. To the contrary, here we have in mind the possibility of turning them over to other republics and to the center and obtaining credit resources from them, but only based upon the principles of repayment. Certainly, the creation of our own banking system consisting of a principal and commercial-cooperative banks would be more attractive. The principal bank could be a bank for development of the republic, that would be based upon the presently existing republic banks of Zhilsotsbank and USSR Agropromban k. However, in this instance a need would exist for solving the problem concerned with the decentralization of credit resources.

The publication in the press of the so-called author's draft Concept, prepared by a group of scientists under the direction of Doctor of Economic Sciences R. Mirzoyev—represents respect for the pluralism of opinions, although the leader of the group, as a member of the committee, was fully able to include his own thoughts in the Council of Minister's Concept. But this is not the main point. In a television statement, R. Mirzoyev criticized this document for the adherence of some of its sections to the statutes of the draft law on the general principles for management of the economic and social sphere in union republics. Actually, there could be a certain similarity here. Indeed, the republic is developing its own variant for self-financing and thus it is hardly wise to relate it to the shortcomings of the document. And as regards the author's draft, here entire sections were borrowed extensively from the mentioned

draft law and also from the draft law on "Ownership in the USSR." Thus the authors of the alternative repeated the mistake of the draft law on "Self-government" and they did not single out these questions in a separate section, while bearing in mind that money circulation is an expression of all of the economic relationships in any country.

The variant by the group of authors reflected even those thoughts which in no way are related to the concept. We understand the latter to mean the overall plan of basic principles for the development of a regional economy. And the responsibility of the local self-government for balance in monetary income and the expenses of the population and for the carrying out of the cash plan—these are details of the overall problem, which is referred to as monetary circulation and which is suitable only for reflection in the Law on "Self-Government."

With regard to a cash plan, since it establishes for a definite interval of time the relationship of portions of cash-monetary circulation through the cash registers of banks, it cannot reflect the overall situation in monetary circulation. The latter may deteriorate during the carrying out of this plan (and this is typical of the present day). For its formation is affected to an equal degree by yesterday's results. And yesterday's results—this is primarily advantageous growth in the monetary income of the population over and above the amount needed for its support.

During discussion of the Concept, we gave careful attention to each thought and to the use of each rational kernel of good sense, in the interest of ensuring its vitality and the republic's development in the future.

AGRO-ECONOMICS, POLICY, ORGANIZATION

Primary Concepts of Agricultural Reform Set Forth

904B0196A Moscow ZEMLYA I LYUDI in Russian No 15, 6 Apr 90 p 2

[Article by Candidate of Juridical Sciences E. Pavlova: "'Three Whales' of Agrarian Reform"]

[Text] **The process of perestroyka in the agrarian sector of the country's economy constantly attracts the close attention of virtually all the Soviet people. However, the negligible rates of its advance have recently given rise to concern and sometimes even anxiety: The fifth spring of perestroyka is already knocking on the door, but in our country arguments about how we should manage on land so that food sufficiency becomes a reality are still in full swing.**

What does the sluggishness and inconsistency of this vitally important process predetermine? Candidate of Juridical Sciences E. Pavlova, specialist in agrarian law of Western countries, senior scientific associate at the Institute of State and Law of the USSR Academy of Sciences, reflects on this in an article, which we offer to readers today.

Radical economic reform in rural areas, like a truck climbing up a steep ascent along a slippery country road, is moving slowly and with slippage, leaving an uneven trail behind.

Some seemingly very important laws have already been adopted. They are to give a strong impetus to the development of leasing, cooperatives, and new forms of management on land. However, they operate very weakly. For every example of a successful and efficient utilization of the new principles of management in practice there is one or even several unsuccessful attempts to organize production in a new way. Draft laws, which are intended to cement the ground under the wheels of perestroyka in the agrarian sector of the economy, in their passage through the parliament and nationwide discussion constantly encounter fiercely heated disputes, in which, for some reason, purely abstract ideological postulates, not considerations of economic expediency, become the main arguments.

Empirism in lawmaking is inevitable if, as in our country in this case, there is no clear understanding of the model of the economic system, which we intend to create, and there is no main structure of this model—a concept of agrarian reform with the possible alternatives of its realization and correction from below.

It is difficult to understand and, especially, to justify why we have undertaken the implementation of agrarian reform without first arming ourselves with its fundamental concept. After all, there was no need even to waste time and effort on developing it—we have it. This is the concept developed at the dawn of Soviet rule by V. I. Lenin, on which he based the new economic policy. The replacement of requisitioning of grain by force with the food tax, allowance of free trade, wide development of the cooperative movement, permission for land leasing, organization of an equivalent exchange between urban and rural areas, and state regulation of economic activity by means of prices, taxes, and credit were its basic ideas.

As we see, Lenin's concept of the new economic policy, despite the decades that have passed, can be for us a true guide to action in the implementation of agrarian reform. Of course, all this not only does not rule out, but also presupposes, the need to take into consideration the experience in the regulation of agrarian relations accumulated in the most developed countries.

In my opinion, a real revival of agriculture in our country is inconceivable without a fundamental reorganization of its structure, which to this day remains a firm basis for the preservation of administrative methods of management. It cannot be carried out through individual measures to democratize management, or to introduce individual advanced management forms of the leasing type. A fundamental reorganization of this structure will become efficient if it is carried out from below and is supported by the development of various forms of autonomous peasant farms under conditions of new forms of ownership of land and the basic means of production and developed cooperatives.

The revival and development of peasant family farming should become the key factor in a sharp rise in the efficiency of agricultural production.

The ideas of the prospects for the development of peasant family farming in Russia were profoundly developed in the works by A. V. Chayanov and N. P. Makarov as long ago as the 1920's and found their confirmation in the theory and practice of organization of agricultural production in Western countries. World experience confirms that the interaction of large- and small-scale production is the most efficient principle in the agrarian sector.

Our own experience also confirms this no less convincingly. Despite the policy of restrictions and bans and of a systematic depeasantization of rural areas, which was conducted for 60 years, peasant family farms in the form of private subsidiary plots not only have survived in our country, but also continue to remain a major sector of the agrarian economy, which produces about one-fourth of all the agricultural products. However, in contrast to kolkhozes and sovkhozes to this day these types of farms do not have a uniform document, which would determine their legal status and contain guarantees for their economic independence.

Laws recently adopted by the USSR Supreme Soviet eliminate many—many, but not all—problems, which such a document should solve. The laws on cooperatives and leasing adopted more than 1 year ago, in general,

seemed to bypass problems of peasant farming. The recently adopted laws on property and the Fundamentals of Land Legislation of the USSR and Union Republics, confirming the right of peasant farms to own the products produced by them and to possess land, have created a legal basis for such farms. At the same time, however, some problems of vital importance for the appearance and successful activity of peasant farms still remain unsolved. The procedure of citizens' access to such means of production as buildings, structures, machines, and livestock is the main one. Under conditions of an absence of a free market in the solution of these problems peasant farms completely depend on the will of kolkhozes or sovkhozes.

For now independent peasant farms have received full legislative guarantees only in the three Baltic republics. In my opinion, the need for an all-Union law on peasant farms remains. Its adoption would be of exceptionally great importance for a rapid formation of these types of farms, especially in regions where kolkhozes and sovkhozes are economically unsound.

Peasant farms should include peasant family farms not participating in public production and private subsidiary plots of peasants working on a kolkhoz or a sovkhoz. At the same time, land use can be for an indefinite period and free of charge (homesteads in the Baltic region), or can be for a definite period and require payment (on the basis of a leasing contract), or with the right of ownership.

The all-Union law should affirm the uniform legal status of the peasant farm as an economic, social, and labor unit, which will include the totality of intraeconomic legal relations (the legal status of the head of the farm, its members, and hired workers, their property relations, the procedure of inheriting or transferring the farm, and the right of its priority purchase) and external legal relations—with the state (taxes, allocation of land, leasing, and subsidies), with large agricultural and industrial enterprises (purchase-sale and forward contracts), and with other peasant farms (establishment of various cooperatives and associations).

For the development of a legal basis for peasant farms it is possible to draw a great deal from foreign experience, in particular from the status of the French agrarian economy, which is considered an autonomous economic unit regardless of the legal principle—ownership or use of a land plot—according to which agricultural activity is carried out, activity which does stop even if the head of the farm is replaced.

At the same time, the right of the producer's economic activity does not depend on his status and includes the management of a farm, possession of its individual elements (structures, livestock, and implements), and the right of ownership of produced agricultural products.

In France the right of management as a specific body of guarantees belongs primarily to the lessee. Essentially, he can renew leasing endlessly, can push away all potential buyers of the plot from its owner by exercising his right of priority purchase, can transfer all his rights to any family member, and, finally, with his leasing right can enter any cooperative and Union. He organizes the farm exclusively at his discretion under only one condition: He must not make changes, which worsen its state.

It is very important that the rights of the peasant farm determined by law and stipulated in contracts concluded by it be legally guaranteed, as is accepted in most developed countries, by appropriate judicial bodies for the examination of disputes.

In my opinion, an all possible expansion of the cooperative sector in agriculture should become the second major direction in the advance of agrarian reform in the country.

A. V. Chayanov, the most prominent theoretician of cooperative construction in our country, considered vertical cooperation the most important form of concentration of agricultural production. He foresaw the weaknesses and flaws in kolkhoz construction, which he conditionally called horizontal concentration. It led to a replacement of the optimization of farm sizes with their maximalization and of management "from below," with bureaucratization. He also predicted the result of such a horizontal concentration—stagnation or a decline in labor productivity in agriculture.

At one time our country accumulated considerable experience in cooperative activity. A powerful cooperative system emerged in Russia even before the revolution. In the country on 1 January 1917 there were about 63,000 cooperatives uniting 24 million shareholder members. Siberian cooperatives carried out vast turnovers and negotiated direct deals with other countries. From 1921 to 1928 the number of cooperatives increased sharply.

The Law on Cooperatives adopted by the USSR Supreme Soviet creates good conditions for a revival of this dynamically developing sector of the economy. The new economic relations in agriculture will be able to develop successfully only with the emergence of an agrarian cooperative movement, which can break the monopoly of the existing infrastructure. The organization and activity of all types of cooperatives (including kolkhozes) should be based on such classic cooperative principles as the creation of share capital with the right to receive shares at their nominal value when leaving a cooperative, equal rights and equal duties of members in all the affairs of the cooperative and in its management, distribution of the derived profit among cooperative members in proportion to their participation in economic activity, and full financial responsibility of cooperative workers in case their enterprise has damages or losses.

The success of the cooperative movement will determine to a decisive degree not only the appearance of new cooperatives in servicing, processing, and agricultural production (on the basis of presently unprofitable kolkhozes and sovkhozes), which, undoubtedly, should

be retained in the direction of their perception of purely cooperative principles of internal organization and economic activity.

A micromodel of such a democratic restructuring has already been created on the Dagestan Kolkhoz imeni Ordzhonikidze. Such a concept as indivisible funds has been abolished here. All the resources, which previously entered them, are divided according to shares among kolkhoz members depending on the real contribution of everyone to their creation. Interest is now paid on every share. The amount of a share is recorded in checks, which are issued to kolkhoz members. All this has visibly changed the attitude of kolkhoz members toward work. In 1 year the profit volume on the farm more than doubled and the profitability level rose to 121 percent.

It seems that a complete restructuring of management, by totally giving up administrative command methods and changing over to a democratic system of self-administration, should become the third major condition for the success of radical agrarian reform. This task can be accomplished through the establishment of a ramified network of cooperatives servicing the agricultural producer and of agro-industrial associations on a cooperative basis and through a sharp activation of the trade-union movement in agriculture.

For example, in Western Europe agrarian syndicalism is represented by numerous trade-unions of producers of agricultural products, which act as pressure groups during parliamentary debates and as a party in negotiations with the government during corrections of prices of agricultural products. In France trade-union representatives participate in various official agricultural bodies—agricultural chambers, consultative commissions for agricultural leasing, and departmental structural commissions. This enables them to participate in the development of an agricultural policy.

Trade unions and professional organizations play an important role in the development of contractual norms regulating relations among producers, clients, and processors. Inter-professional long-term agreements, as well as integration contracts concluded between farmers and industrial and trade enterprises, are developed by means of them.

We are now at the very initial point of the road of transition to a market economy. However, the absence of an organization, which would perform the role undertaken by agrarian trade unions in Western countries, the role of protecting the interests of producers of agricultural products at all levels, is already felt by many. Moreover, the first attempts to fill this vacuum are made. After all, the debate that has unfolded in the group of agrarian people's deputies on the advisability of and prospects for the establishment of the country's peasant labor union, ultimately, is oriented toward this.

Another aspect concerning the organization of the agrarian sector of the economy in Western countries also deserves the most attentive study: methods of controlling the observance of laws and resolving arising contradictions and disputes. In many countries these functions are entrusted to special agricultural courts. In France the following exist simultaneously for this: agricultural sections of labor courts, which resolve disputes among entrepreneurs and agricultural workers, agricultural sections of courts for social security matters, and parity courts for agricultural leasing.

Perhaps we do not need to copy such a ramified system of agricultural courts, but the need for a transition from purely administrative to judicial responsibility for the observance of laws and contractual obligations in business relations among producers, processors, and purchasers of agricultural products is obvious. Administrative bodies, which in our country at all times were entrusted with the function of controlling the observance of laws in business life, obviously did not cope with their task. As a result, delivery discipline became the weakest spot in the organization of the economy even under conditions of directive planning. A direct contract between business partners now takes the place of the state plan and the state order to an ever greater extent. It can become a good incentive for improving production only when it leans on a strong foundation of direct financial responsibility for its fulfillment determined in legal form.

The first package of laws adopted by the USSR Supreme Soviet has made it possible to give agrarian reform the first forward movement. It is still very slow. The intellectual and spiritual upsurge of all those who sincerely want to break away from the fetters of old dogmatic concepts and to arrive at common sense and at an economy built on the foundation of simple human interests can give it the necessary acceleration.

RSFSR Gosagroprom Chairman on Transition to Market Economy, Pricing

904B0203A Moscow SOVETSKAYA ROSSIYA in Russian 19 Apr 90 First Edition p 2

[Article by G. Kulik, chairman of RSFSR Gosagroprom [Agroindustrial committee]: "Intervention Prices"]

[Text] **Today no one has any doubt that the answer to the current crisis lies in radical economic reform. At present a package of new laws is being prepared, one that is being called upon to provide more space in market relations. How can this be done with the fewest losses and maximum effectiveness? What should be done first? How can we protect ourselves from the unavoidable negative consequences of business activities that are not managed as strictly as before? The editors intend to discuss these problems as widely as possible on their pages. The new column is being introduced by an article by G. Kulik, RSFSR Gosagroprom chairman.**

The need to make and the unavoidability of making a transition to an economy with regulated market relations today is the same kind of fact as the multiplicity of

parties in our political life. The entire question consists of how to do this with the fewest expenditures and how to avoid repeating the sad errors that were made with a transition to a market economy in Poland, Hungary and Yugoslavia, for example...

In my opinion, the agroindustrial complex requires special attention and a special approach in its transition to market relations. This is connected to the fact that as we know over 70 percent of the consumer market consists of food and goods made from agricultural raw materials. In addition, this sphere, without exaggeration touches on the interests of every individual, and does so several times a day.

In developing a model of market economics for this sphere we must keep in mind that the principle difference between our agriculture and that of Poland, Hungary and Yugoslavia consists of the fact that in our country the basic portion of production (over 80 percent) comes from large enterprises—kolkhozes and sovkhozes. On the one hand large enterprises are more stable. As a rule, these enterprises have several branches of agricultural production. With a transition to a market economy they can more effectively organize, let us say, the processing of many types of agricultural products, i.e. they can enter the market with a ready food product. On the other hand the large enterprise is less flexible; it is difficult for it to rapidly restructure production and to adapt to the market.

We should also not forget that the introduction of market relations in Hungary or Yugoslavia occurred on a background of a food market that already existed and that was relatively saturated. In our country the picture is completely different. Under our conditions the unregulated market signifies an unforeseen increase in prices. The directors of our agricultural enterprises also do not have experience in working not only under conditions of market relations but in general under conditions of more or less developed commodity production.

The enterprises of the republic's agroindustrial complex have made a transition to complete cost accounting and self-financing quite recently. Yes, of course commodity relations became more extensively developed as a result of this, having given rise for example to leasing and the cooperative movement. Yes, prices became more significant, credit began to work more effectively. The directors of enterprises were forced to recognize the elements of trade operations whether they wanted to or not and to delve more deeply into the problems of production cost, profitability and the effectiveness of investments. For example, whereas in 1982 16,500 kolkozes and sovkhozes, or 68 percent of the total, operated at a loss from year to year and their collectives had no idea what a fund for material incentives, for example, was, today the situation has changed. Last year only 330 agricultural enterprises, i.e., only 1 percent of the total, completed the year with negative results. However, it is completely evident that in such a short period of time it is impossible to assimilate the cunning laws of businessmen and to master the complicated instruments of the economy.

But we are learning, learning...Personally I think that further expansion of the sphere of market relations should proceed stage by stage, gradually. For example, at the first stage let the government guarantee a fixed level of procurement prices only for the most important types of agricultural products such as, let us say, bread, meat, milk, wool, cotton, flax and oil-bearing crops...Incidentally, this practice exists in capitalist countries. For example, in EEC countries, today the government regulates prices for wheat, barley, rye, corn, rape, sunflowers, beef, milk and olive oil...

But of course these government prices must correspond to the principle of equivalent exchange and achieve parity in price levels for agricultural products and industrial goods. Today this correspondence does not exist at all. For example, one man-day expended to produce 1 quintal of grain provides the enterprises with only about 27 rubles of profits, sugar beets—24 rubles, beef—15 rubles, milk—32 rubles, and the production of late vegetables and potatoes provides no income at all in most enterprises. In 1970 in order to acquire a self-propelled mower the kolkhoz had to sell 111 quintals of grain—today it is necessary to provide 255 quintals more. It sufficed for the enterprise to sell 247 quintals of grain (not a small amount either) for an automobile; today another 245 quintals must be added to this. It is clear that with these kinds of price relationships it is not possible to work effectively.

Thus we have fixed equivalent prices for the most important products, and at the same time so called "intervention prices" for others such as, for example, potatoes, vegetables, fruit, tobacco and some industrial crops. "Intervention prices" establish the upper and lower limit of prices in order to guarantee the procurement of these products under any circumstances at least according to prices at the lower limit; if such products were in short supply to hold back price increases the upper limit would be in effect. This would help to correctly regulate prices for processing products such as fruit and vegetable canned goods, juices and starch...In establishing retail prices for these forms of products it is possible to proceed on the basis of the production cost of raw materials calculated on the basis of the upper limit.

The third form of prices is contractual, i.e., prices that determine demand and supply. Early vegetables, pitted fruit, table grapes, watermelons, melons and citrus fruits could be sold according to these prices. Gradually, as production volume increased, it would be possible to make a transition to contract prices when procuring fruit and vegetable products, potatoes and possibly milk...

The expansion of market relations will naturally require stronger integration of agricultural production with the processing industry, and the creation of associations, cooperatives and organizations. Kolkhozes, sovkhozes, farmer enterprises producing sugar beets, for example,

could create a cooperative on this level, i.e. buy out or lease a sugar plant, and supply the market with a ready product—sugar.

Under market conditions it is integration that must stabilize the supply of raw materials for processing enterprises according to contract prices, which are established by the cooperative members themselves. These prices can be viewed as an advance to producers—according to the results of the sale of the finished product they will receive additional payment. For example, Etkar-Shekhenskiy Cooperative for sugar beet processing of Stavropol Kray is already working according to this principle. The experience of working according to contract prices has been accumulated by many interenterprise fattening enterprises. They receive livestock from their cooperative suppliers according to calculated prices of, let us say, 3-5 rubles per kilogram, and after the sale of the livestock to the state a portion of the profits is returned to the enterprise.

Of course the market will force APK [Agroindustrial complex] workers to give the most serious attention to the important reserve of processing. Here enterprises are really loosing! For every sheepskin sold the kolkhoz today can receive a maximum of 5 rubles, but as a finished product that same sheepskin already costs 45-50 rubles. A fur-breeding sovkhoz is paid 50-55 rubles for every mink skin sold to the state, but when this is included in a finished product such as a hat the same mink will bring in 150-170 rubles even according to retail prices...

Of course the transition to extensive market relations will require serious changes in the insurance system and the development of great special funds for providing aid to enterprises that have found themselves in unfavorable conditions. Last year, for example, a great drought had a very serious effect on the work results of enterprises of entire regions of the Russian Federation. Total profits in the enterprises of Omsk Oblast decreased by 26 million rubles as compared to the previous year, and in Chelyabinsk—by 37 million. This has greatly complicated economic operations under conditions of self-financing and has slowed socio-economic development of enterprises. Today Gosstrakh [State insurance agency] reimburses only 70 percent of harvest losses—this is clearly inadequate. Special decisions and budget subsidies are needed to support these enterprises. In other words, with the transition to market relations it is essential to create our own insurance association in which enterprises will be able to voluntarily insure their property and crops.

Another problem of the market is economically-weak enterprises, as well as some territories that are located in agriculturally unfavorable areas—the northern and high mountain regions. It is understandable that in most of the enterprises of the Yakutsk ASSR, Chukotka, Kamchatka, the Tuva ASSR, the Buryat ASSR and the Kalmyk ASSR the transition to market relations is impossible without definite financial guarantees. Special state funds for rendering aid in the building of housing and social-everyday objects should become such "guarantees."

In general the practical experience of even the most developed countries shows that agriculture cannot develop without budgetary support. In 1987, for example, U.S. farmers received over 55.1 million dollars from the budget. We also think it is expedient, during the transition to market relations, to examine the question of preserving budget financing of measures to increase the fertility of the land. It is expedient to subsidize reclamation, the protection of pastures and forests, water supply and the building of high tension electrical lines.

The question of questions as regards the market is the further steadfast expansion of economic independence of kolkhozes and sovkhozes. Their relationship to the state should be determined precisely through a tax system and land payments. At the first stage of development of market relations it would be expedient to establish a food tax for the purpose of regulating the raw materials market and of forming a union and republic fund.

Of course this tax will differ basically from the tax that was levied during the transition to NEP. How? First of all, it does not have the function of confiscation, i.e., mandatory free giving by the producer to the state. Secondly, the food tax will encompass only a portion of production, let us say 70-80 percent of the actual production volume, and as production develops this portion will be curtailed sharply. It appears expedient to establish this food tax per hectare of land for crops such as grain, meat, milk, wool and some industrial crops. In doing this, grain must be made equivalent to other crops. This will enable enterprises to sell products for the established food tax according to certain accounting coefficients, i.e., it will enable enterprises to freely form a production structure depending on specialization. The size of the tax itself must be established with a consideration of the economic assessment of the land.

But how does this tax differ from state orders, and isn't this a return to administrative management methods? Yes, of course, any tax to some degree holds back freedom of management. However, in conjunction with other economic measures it nevertheless at the first stage can actively influence production. For example, having established cooperative and higher prices for products sold above the taxed volume, we thereby will stimulate enterprises to increase production output.

A tax, if we can put it this way, is a more "merciful" measure than state orders. First of all, its size is determined per hectare of land with a consideration of its economic assessment and not arbitrarily, as was done before. Secondly, in introducing the equivalent of the grain unit we, I repeat, are creating for a enterprise a wide space for maneuvering and for selecting a production structure. Finally, a significant portion of commodity production will be sold by kolkhozes and

sovkhozes already during the first stage according to contract prices, i.e., essentially market prices.

In short, these are our ideas about the gradual transition of the APK toward regulated market relations. The time for such a transition has come, and we must consider, weigh and calculate everything all the more carefully. Make haste without rushing said our forefathers. Of course without rushing. But nevertheless, make haste.

Future of Agro-Industrial Complex Viewed

904B0189A Saratov STEPNYYE PROSTORY in Russian No 2, Feb 90 pp 2-4

[Article by Yu. Shkoda, editor in Department of Economics: "The Great Agroprom"]

[Text] It must be assumed that in the history of state construction this apex of administrative architecture, this Tower of Babel, occupies a special place. The specific ideas embodied in its foundation during, let us say, construction and erection, and also the causes of ruin are still awaiting their meticulous researchers and writers, not to mention the blasphemy of Saltykov-Kobylin.

But, if you please, the most primordial or the most intimate and basic idea does not require special exposure. It is the desire to revive an administrative model that is brilliant (without quotes) in terms of its simplicity, one which causes the entire country to shudder from even the slightest impulse sent out from the center. The anguish caused by such a system can cause masses of people, resources and equipment to be diverted to the virgin lands or to be used for general chemicalization, for the diversion of rivers or for other "construction projects" of the century—this then was one of our worst legacies. This entire administrative-command religion is based upon the concealed postulate of minor officials and heads of desks: there is no authority and certainly not from God. From somewhere, from here—a pharaoh's passion for pyramids which rise behind clouds and also the leading habit of "being responsible for everything."

Thus, perhaps up until now some people in other oblasts have been personally accepting the weekly reports on the repair of plows and harrows and controlling the herds of cows. Thus the change in the sign over the Agroprom [agro-industrial committee] from administrative to cooperative still does not signify the dismantling of the former administrative mechanism. In 1990, agriculture will be ready to enter the next noisy battle against the immortal "windmills" of plans and additional tasks.

Moreover, these are the lyrics. And the prose of life is such that the great Agroprom, just as in the past, will prosper both as an ideology and as an economic mechanism.

The Cornerstone?

Our agricultural plans have one wonderful quality. By way of illustration, let us take an arbitrary oblast or ASSR in which there are 500 kolkhozes and sovkhozes, each with its own planned task. Thus we have 2,500 farm-plans for the five-year plan. Now for each year—of the last five-year plan—we select those farms which coped fully with their tasks and we summarize them. According to the idea, the total obtained must in any case be less than one half of the overall number. That is, it would appear that the chronic impracticability of the tasks would be embodied in the plans. And this would occur with low absolute indicators for cropping power and productivity.

Here we obviously have a rich subject for reflecting upon the subject of who needs these plans and why are they needed. But in this particular instance, there is another factor which is of interest to us. Almost everyone is aware that there is a need to break away and grumble during talks—even a little sincerity—but they prefer to spin around on a squirrel wheel. What is this? Indeed, is it that they are bored and tired and see that it is a closed circle—no. They speed up! Moreover, it is often for the sake of very primitive stimuli—bonuses and careers: from a village to a rayon, from a rayon to an oblast and from an oblast to Moscow. The highest goal—to settle down with a comfortable pension.

Just as it is in the school reader: "I love the vast nature of our plans."

In whatever oblast or ASSR it is conducted, the agrarian conference will have the agenda: "Is this the limit?" With the development and adoption of the new concept for managing a farm based upon a scientific-technical strategy, upon common sense and upon a decisive rejection of paper and other games.

All of this just floats in the air and is found on pages, in periodicals and in the speeches of deputies; for example, a Committee for Rescuing the Volga has been created. But what kind of rescue can be discussed if the agroproms [agro-industrial committees] of the Volga region, in selfishly competing against one another, continue to take up various sides: by increasing—they raise and by raising—they increase. And they do so in terms of all items!

They should be assembled together and Glavkosmos should be ordered to survey its land areas and thereafter to implement genuine land management. Certainly, the data obtained may turn out to be shocking owing to the fact that the amount of area requiring immediate removal from use or "reshaping" will undoubtedly become apparent. One will not be able to protect himself from all of the troubles and conflicts involved. But the country will gain, since the system is known, it has been taken into account and it has been checked in actual practice—not ours, unfortunately—thus the yield of

products from the remaining lands will more than cover the so-called losses. Hence the scale of the approach becomes clear.

Can the Agroproms glance at their work and its results from such a height? Are they capable of doing this not for camouflage, but deliberately, scientifically and prudently "turning green" on such a basis?

A basic measure is that of inventorying the land on a serious and objective basis. It must prompt actions which will overturn the entire economic policy and particularly those which return to it some moral substance, in order at least to begin to remove demagoguery, hypocrisy, intrigue, common hooliganism and lies from traditional use and make such actions intolerable. It must be confessed that today we still do not have anyone who can succeed in the daily "struggles" for execution, fulfillment and over-fulfillment

And herein lies one of the vices of our plans.

A surprising situation: everyone recalls that the Food Program was transformed into a food problem, that it must be solved and that the present situation is not simply shameful—it is becoming wild and ludicrous. And everyone is working by the sweat of their brow. And nobody is able to do anything—extensive slippage!

Perhaps this would be prior to a surge? Thus could we chop a branch from under a wheel and then move out? We could accept a package of new laws—and would the work then advance?

But perhaps we should simply accept the situation, cease making a fuss and cease hurrying, running after one another and cursing during planning meetings, composing notes and keeping our ears glued to the telephone. Indeed, how much milk was supplied at dawn and how much will be furnished? Indeed, each clump of earth, each plant and each animal has its own limits and constants. Under the given specific conditions. And if there are not true requisites for improving these conditions, then conduct 10 meetings daily—nothing will change. Because in all probability the work will commence not with a directive from the department of Yu.D. Maslyukov and not with decisions handed down by oblast aktivs, where a village is always in the minority, but with a small clump of earth, with a shelled spikelet or with a polite question in this regard.

Unfortunately, just as in the past, agriculture is overwhelmed by executive discipline. As a result, the grain growers clearly lack grain, the farmers lack land and the cattle breeders—cattle. They are strong from a professional standpoint. And the shortages continue to become more acute.

A strange and yet reassuring factor in native history is the fact that the people, despite all of this, after losing many useful skills, are still attracted to this. But they must live somewhere and it bears mentioning that they do not wish to live in a haphazard manner.

Here one needs his own policy. It supposedly is being carried out: the gasification of villages is being accelerated, roads are under construction and social programs are in existence everywhere. And they are even being implemented—where the best and also where the worst conditions are found. But we will not delude ourselves: the runoff still exceeds the inflow.

An excessively "municipal" interpretation of the slogan: by the year 2000 each family will have a separate apartment—appears to be extremely doubtful. First of all, we cannot resolve it in principle and in this regard it is equivalent to the appeal "Forward to new heights." Secondly, by accelerating housing construction in cities and not having made rural housing modern in all respects, it is possible only to further aggravate the demographic situation.

A dozen other settlement models were created comparatively recently in our zone. It was for the purpose of show for those participating in various meetings and for important visitors. Time has proven that these are the same "swallows" that do not forecast the arrival of spring. Make our concrete-panel construction industry more simple—and for the flow. It has its own squirrel wheel.

The planning offices at many levels have developed many types of rural housing. There are some very attractive solutions—in terms of comfort, high quality and understanding of rural needs. But they are yesterday's solutions. And in mass construction practice, boxes of the same type predominate—"greater in number and more expensive in price." Thus, no breakthroughs are being achieved.

One example. Let us imagine—by way of dreaming—that an experimental but operating farmstead of the autonomous type appeared among us in the southeast, a farmstead built on a modern basis and involving the use of already existing achievements of helio and wind power engineering and the production of its own biogas (here there is almost no need for inventing anything. Everything is available and is being used, only not by agriculture). This would be a realistic glance into a realistic future. Yes, this is the problem. Just as in the past, the Agroproms are puzzled regarding production and processing, that is, by the fact that people must be engaged in the various areas to serve as production workers and processing personnel, for the purpose of creating conditions in which there will be no shortages of funds, resources, materials or time. Once again, a closed circle.

And still more.

If prior to the year 2000, a village continues to feel that it is in decline compared to a city—here we have in mind the standard of living and the nature of the work being performed—our cheerful programs will inevitably turn into problems. It is clinically abnormal when almost everything produced in the regions ends up in the oblast centers and the residents of these same regions travel to

the cities at times in order to obtain these same products. There are many similar and other abnormalities.

Thus, is it such that we should begin with the rayon centers? Such that everything will be available in the cities, plus that which cannot be found there at the present time? Does a need exist for a change in reference points or a change in polarity?

Finally, there is still one object for a special purpose strategic program—a rural school. As many impulses there were surrounding it, there were just as many that were extinguished. Tied up in the daily routine and in weariness caused by it. To change the situation here—this is also work for more than one day.

Humble Recommendation

Habits, prejudices, and stereotypes of consciousness hold people in captivity stronger than do fences and statutes. We attempted above to indicate the directions to be followed for reaching the fresh air of new horizons. It is possible that something was not just right and that the situation was not understood fully, but according to our observations practically everyone senses the need for a solution. The elements of feudalism, military communism and barracks socialism—these terms no longer frighten anyone. We are not experiencing them.

But let us examine the usual things from new positions.

The rayagroprom [rayon agro-industrial committee], it is the APO [agro-industrial association], it is the APK [agro-industrial committee], accumulates in its account the temporarily free funds of kolkhozes and sovkhozes and also their funds but transferred to the central fund. These are all calculated as a rule in the millions. As the banker, it can handle the first of them (temporarily free): issuing a loan to someone for an interest rate, ensuring the interest rates in turn of the nominal owner to whom these funds belong. The second (centralized) funds are removed and converted into its own "office" fund. This method is employed for forming similar funds in the oblast and higher. With the conversion over to cooperative-cost accounting methods, this practice arouses even more suspicion: does not withholdings for a centralized fund remind one of the primitive departmental quit-rent?

What will finally happen if we deprive the "office" of the right to unearned funds?

We will have to estimate.

The RayAPO develops on the basis of joint stock principles. Its operations are determined and controlled by stockholders and decisions are adopted by a majority not of votes but of shares of stock. It is transformed mainly into a cooperative bank which finances (equally on a share basis, or by dividing up the spheres with the agroprombank) service (RTP, agrosnab and so forth) firms, processing, social infrastructure and others. And it lives itself only on a stipulated percentage from successful investments. But bankruptcy can occur.

In turn, it is a stockholder-founder of an oblast APO—and also a republic APO. It is easy to become convinced that undefined responsibility for resources is lacking in this extremely approximate plan. Their owner (kolkhoz, sovkhoz, leaseholder, farmer) upon getting them back, can decide upon other variants:—for example, despite fear and risk, to enter a similar joint-stock cooperative of another rayon or even another oblast, provided this prompts specialization.

In any case, the development of the coopeative movement inevitably leads to a situation of this type. The APK has come closest of all to the possibility of such a transformation, since it has its own financial-accounting centers. Time will evidently reveal which will manifest itself more strongly—the desire to reanimate the residual (for example, at the oblast and rayon levels) faith in the "divine origin" of the Agroprom, under which the collection of departmental quit-rent and the arbitrary handling of it and many others are inevitable, or whether sensible considerations concerning the need for parity principles in management and parity responsibility, particularly in accordance with the principle of the higher the post the more limited the rights, will gain the upper hand.

Judging by the development of events throughout the country, the year 1991 must turn out to be fully suitable for taking a reading on the new developments. It is strictly floating in air and we must merely move out to meet it without any fear of unusual traits.

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Attitudes Toward Leasing, Poll Results Discussed

904B0188A Saratov STEPNYYE PROSTORY in Russian No 2, Feb 90 pp 4-6

[Article by N.N. Alekseyenko, ISEP, APK of the USSR Academy of Sciences: "From Alienation To Hope"]

[Text] **The material published in this article was prepared for the press in November 1989. During the time that has elapsed since that period, laws have been adopted in the country which must change the attitude towards leasing. However, the human factor is inclined to change more slowly than legislation. Thus it is our opinion that the principal conditions set forth in this material will not lose their importance any time soon. Editor.**

The concept of "leasing," as extracted from an economic dictionary, has acquired a rather broad socio-political meaning following many decades of its conservation. The range of opinions: from the euphoria associated with the initial and random successes to caution, irritation and at times complete rejection. Ignoring emotion and

extremes for the moment, let us try to reveal a cross-section of the public opinion regarding this phenomenon. The data from a sociological study conducted last summer with the participation of the author could serve as the foundation.

A poll was conducted which included approximately 3,000 individuals. Among them: rural students from graduating classes—more than 270, party and soviet workers—360, workers attached to legal protection organs—170, and sovkhoz and kolkhoz workers—1,872.

Eighty five percent of the workers attached to party and soviet organs and 81 percent of those assigned to legal protection organs consider themselves to be supporters of leasing. In terms of the level of their responses to this question, they are joined in this regard by teachers and students (72 and 61 percent of those polled respectively). The responses received from workers in the sphere of material production were quite different. As already noted, this included sovkhoz workers, kolkhoz members, united in leasing collectives (in any case, collectives which concluded agreements with their administrations for the leasing of land, facilities, livestock and machinery) and workers operating under conventional or traditional conditions. Among them, only 27 percent of those polled considered themselves to be supporters of leasing.

Certainly, one can link this circumstance with the fact that the peasantry, since the time of the "Communist Manifesto" and continuing up to the present day, has been described as one of the conservative forces in the process of social development. If we follow this logic, then it turns out that the reform wing in our sampling is represented by a group of respondents from the non-productive sphere.

However, it is not all this simple. In order to become convinced of this fact, let us examine the data in Tables 1 and 2.

Table 1. Evaluation of Situation Accompanying the Development of Leasing and Cooperation (in % of overall number of individuals polled)

	Social groups of respondents			
	Agricultural Production Workers		Workers in Non-Production Sphere	
Description of Situation	Total	Including workers up to 19 years of age	Total	Including students
Leasing, contract, cooperation—temporary work, next campaign	24	12	25	17
Permission for leaseholders and cooperators to hire workers	37	17	40	39
Need for limiting income of leaseholders	16	10	30	33
Leasing in rural areas enjoys the authority and respect of the people	24	22	49	59
Tolerance of possibility of repeated dispossession of kulaks	30	7	33	30

Table 2. Evaluation of Certain Social Consequences of the Spread of Leasing and Cooperation (in % of overall number of individuals polled)

	Social Groups of Respondents			
	Agricultural Production Workers		Workers in Non-Production Sphere	
	Total	Including workers up to 19 years of age	Total	Including students
Life of people becomes better	18	17	59	58
Country on the whole becomes stronger	18	15	59	64
Increase in number of people of scanty means	23	12	38	28
Charity and kindness declines	29	15	39	29
Increase in crime	35	17	48	32
Increasing number of stingy people	39	22	53	42

It is believed that this data is sufficient for drawing a conclusion: our "reformers" are more conservative than the "conservationists." Moreover, it is my opinion that the position taken by a rank and file worker is logical and non-contradictory. He is simply tired of all of the experiments that have been carried out in recent years. This includes the collectives of intensive labor, the Ipatovo method, non-schedule work, collective contracts for the various levels and the numerous intra-production cost accounting forms that have still not been introduced completely into operations. The next attempt—leasing; following extensively

publicized assurances on the presentation of independence, it was again farmed out to an "office." Naturally, this gave rise to a natural, at the prejudice level, negative attitude on the part of rank and file workers to the next innovation.

The study convinced us that the galloping rates of leasing, the shameless window-dressing (the recent rates for converting over to the collective contract are recalled) and the inability of an "office" to ensure the conditions needed for the normal functioning of cost accounting relationships have brought forth a new alienation—alienation from leasing. Only 16 percent of the leaseholders polled entered the proper collectives based upon their own convictions.

Data concerning the fact that the formation of leasing subunits takes place under administrative pressure serves as evidence of the use of old approaches.

Thus, of five promptings proposed for the question included in the poll: "Why did you enter a leasing collective?"—36% replied "There was no other alternative," and 17%—"We were persuaded to do so by the authorities." We are already aware of just how the authorities persuaded our peasantry during the period of collectivization, just as we are aware of the enslaving conditions of a lease being proposed for use today. Twenty seven percent of the rural workers polled had good reason for pointing out that leasing was feared owing to the fact that "the leadership speaks out in favor of leasing although it is actually opposed to it."

Fifty three percent of the leaseholders who were polled and 69 percent of the workers attached to conventional brigades indicated the possibility of greater earnings as an attractive aspect. However, in selecting from among the alternative forms of labor organization, one which would permit greater earnings and good living, a considerable portion of those polled (both leaseholders and those working in conventional brigades) showed a preference for private plots (assuming an expansion in these plots). This was indicated by 37 and 32 percent of those polled. The authority of a public farm (sovkhoz or kolkhoz), that is, the traditional forms for labor organization and wages, is rated very low. Sixty one percent of the overall number of respondents from conventional brigades and 53 percent of the leaseholders reject the possibility of good earnings on their farms.

The fact that only 7 percent of the agricultural workers forecast the fate of a farmer or leaseholder for their children and hope that their children remain to live and work in the rural areas serves as a unique indicator of this alienation from leasing. The crisis of formal collectivization of labor in the form of modern kolkhozes and sovkhzoes is obvious. The void separating declarations of regular economic doctrine and its appropriate economic and legal mechanism for functioning is also obvious. As a result, negative consequences are expected. One of them—tolerating a repetition of the dispossession of kulaks among leaseholders and cooperators. This was pointed out by almost one third of the leaseholders and 42 percent of the workers attached to conventional brigades. A similar fear was evident among 29 percent of the party and soviet workers and 35 percent of the workers attached to legal protection organs who were polled.

Hence, one vital problem of modern agrarian policy is that of winning the trust of the peasant masses (and not just them alone) for the next sharp turn in the economy.

The position taken by those respondents who represent workers in the non-production sphere appears to be even more contradictory. The data in Table 2 indicates the existence of appreciable tendencies towards the internal rejection of leasing (or perception of it as an enemy).

Actually, is it possible to consider as a true advocate of leasing an individual who expects unfavorable social consequences from it? This is by no means a rhetorical question. Particularly in view of the fact that it is vital for understanding the position taken by an entire social group. This contingent of those polled, the overwhelming majority of which favor leasing, represent the sum and substance of the administrative-command system of control (with the exception of students) and those who have been trained over many decades in the absolute fulfillment of instructions "from on high." The piquant nature of the situation derives from the fact that the staff, recognizing leasing as the "enemy," must restore it to its rightful place and approve it as the dominant and renovated economic organism. Naturally, in fighting for self-preservation, it will adapt itself to leasing.

In other words, the position of this social group is also alienation, but from an opposite standpoint. Whereas a rank and file worker views leasing as "bureaucratic," a staff worker himself appears as a "bureaucratic worker" and one who changes the "ruling" line to complete discreditation of the very idea. And the experience in introducing intra-organizational leasing (and all of the organizational-econmic initiatives which preceded it)—is the best proof of this.

All of this suggests that during this modern stage in the development of leasing its social base should not be considered strong either as the material base or as the ideological superstructure.

At the same time, the study revealed the existence of a definite contingent of workers who can arbitrarily be referred to as a hopeful group. Subjectively—these are individuals who confirm their positive attitude towards leasing and who have expressed a desire to obtain a tract of land for managing an independent farm. This group is adequately represented (24 percent of the workers polled). Almost one half of them (11 percent) are prepared to purchase land. The second half (in an equal number) is agreeable to leasing and to having land for permanent use.

From a socio-demographic standpoint, this group ranges in age from 25-39 years. This group also differs substantially in terms of its educational level: 62 percent have secondary or secondary-specialized educations, compared to 55 percent (with similar qualifications) of the overall group of individuals polled. This group has considerably more relatives who can work on a family contract basis (53 percent compared to 25 percent of the overall group of persons polled). Twenty seven percent of this group (greater by a factor of four than the entire sampling of respondents) forecasts a continuation of its peasant roots, that is, it sees its descendants continuing to work in rural areas.

Hence the strategy and tactics associated with the development of lease relationships must take this factor into account. An active social policy must be augmented by or oriented towards the natural prerequisites for collectivism—family-relative relationships.

Allow me to mention several considerations on the attitudes towards leasing of young workers and students. Their opinion is comparable to the echo of the social group that they represent. It is comforting to note that among today's students, that is, among young workers, a dismantling of the negative thoughts regarding leasing that were acquired in school is taking place. They are being eliminated from the social pessimism of their parents. A certain degree of misunderstanding by them of leasing is excusable, since the prerequisites for realizing its essence in the socialist system of management are only now being created. And God forbid, as the saying goes, that this young generation is the one to commence the revival of the real owner of the land. Certainly, it is appropriate to mention God. But it is reassuring to note that these lines are still being written and that an entire package of laws on ownership, land, leasing and the principles of self-government is being prepared "at a higher level." These laws are creating guarantees for the democratization of the economy (and leasing is one form for such democratization) and they are removing the administrative obstacles from the path leading to its free development.

Nevertheless, it would be naive to rely upon automatism in the harmonization of legal relationships in leasing. In this regard, special importance is being attached to the structure of the local organs of government. Those forces which will represent the interests of the leaseholders or farmers must be defined. This is not an idle question when we consider that democratization of the econmy is in conflict with the group interests of that social layer which today possesses the true authority. Only an organized force can resist it. The consolidation of these forces appears today in the form of rayon, oblast and republic associations of leaseholders and cooperators. Among the definite goals of an association and recorded in its regulations—protection and representation of the interests of its members in all organs (state, social, economic), including in the legislative and executive organs of government. The initial elections and all of the prerequisites point to the fact that they will be true elections and not mere voting and they must reveal how this chance will be utilized.

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REGIONAL DEVELOPMENT

Further Development of Farmsteads Discussed

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[Article by A. Cherekayev, VASKhNIL Academician: "A Farmstead Farm"]

[Text] At the present time, as we seriously attempt to solve the food problem, as a long-term strategy is being developed for the rural areas and as we express a desire to revive the peasantry, serious attention should be given to the existing domestic and foreign experience in rural management, in order to ensure that we do not commit one of those mistakes we have repeatedly made in the past.

Two forms of land management exist throughout the world: the settlement type, in which people live in large populated points and work on fields and farms which often are located at considerable distances from their dwellings and the farmstead type—where people live in the same areas where they work.

The settlement system, which is typical of our country, has been passed down through the centuries, during which period it was believed to be more reliable to retain people in one settlement, while directing them to work in any area of land ownership. Owing to the personnel shortage in Russia, there was never any question regarding the effectiveness of their work. As a result of the 1861 reform, the Russian peasant was authorized to own land. The allotting of community land, when the land belonged to a rural commune, corresponded to the population concentrations in villages and towns. The peasants, enjoying the rights of joint owners, made use of land tracts that were depopulated—plots which were changed periodically both in terms of size and location. Common land utilization made it possible to maintain the way of life of a peasant family, which was accustomed to live in settlements and this became associated with the spirit of the Russian national traditions.

This managerial form became stronger during the years of Soviet rule, since it turned out to be more suitable for implementing collectivization and in later years—for realizing the principles of concentration and specialization in agricultural production. Moreover, it was assumed that this would make it possible to solve more rapidly, and with fewer expenditures, the social problems in the rural areas and to eliminate the differences between the cities and countryside. We believe that this managerial system began to hold back the development

of agricultural production. Indeed, the settlement system alienates an individual from the land and lowers labor productivity. For example, foreign agricultural sociologists and also some minor observations which we conducted in Kazakhstan and Kostroma Oblast established the fact that the effectiveness of a farmer's work declined if his home was located at some distance from his livestock facilities. Thus, the dwellings on foreign farms are built in a manner such that a large portion of the farm can be seen from the windows and no great delays are involved in reaching the animals. On some foreign farms, especially dairy farms, the facilities for the animals are connected by a gallery to the home and thus the farm becomes a component element of the farmer's dwelling. The same holds true for field crop husbandry: if an individual lives close by, and preferably in the center of his land, then savings are realized in both time and transport expenses and improvements take place in his living, working and recreation conditions.

Farmstead farming, which is the foundation for agriculture in all of the world's highly developed countries, serves as an alternative to the settlement system. Experience accumulated over a period of a century reveals that in this instance peasant labor is transformed from an obligation into a natural need. An individual works not according to a schedule—"from" and "until," but rather at those times when he wishes to and is able to work. This factor alone raises an individual's work effectiveness and improves his state of health and well-being.

A farmstead has a number of other advantages. Owing to a low production concentration, it does not contaminate the surrounding environment. On farmsteads, use can be made of cheap power sources, particularly solar and wind power generators. Farmstead animal husbandry operations are making it possible to localize and quickly eliminate infectious diseases among animals. It is for this reason that many foreign countries have not had any cases of foot and mouth disease or brucellosis for many decades and have had fewer cases of tuberculosis, leukemia and other diseases among their livestock than has been the case in the USSR.

In countries characterized by well developed farming of the farmstead type, use is being made as a rule of very progressive, effective and inexpensive technologies. This derives from the fact that the minds of millions of farmers and the members of their families and managerial experience accumulated over a period of many years and handed down from one generation to another have been employed for understanding and solving the technological problems involved. Statements made by our economists which hold that the farmstead system tends to enslave an individual have no foundation. A modern farmstead (and here we have in mind modern production) includes well organized housing with autonomously operating heating, lighting and sewerage systems and the utilization of waste materials. In many countries, these systems are served by special services at state expense.

Farmstead farming by no means rejects the need for having large regional rural populated points. To the contrary, foreign and particularly Canadian experience reveals that the farmstead system is effective only when for every 80-100 farmsteads there is a large populated point (for 800-1,000 residents). Such populated points should be able to provide services and should contain a school, polyclinic, hospital, churches, banks, sports facilities, workhops for the repair of machines, places for conducting auctions, an airfield, stores, hotels and other organizations and enterprises for providing services for the population. These settlements are inhabitated by workers attached to enterprises, by officials and also by farmers engaged in vegetable production both outdoors and in greenhouses, based upon the principles of a farmstead contract. Here the farmers are able to satisfy all of their socio-domestic and economic requirements. It is precisely because of the absence of such a link that many farmsteads fail, with such farmsteads being found in various regions of our country.

Even with the existence of farmsteads and the large populated points which provide services for them, success and the popularity of the farmstead system are dependent upon two factors: uninterrupted telephone communications and good roads. Throughout the entire world, a farmstead begins with a telephone and an access road. Moreover, both are provided for a homestead and serviced at state expense. In some countries, the farmers are paid large monetary fines by the enterprises responsible for providing them services if their telephone operations or use of their roads is interrupted for more than 1 hour daily.

A modern telephone enables people not only to communicate among themselves but also to solve many economic problems and also to provide banks with information. The telephone and access roads enable the residents of farmsteads to live rich, spiritual and worldly social lives.

In many countries, the farmsteads are located along both sides of state main lines of communications, or highways, along which telephone cables have been installed. Local communication lines lead from these cables to the farmsteads. In accordance with the laws in effect in such large countries as Australia and Canada, gravel roads are used for providing access to farmsteads. If a farmer wishes to asphalt them, he can do so at his own expense.

Farmsteads do not exist of and by themselves. All of them cooperate with one another or with enterprises in the processing of products. Such cooperatives are characterized by efficient specialization. Quite often a farmer will consider it unprofitable to consume those products which he produces himself. He acquires them from stores. Thus, farmers engaged in milk production consider it to be unprofitable to spend time on its standardization or pasteurization or on separating out the cream. Rather, they believe this time could be better spent achieving other goals. This promotes improvements in the quality of the products, since the producer simultaneously becomes the consumer.

It bears mentioning that the farmstead does not necessarily call for the sale of land for private ownership. It is acceptable for all forms of land ownership. Abroad, many farmsteads belong to private persons and yet there are still many that are operated under leasing arrangements. Moreover, the land can belong to the state or to local organs of power. For example, a large portion of the land in Australia is owned by the state. The initial period for a land lease here is 99 years. Upon the expiration of this period, if the land is not needed for state purposes, the contract is automatically extended. Such an extended lease period has a positive effect on the farmers, since they then consider the land to be their own property for all practical purposes.

In many regions of the country, we have commenced the restoration of abandoned villages. Construction is being carried out in behalf of such villages in the form of new roads, good housing, schools, hospitals and other cultural-domestic installations. In short, attempts are being made to revive the settlement method of management on abandoned lands. Even if the kolkhozes and sovkhozes were to turn over their land on a long-term lease basis, with the right of unlimited inheritance, or to sell it for private use, only special use could be made of the land at best, use which based upon experience would be considerably less effective than farmstead use. The special use of land on a lease basis may turn out to be less effective than kolkhoz-sovkhoz operations. The people will be separated from the land, but if the kolkhozes and sovkhozes rely upon the strong shoulders of the state, then a private operator or leaseholder is left to fend for himself. In this case, the transfer of land for private ownership or on a lease basis, will produce no benefit with the exception of a breaking up of the tracts of land. Sad experience in this regard was accumulated in post-war Poland.

We are not calling for the land of large kolkhozes and sovkhozes to be divided up into farmsteads—let them exist and flourish so long as they do not join this system themselves. We have many empty lands that can be used for creating farmsteads. In recent years, in the non-chernozem zone of the RSFSR alone, not less than 10 million hectares of agricultural land have been abandoned, become overgrown with weeds or have become swamplands. At lease one half of this land was arable land. It is not necessary to select the areas in which to create farmsteads. They were selected by our ancestors: these are the remains of former country estates and destroyed villages. They were always located on the most suitable and beautiful tracts.

The most complicated problem of a modern farmstead—organization of the daily routine for its personnel. A good quality home on a farmstead—this represents only one part of farmstead housing arrangements. A farmstead home must be equipped with autonomous systems for providing comfort, such as heating, illumination, sewerage and others. If such facilities are not available, people will not choose to live on farmsteads. For this same reason, farmstead operations must commence with the installation of roads and telephone services. Unless this is done, such operations are doomed to failure. This is why, in our opinion, the construction of roads and lines of communication, such as is being carried out along a broad front in the non-chernozem zone, must be conducted in a manner such that farmstead operations can subsequently be connected up to them without great expenditures.

But this will be an expensive task. Where will the funds come from? I believe that this new work must commence with the organization of farmsteads for beef production, based upon the use of a resource-conserving low-expenditure technology that was developed and approved in Kostroma Oblast. It is inexpensive and exceptionally simple. The production expenditures required for mastering it amount to only 80-100 rubles per head of cattle. These expenditures include the construction of simple facilities for the cattle, the fencing in of pastures and equipment for veterinary and zootechnical measures. The overall cost of a farmstead (excluding access roads and telephone), including well-organized housing, in regions of the Russian non-chernozem zone, amounts to approximately 100,000 rubles. On such a farmstead, a family consisting of 2-3 members can produce up to 50 tons of beef annually.

The effectiveness and profitability of such a technology are obvious. It is for this reason that it is being used extensiveyl in Kostroma and Smolensk oblasts. "Beef farmsteads" can be created in all areas throughout the zone of dairy cattle husbandry. A farmstead farmer engaged in the production of beef usually has adequate time both during the winter and summer to work in other branches, for example grain operations. Naturally, he must have the necessary land and equipment in order to do this.

We believe that the mastering of the non-chernozem zone of the RSFSR should commence with the introduction of our beef production technology, with beef farms being organized on farmsteads. As funds are accumulated, the farmers can convert their farms over to more intensive and capital-intensive branches, for example the production of milk or grain.

According to my observations, it bears mentioning that an absence of funds is by no means the chief obstacle standing in the path of farmstead farming at the present time.

If we fear converting over to farmstead farming along an extended front, then is it not possible for a state experiment to be carried out at the oblast level? We have the knowledge and experienced needed.

Deliberations at Kazakhstan Food Program Conference

904B0171A Alma Ata KAZAKHSTANSKAYA PRAVDA in Russian 18 Feb 90 pp 1-3

[Article: "For the Food Problem—The Fastest Possible Solution: From a Republic Conference of Agricultural Workers"]

[Excerpts] As was reported earlier, a republic conference of farm directors and specialists, leaseholders, party and

soviet officials and ministry and department representatives was held in Alma-Ata. It was devoted to the problems of fundamentally increasing agricultural production and improving product quality, providing sufficient quantities of raw materials to food, light and other industrial sectors, and sharply accelerating development of the social infrastructure in the countryside.

Discussing a report by the Bureau of the Kazakhstan Communist Party Central Committee on immediate measures supporting implementation of the CPSU's present agrarian policy in the Kazakh SSR, the conference participants talked about certain positive changes in the republic's agroindustrial complex. At the same time they sharply criticized shortcomings and mistakes, named specific ways to correct them, and share their experience in multiplying the contribution to implementing the Food Program and the political and economic reform.

These statements were permeated by thoughts of and proposals for improving administration of the agricultural system, increasing the effectiveness of the work of party, soviet and economic organs, and making wider and more effective use of the leasing contract and other progressive forms of labor organization. It was emphasized that a turning point can be accomplished in this highly important sector of the economy, the food problem can be solved and the agrarian sector can be raised to the level of modern requirements only by providing peasants and all rural laborers with the opportunity to feel themselves to be the real owners of the land and the means of production.

[passage omitted]

The floor was turned over to U. Baygeldiyev, first secretary of the Kurdayskiy Rayon Party Committee, Dzhambul Oblast.

"Little has changed in the life of the peasants in recent years," the party secretary said. "The crisis in the economy and in one of its highly important sectors—agriculture—was to blame. At present we associate all hopes with adoption of new laws drafted by USSR people's deputies. But how quickly will they produce a payoff?

"We believe in the world-tested power of the small farm. In our rayon, incidentally, we have every form of management, even including the free farmer on the Western model. But the small farmers have not yet gotten up on their own feet, and it is too early to say that they will feed the country. In my opinion we cannot mourn the death of sovkhozes and kolkhozes yet. They are the primary means of fulfilling the Food Program, although the road should be opened to all forms, so that through their competition they could reveal their capabilities and practically prove their right to life. However, this requires a just pricing policy, normal material, equipment and scientific support, and firm labor discipline. The impoverished position of the countryside is explained precisely by the absence of this.

"Kurdayskiy Rayon for example bounds on six of Kirgizia's rayons, where the purchase prices on all agricultural products are higher than in our republic. It is hard to accept such economic inequality, which leads both to speculation and to an outflow of an enormous quantity of products out of the republic. A decision to pay for products delivered in excess of the contract at a rate 50 percent below the purchase prices has elicited bewilderment. It is impossible to understand its meaning: Why do we need to establish a quota? We haven't reached a state of abundance yet, after all. Our shepherds lead a hard life, but their labor is very poorly paid, making it impossible for farms specializing in sheep raising to maintain themselves, not to mention develop their material base, without handouts from above. In the meantime the cost of equipment of rural design, which is frequently assembled carelessly and manufactured with just about the poorest grade of metal, is excessively high.

"The problem of management is eliciting many different points of view today. In our rayon," the speaker noted in conclusion, "this issue has been removed from the agenda. We were given an intermediate link, taking the form of a rayon agrarian council, between science and production; its absence was to blame for our marching in place. This is the third year it is improving the system of agricultural services, and it is conducting its affairs democratically and sensibly. As a result gross production doubled this five-year plan in comparison with the previous one, and all 19 farms are profitable. In the future we hope that the structure we have developed will become even more effective."

The podium was then turned over to A. F. Khristenko, director of the Karaganda Agricultural Experimental Station. "Our farm," he said, "is essentially a scientific-production association which develops and disseminates innovative recommendations. But besides that it produces products worth 8.5 million rubles annually. In 4 years of the 12th Five-Year Plan we earned a little over 12 million rubles in profit. Milk production doubled, and meat production increased by a factor of 2.5. But grain and potatoes are our main products. Things are now on the mend here as well.

"The obvious conclusion is this: If we are to heal the countryside and agriculture, we must begin this healing with the peasant home. Young people, you see, are perpetually leaving for the city, while the old people aren't going to live forever. Understandably each must do his own thing. But it is extremely necessary for the city to help the countryside today. The money and the resources have to be found right now—our agriculture must be uplifted at any price, since otherwise it will collapse completely."

In the opinion of the speaker it would be suitable to introduce a 5-10 percent agricultural tax on enterprises. Every village and all of its streets must be assigned to specific plants, factories and party committees. In other words the entire world must contribute to this important

effort. If we don't make this contribution today, the possibility is not excluded that tomorrow there will be nothing to contribute to.

"Now about our basic woes. Before, the farm received 10-15 carloads of lumber each year. Last year it received but one. However, our difficulties are even to the liking of some. The 'foresters' are practicing open extortion: Give us so much, and you'll get your lumber. What sort of thing is this! This is obviously a case in which interference by the appropriate organs is necessary.

"And finally, concerning the council of workers of the republic's agroindustrial complex. True, it must be created, and the bureaucratic shackles must be thrown off. But what is being proposed to us? Here on the list of persons recommended for the council's leadership I see ministers, deputy ministers and so on. If we elect such a leadership, things would be even worse than they are now. I am not prepared to expound on a ready-made alternative, but wouldn't it be better if the council's presidium included one person from each oblast, and if the chairmanship were rotated? In short, when we create a democratic organ, which is what we would like the council to be, we need to have democracy."

"Having introduced leasing relations and made a transition to self-financing and self-sufficiency, we collided with a number of financial problems typical in my opinion not only of our economy but also the entire sector," G. Turgambayev, director of Baschiyskiy Sovkhoz, Taldy-Kurgan Oblast, emphasized in his statement. "And foremost among them is nonequivalent exchange of goods between the city and the countryside. In the last few decades the prices on equipment, fuel and mineral fertilizers grew by several times while the cost of products from the fields and farms has remained practically constant. It is basically for this reason that the farms have accumulated an enormous debt to the state. In order that such a situation would not be repeated," the speaker believes, "not only must we immediately raise prices on agricultural products so that they would cover the expenses and make profit possible, but we must also make them dynamic. For example let's assume that equipment becomes more expensive: Prices on the products and goods produced by rural workers should rise in the corresponding proportion.

"Another unsolved problem is the inconsistency between pay rates and labor outlays. Today the wage fund depends only on the level attained in the previous year, plus some minor adjustments. And in order that laborers would be materially interested in increasing production, their wages must be made dependent on sales volume, and of course with regard for labor outlays. If for example outlays on irrigated farming are larger, then the pay rates should be higher here as well."

Concluding, G. Turgambayev expressed the opinion that if we are striving to switch agriculture to new economic rails, then we must reorganize the management organs as well. Presently their functions, especially in supply, must be carried out by farm directors. It would be nice for the future republic agroindustrial council to assume the responsibility for material and equipment supply and for the problems of selling products and protecting the interests of the farms. And inasmuch as the grass-roots units are going over to cost accounting, it would not be a sin for the council to operate on the basis of the same principle: Once it fulfills obligations foreseen by the contract, it should receive the total of the prearranged percentage of deductions for these services. And if these obligations are only partially fulfilled, then the deductions would be decreased correspondingly as well.

"I would very much like to believe," said V. P. Kalganov, director of Nikolskiy Sovkhoz, East Kazakhstan Oblast, when he came up to the podium, "that the reorganization of agriculture that we have begun will not transform into just another campaign. In 30 years of work in the sovkhoz, including a quarter century as the director, I have witnessed my fill of an abundance of far-fetched 'improvements.'

"The need for bettering the life of the peasant is now being appropriately discussed everywhere. Unfortunately, things are changing for the better in his daily life very slowly. We need to make bolder use of all forms of assistance to the countryside, including sponsorship of course, which for the moment usually reduces to inconsequential aid. If every enterprise were to build just two fully equipped residential buildings for the farm under its sponsorship, this alone would be very substantial."

The speaker decisively rejected the attempts being made in some places to cause strife between the working class and the peasants: The latter are being accused of negligence and passiveness. In fact, the bulk of the rural workers are people devoted to their work who patiently endure adversities and who have not lost their faith in a happy future, despite the abundance of unsuccessfully concluded campaigns and unsolved problems.

There are three asphalt plants in Zyryanovsk, but in the rayon, even the streets in the towns are unpaved, not to mention the roads. Having worked 20-30 years, farmers and livestock breeders are often unable to purchase the most basic necessities. And even the farms themselves are in a difficult position due to continual worsening of supply. It is extremely hard to acquire a wheeled tractor, a stakeside truck, a good feed harvester and construction materials. "Consider the industrial and financial plan of any sovkhoz or kolkhoz," V. P. Kalganov challenged the audience. "All of the columns of the product delivery section are filled out, while in the section showing what is supplied in support of production, all we essentially have are lined-out items.

"It has now become fashionable to establish direct ties with enterprises. This might be a good thing, but a crane costing 27,000 rubles is offered to us by the manufacturing plant for 160,000, supposedly in support of production renewal. Now a few words for the benefit of the

republic's State Agroindustrial Committee. This organ is doing little to help us, and it is defending our interests weakly."

[passage omitted]

"Positive changes have materialized on the road of development of agricultural production," noted B. M. Tursumbayev, chairman of the Kazakh SSR State Agroindustrial Committee. "This is the result of an enormous amount of hard work by rural laborers in these complex, in many ways contradictory times. Carrying out the complex tasks posed to the republic's agroindustrial complex, we must keep in mind that its restructuring is proceeding under the conditions of Kazakhstan's conversion to self-financing and self-management. Therefore what we need to do first of all is eliminate the disproportions existing here, and optimize production of food and feed crops.

"The task of increasing and sensibly distributing the output capacities of processing enterprises and raising the technological level of production in a harmonious combination with natural conditions and historical traditions is also a priority.

"The food problem—a key link of perestroyka—troubles all of us. The deadline for its solution has come and gone several times, and the program has been referred to as a whole-people's program, a priority program and an urgent program, but as we know, the situation has not changed for the better. The reform of production relations in the countryside presently being conducted is creating real possibilities for radical solution of this problem.

"Grain farming is the foundation of the Food Program in our republic," the speaker continued. "Despite the measures that have been adopted, grain harvests have risen insignificantly in 4 years of the current five-year plan, and in comparison with the 10th Five-Year Plan they have even declined. Last year over 60 percent of the farms obtained less than 10 centners of grain per hectare. And the cause of this lies in more than just the weather: These farms were unable to counteract the drought with progressive procedures, effective measures, high discipline and good organization. Another cause of low yields is the fact that most of the land is still being sown with inferior-grade seeds.

"The republic's livestock breeders also face major tasks. In 1990 they need to produce 1,620,000 tons of meat in slaughtered weight and 5,800,000 tons of milk, and ensure state purchases of farm animals and poultry totaling 2 million tons. For this, the first thing we will need to do is seriously tackle the problem of reproducing the herd, and upgrade the level of breeding work. The need for doing so can be understood from at least this fact as an example: One out of every three farms obtains less than 60 calves annually from every 100 cows. There are an especially large number of such sovkhozes and kolkhozes in Aktyubinsk, Guryev and Kzyl-Orda oblasts."

The sole means of uplifting the economy and improving the financial status of the farms, in the opinion of the chairman of the republic's State Agroindustrial Committee, is to increase sales of agricultural products. The scandalous mismanagement observed in many sovkhozes and kolkhozes must be eradicated, work must be carried on in a new way, parasitism must be eliminated, and the farms must learn to live within their means.

B. A. Mykhanov, director of the Sovkhoz imeni Ilich, Kzyl-Orda Oblast, took the podium. He said that much has been done in recent years to increase agricultural production. Nonetheless the food situation has worsened. This compels us to seek new ways of solving the problem.

"In our Terenozekskiy Rayon, one of the republic's first agroindustrial cooperative associations has already been operating 2 years. The 2 years of experience showed that this is one of the effective forms of agricultural development and solution of social problems. Last year the association received around 13 million rubles in net profit.

"We," the speaker continued, "thoroughly studied the experience of the Novomoskovsk Agroindustrial Association, and scientists of the Kazakh SSR Scientific Research Institute of Economics provided considerable assistance to us. I would also like to mention the advantages provided by our maintaining cooperative relations between leaseholders. This made it possible to significantly reduce the management staff and place more specialists in production. A possibility also appeared for expanding construction, including housing construction."

After that the director dwelled on the problems of improving the state order system and taking full account of the possibilities of the farms in this regard. The number of unemployed increased with reduction of the area of rice paddies in the oblast, which was done to save the Aral. Accelerated organization of processing enterprises may be the solution here.

N. N. Golovatskiy, chairman of the 40 Let Oktyabrya Agricultural Company, Taldy-Kurgan Oblast, took the podium. This innovator of kolkhoz life, who is widely known in the republic and beyond it, began by briefly describing the agricultural company created on the basis of a kolkhoz. It rightfully represents one of the most successful forms of development of the collective means of farming traditional to the country.

"Today," noted N. N. Golovatskiy, "everyone is talking about transferring land and equipment to leaseholders, while farm executives are frequently abused in every manner, and referred to as bureaucrats and even as exploiters. But many of our farms are operating with good indicators, and there is no reason to dismantle the previously evolved production relations. I feel that any form is good if it provides more products of better quality, and that contrasting one against another makes no sense. We at our farm are not against leasing and the

family contract: We favor a thoughtful agrarian policy, and we oppose vacillation from one side to the other."

[passage omitted]

K. Yesmurzayev, a leaseholder of Shaulderskiy Sovkhoz, Chimkent Oblast, declared that with introduction of progressive forms of labor organization, more profitable enterprises are now to be seen.

[passage omitted]

The frequently stated opinion that we need to disband the sovkhozes and kolkhozes and maintain only farmsteads is not sufficiently grounded, inasmuch as state and collective farms provide and will continue to provide considerable benefit. All that is necessary is to manage each of them wisely. Accusations have also been levied against the Communist Party, once again not always with substantiations. This is evidently an attempt to lay the blame of certain executives and staff workers on the entire CPSU.

[passage omitted]

M. K. Suleymenov, director of the All-Union Scientific Research Institute of Grain Farming imeni A. I. Barayev, took the podium. "I know how difficult and responsible the work of farm directors is, but I can't support everything comrades speaking here have said," he said. "Grumbling about low prices on products and expensive equipment, for some reason no one is saying anything about the low productivity of our operations. We take pride in milk yields and harvests which would surely be the cause of one's ruin in Canada for example. Remember how much noise there was about the billions acquired in Kazakhstan: That was in the favorable weather conditions of the 10th Five-Year Plan. And if it is said today in some places that our yields have risen 'in comparison,' what this means is that the previous period was simply a time of downright failure.

"One of the main reasons was and continues to be a mechanical, bureaucratic approach to the work. When they drew up the Grain program in Alma-Ata for example, they read through the variants and came to the conclusion that expanding the farming area was a necessity. This means putting poorer land, from which little can be obtained, to use. And intensive methods usually exist only on paper. We have lost ground in relation to strong and durum wheat; only Tselinograd Oblast is actively involved in such farming.

"We harvest not less than 17-18 centners of grain per hectare from our experimental fields. Our indicators for milk and meat are not bad. And this is not the limit, if we continue to work well. But in northern Kazakhstan as a whole, the increment attained in the last three decades was only 3 centners.

"We came to the conclusion that given good farming practices, we could utilize land that is presently left fallow, which only loses its fertile soil. This would result in an increase in forage grain production, and solve many other problems. We need to gradually substitute clean fallow by occupied fallow, and simultaneously remove from crop rotation the poorer land that was mistakenly introduced into it. Otherwise we'll soon find ourselves no better off than when we started.

"Every director and agronomist must himself determine what scientific crop rotation and farming system is best for his farm. For the moment they do not have the independence necessary for this, and arbitrary pressure is often imposed on them. Let the specialists have the right to decide, and everything will be as it should!

"The criticism of agricultural science is completely correct," said M. K. Suleymenov in conclusion. "Though we have had accomplishments as well: There is good reason that the decision was made to conduct the country's first international symposium on soil-protective farming in Shortandy. But we need to help as well. In the meantime construction of a selection center has been completely frozen, and the plans for other facilities are being fulfilled barely by a third."

N. B. Stanin, director of the Krasnaya Polyana Breeding Plant, focused the attention of the conference participants on progressive forms of production relations in his statement.

[passage omitted]

N. B. Stanin emphasized that he who feels that this progressive form of management may be carried on by means of commands from above, by some sort of instructions and orders, is mistaken. Organizing leasing on the basis of rules written in the quiet of administrative offices has not produced good results for anyone yet. The people need a simple mechanism on the basis of which they could work without all kinds of wise instructions and prescriptions. We need not fear granting independence to brigades, teams, and all of us directors of sovkhozes and kolkhozes.

S. D. Beysenov, Kazakh SSR Minister of Consumer Services, dwelled in his statement on the problems of strengthening the material and equipment base of rural services and supporting them more fully with materials, equipment and personnel. He proposed creating consumer service facilities at the central farmsteads of all farms and correspondingly move full-service reception points down to lower levels—to the departments, brigades and farms. In this case the ministry would retain the responsibility of equipping and servicing the allocated buildings. Special attention should be turned to expanding and strengthening the material base in remote rayons. The Ministry of Consumer Services is also making ready to solve some other problems in the development of rural services.

Discussing personnel support to the sector, the minister proposed that farm directors themselves send their young people to educational institutions so that they might return to their native villages after graduation. This would make it possible to preclude the hiring and

training of outside individuals. And for the moment the demand for qualified, dependable personnel is high. It will grow in connection with the fact that the assortment of services to the population is widening.

Construction of many new consumer service combines and reconstruction of old ones and an increase in production of modern types of equipment are foreseen in the next few years. Growing cooperation with consumer service workers of the Central Asian republics should produce a significant impact in the matter of scientific-technical information, equipment and personnel.

The floor was then given over to V. G. Shumilov, director of Korostelevskiy Sovkhoz, Semipalatinsk Oblast. In his opinion transition of sovkhozes and kolkhozes to cost accounting and self-financing should have imparted a new impetus to development of production. But a sharp turn has not yet occurred because this action was taken without strictly scientific substantiation of the entire system of economic indicators. Farms possessing land of different quality should work on the basis of completely different standards. In fact, however, planning is conducted from one year to the next at the level of something akin to troglodyte ignorance. A land cadastre, which no civilized state can do without, doesn't exist at all here.

The time has come for scientists to leave their city apartments and visit virtually every field: They need to express the conditions of the farms in relation to a common denominator, and develop differentiated standards and prices. The present subsidies to economically weak farms have all the semblance of bribes, and they are having a degenerating effect.

In addition in civilized countries farmers are protected by a system of insurance, and losses they suffer are compensated. In our country droughts last several years in succession in some regions. We can't do anything to get ourselves out of the hole because a miserly quantity of precipitation occurs during the vegetative period; last year it didn't rain at all from April to October. And the existing parody of state insurance can't even cover a fifth of the losses.

"How can we survive under self-financing," the speaker asked the participants of the conference, "when the prices on equipment and attachments doubled and tripled literally within a year? Countless numbers of usurious enterprises dictating their own predatory terms arose on the wave of so-called democracy. Retaining its right of monopolistic distribution of spare parts, Selkhoztekhnika is literally robbing us. If these spare parts were available on the farms, repairs would cost 10 times less.

"Until recently the state encouraged capital construction in rural areas, and made appropriations for this from the budget. Now we have to make do at the expense of our main work, depleting our financial reserves and undermining the welfare of the people. Construction of production facilities and social, cultural and personal establishments is already being reduced in many of the farms. We haven't given up completely, but just the thought of where to get cement, wood, roofing slate and nails immediately brings tears to the eyes of farm directors. And because of the low solvency of the sovkhozes and kolkhozes, organizations of our Agropromstroy have begun orienting themselves on filling orders from industrial enterprises, transforming for practical purposes from agricultural to industrial construction organizations."

[passage omitted]

A. Berdygaliyev, leaseholder at Terenkulskiy Sovkhoz, Ural Oblast, spoke. There are eight persons in his family brigade, which has a lease on farmland, pastureland and a large quantity of various farm animals.

[passage omitted]

"It was precisely at this time that the socialist principle of 'to each according to his labor' reached my very heart," the speaker said. "And in general, it is precisely the failure to observe this principle that is the main cause of slow fulfillment of the Food Program. It was stated in the recently disseminated decision of the State Agroindustrial Committee that products sold in excess of the plan are to be purchased at half price. Whatever happened to the independence of the leaseholder? Once again someone else is deciding everything for us! In the meantime the equipment, the gasoline and the construction materials are getting more expensive. But the price on meat and grain remains the same. A kilogram of wheat costs much less than a bottle of mineral water. This is unjust."

The leaseholder went on to address complaints at the designers of agricultural equipment. It is very unreliable. The situation with spare parts and with gasoline supply is still worse. Many obstacles have to be surmounted in the effort to sell products. The irresponsibility and carelessness of workers of different administrative levels and the absence of due exactingness on the part of party and soviet organs have had their impact in all of this.

O. M. Gaydin, secretary of the Kazakhstan Komsomol Central Committee, noted that the future of our country depends in many ways on the choice made today by young people. The Komsomol is presently the country's leading youth organization, and despite its difficult times and the considerable criticism, it continues to defend the interests of young men and women as no other force can.

Our generation is inheriting a great and mighty country that is being torn apart by political, social and national conflicts, and which is being drawn into an economic and ecological crisis. It is now obvious that all of this is a consequence of theoretical and practical errors, of deforming Lenin's conception of socialism. Many such

mistakes were made in past years in work with young people as well. Thus for example, young people were viewed predominantly as manpower, as a means of erecting the "projects of the century." As a result what we had was not development of the personality but simple reproduction of laborers, engineers and teachers. It may be said that an exploitative attitude toward young people was vigorously nurtured.

"Many economic and political reforms are occurring in our country today," the speaker continued. "One of them is already being introduced into the agroindustrial complex—leaseholding. Figures describing the benefits of leasing have been cited both in the report to this conference and in the statements made here on several occasions. But what is most important about leasing in my opinion is that it overcomes alienation of workers from the implements of production, from the results of labor. This is the most important prerequisitie of developing economic and political culture. After all, it is only in the course of practical participation in production management, Lenin wrote, that we can develop the best organizational forms, and increase the activity and consciousness of the individual."

Many young people are working in agriculture, but as is true of all laborers, their situation is extremely unfavorable. In the last 3 years the number of young people decreased here by 95,000, and the quantity of Komsomol youth organizations decreased by a third. All of this requires thorough analysis, and adoption of drastic measures. It would therefore be suitable, in O. M. Gaydin's opinion, to include representatives from the republic's Komsomol in the council when its membership is elected.

The floor was then turned over to A. I. Borgul, director of the Kotyrkolskiy Sovkhoz-Tekhnikum, Kokchetav Oblast. "Introduction of leasing into sovkhoz and kolkhoz production is doubtlessly the main reserve for further growth of sales of agricultural products to the state," he said. "We have been working this way for around 5 years now. And despite certain difficulties, we realized for certain that there is no other way to go. Everyone has this opinion here—from the executives to the workers.

"Far from having exhausted its possibilities, in recent years the collective more than doubled production of milk and meat. A reserve also exists in optimizing the structure of planted fields—that is, we need to show preference for the feed base. Family leasing is promising and advantageous. Our blue and white collar workers are already fattening half a thousand calves, and we are now extending this form to pig raising and other sectors.

"The potential of small villages, which are capable of providing 20-30 percent of the production increment in an extremely short time, is not being utilized sufficiently. Earlier, a serious blow was dealt to the remote areas of the sovkhozes and kolkhozes by unwise policy, and they are still suffering from social injustice. While the central farmsteads have schools, hospitals, culture clubs and children's day care centers, the small villages are deprived of almost all of this.

"We would like to help them, but improving their lot requires construction materials, which are chronically lacking in the republic despite all of its wealth. We are told to count on our own resources. All right, but it would be nice for the city to share with the countryside. Moreover even consumer cooperatives are building in the cities and not in the countryside, despite the fact that this is our money as well.

"There is an agricultural combine functioning in our rayon. The directors of its sovkhozes and other partners are certain that this is the most successful organizational form. But rumors have now reached us that they want to disband it. If this is in fact so," A. I. Borgul concluded, "we'll first have to ask ourselves if this is something that we really want to do.

"Personnel training and advanced training has important significance. No resources should be spared in this effort. This pertains especially to middle-grade specialists—primarily tekhnikum graduates. They are responsible for monitoring animal breeding, reproduction of the herd, maintenance of the health of farm animals and other matters. And if we economize on their training, we might have to pay a hundredfold more later on."

It was noted in the statement by K. Bokanov, director of Tushchikudukskiy Sovkhoz, Guryev Oblast that this karakul-raising farm has already been working on the basis of brigade contracts for 3 years, and on the basis of leasing relations since the beginning of last year. One hundred seventy-eight shepherds and other livestock tenders and many machine operators are now working here on the basis of contracts. As a result product quality and labor productivity have risen significantly.

But things are not going completely well with leasing. Many models of it are now being proposed, and the most difficult thing is to select from among them the variant that would correspond to the particular region and village. Consider how many times adjustments have had to be made in instructions sent from the republic's State Agroindustrial Committee!

The sovkhoz director then dwelled on the problems of developing the conception of the new economic mechanism. For some reason we usually limit ourselves here to economic elements and pay little attention to the legal, organizational and social directions. The continuing practice of departmental planning is also a serious shortcoming. In Mangyshlak, severe climate and great distances are having a negative effect on introduction of new forms of labor organization. Another problem is the difference in wages of oilmen and livestock breeders. The former earn almost twice more, even though their labor differs little in terms of its intensity and volume.

K. Bokanov suggested that republic and oblast organizations need to more decisively implement government-planned measures to promote development of lagging rayons.

"The main question for the republic's agrarian sector today is this: What subsequent direction should the economic reform take? It is already clear to most people, after all, that only after it reaches its full momentum can we change the food situation for the better," declared Kazakh SSR Minister V. V. Shvets, first deputy chairman of the State Agroindustrial Committee. "And this reform would be unimaginable in the sovkhoz and the kolkhoz in the absence of leasing, inasmuch as production relations are becoming normal, stimulating labor productivity and product quantity and quality well. This is something which in my opinion was confirmed especially persuasively by the experience of the Kolkhoz imeni Manshuk Mametova, Tselinograd Oblast, my former place of employment. All products, from the first to the last kilogram, belong to leasing collectives there. And they are the ones that sell these products, at prices advantageous both to every laborer and to the sovkhoz."

The minister explained many concrete issues associated with using the leasing contract. Differentiated payments in addition to product purchase prices have an especially large effect on the work of collectives mastering this form of management. Unfortunately its introduction is still far from perfection. The extra payments made to lagging sovkhozes and kolkhozes have been increased. This artificially increases income, and the workers receive more pay without any growth in labor productivity. The pay is often even higher than in the leading farms.

A decree changing the procedures for using differentiated extra payments has now been drafted. Extra payments of the same percentage are foreseen for both leading and lagging farms located in the same natural zone. And this is just. Three percent of the total subsidy will be reserved for the immediate social needs of the weak farms—construction of hospitals, roads, clubs and so on.

"The economy's many faces," the speaker emphasized in conclusion, "will inevitably lead to creation of different kinds of associations. A council of agroindustrial directors that will concentrate all supply functions within its hands is already being formed. I have been asked if confrontations might occur in the activities of management structures. I think not. All the more so because a sizable fraction of the resources are to be allocated for production needs. The association to which you belong is unimportant. If you do excellent work, you'll get the resources."

[passage omitted]

If the health of the rural economy is to be improved, we must first cancel all of the debts of the farms with no conditions of any sort, because they arose due to the fact that the sovkhozes and kolkhozes were compelled to produce products known to be unprofitable, and the peasants received pay not for the results of work but for their participation in it. This is the thesis with which G. A. Kaliyev, director of the Kazakh Scientific Research Institute of the Economics and Organization of the Agroindustrial Complex, Eastern Department, All-Union Agricultural Academy imeni V. I. Lenin, began his statement. Analyzing development of leasing relations in the republic, he emphasized that confiscation of all profit in the form of payments into the budget denies the opportunity for carrying out expanded reproduction and for increasing food production within this economic framework. Still worse, the leaseholder is compelled to economize on everything, and in view of this he is not interested in investing money into scientific and technical improvement of his farm.

The conclusion from here is this: The leaseholder must become economically independent. The middle economic unit will also inevitably arrive at such independence. When sovkhozes and kolkhozes become cooperative leaseholders, it will no longer be possible to order them around.

Examining the problems in the strategy of agricultural development and the republic's transition to self-financing, the speaker proposed rejecting or reducing cultivation of a number of crops. Why produce sugar ourselves, at a cost of a thousand rubles a ton, if Cuban sugar costs 800 rubles, with all expenses included? A similar situation is observed with rice and cotton. It stands to reason that part of the products must be sold to the state to support unionwide needs. But if a neighboring republic requires our grain or some other product, let it sign the appropriate contract with Kazakhstan. Equal relations will be ensured in this way.

Accepting the just complaints against science, at the same time the scientist noted that more thought must be given to it. In particular, to its middle-level associates, who still receive little in terms of either material or moral incentives.

Kazakh SSR Council of Ministers Chairman Yu. K. Karamanov spoke at the conference. "I would like to dwell on the unsolved problems," he said, "and explain to you the position of the republic's government in relation to the principal directions of agricultural policy and practice. By 1995 we are to increase our production to almost 1.9 million tons of meat and 7.2 million tons of milk, or attain an increment over last year totaling almost 300,000 tons of meat and 1.8 million tons of milk. To fulfill this program, we will have to produce not less than 5 million additional tons of balanced feed. Concurrently we need to significantly expand the volume of animal products processed."

Vegetable growing and orchard farming require fundamental changes. Grape growing and wine and vodka production will have to be resurrected almost from scratch. Many unsolved problems have also accumulated in production of canned fruits and vegetables.

Sugar beet production is eliciting alarm and concern. Citing the need for removing pests and diseases from

their plantations, many farm directors have distanced themselves completely from this crop.

Major changes are to be made in the social sphere. The problems here have accumulated for decades, and now it is difficult to find a social, cultural and consumer services entity which is able to satisfy the needs of rural laborers. Consider at least the availability of centralized heating and hot water in Kazakhstan's rural state and public housing pool. It is correspondingly 19.7 and 3.6 percent, or a time and a half and two and a half times lower than the unionwide level. Nor is the situation any better in other areas of social development.

Another important problem awaiting its solution is development of new forms of agricultural production. Life itself has placed the problem of the diversity of the agroindustrial sector on the agenda. Besides sovkhozes and kolkhozes, agroindustrial companies, peasant farms and cooperative associations are now coming into being and making themselves known at full volume. Through their results, family and collective leasing contracts have demonstrated their right to exist, and the ties between public farms and private plots are growing stronger. Our task is to keep the new forms from withering on the vine on one hand and decisively eradicating the weeds that inevitably appear on the field of transformations of the agroindustrial complex.

"We need to constantly remember the special role played by the republic in creating the union's grain reserves. And we are relating with the greatest responsibility to fulfilling this important state task, but I think the time has come to seriously ask: Given the low technical level and the extremely sizable union requirements for meat, will Kazakhstan be able to fulfill the grain order? The entire management experience suggests a negative reply.

"Data show," noted Yu. K. Karamanov, "that during the current five-year plan, the republic was able to reach the planned target for grain sales to the state only in 1986. But in this case around 20 percent of its deliveries were made possible by a decrease in forage reserves. Attempts to solve the grain problem through approaches developed in the first years of working new land resulted in a decline in field fertility in all places. Kazakhstan's combined feed industry found itself without raw material. And the farms are consuming over 2 million tons of wheat grain each year as feed."

Production of corn and soy for grain must be initiated seriously in the southern oblasts. The validity of this course is confirmed by world experience. For example wheat occupies a third of the farmland in the USA, and barley, oats, corn and soy for grain occupy two-thirds. The need for respecializing feed production in Kazakhstan is completely obvious: Our yields are far behind those overseas.

"We also need new approaches in the structure of feed-growing fields. How can we talk about meat and milk on the store shelves if even in a favorable year only half of the republic's farms are able to enter the winter with adequate supplies of all types of feed? The experience of farms of Kokchetav Oblast, where for several years serious efforts have been made to improve perennial grass plantations and create a firm foundation for procuring feed grain, deserves the widest dissemination. Of course, we are not imposing any particular farmland structure and system of maintaining and feeding animals. But we ask that serious thought be given to the food situation that has evolved in the country and in the republic, and that the proper conclusions be made from this."

The chairman of the Council of Ministers went on to turn attention to the fact that in a number of kolkhozes and sovkhozes vegetables and potatoes have fallen out of favor, and little by little they are being supplanted by other crops. When asked why, many farm executives cite the labor-intensiveness and low profitability of these crops. But this does not at all mean that the needs of the population can be completely ignored. The solution is seen as sharply increasing potato production on irrigated land, as mechanizing labor-intensive processes further, and in particular as introducing containers into the work of harvesting, transporting and storing the products of the fields.

In general, harvesting and safeguarding the yield and processing it is a tough nut to crack for any farm manager. Last year a significant quantity of vegetables were left in the field because it became necessary to reject recruitment of urban residents for harvesting. New economic stimuli accounting for the interests of both sides are needed. As far as processing is concerned, the way out of the dead end is to create small canning shops everywhere. But this will be tomorrow, while the problem must be solved today. It can be partially alleviated by supplying the market with soaked watermelons and apples and salted cucumbers, tomatoes and cabbage.

Nor are there any grounds for optimism in the state of livestock breeding yet. A tendency for stagnation has clearly manifested itself here. The target set for 1989 was to achieve an increment in meat procurement totaling 100,000 tons live weight, naturally through increases in fertility and through weight gains. But in fact the increment was only 65,000 tons; moreover it was achieved primarily by reducing the size of the herds and purchasing animals from the population. In a situation as complex as this, we need to work hard on reproducing the herds. February and March are precisely the time in which solution of these problems depends entirely on the competent work of the zooveterinary service. Might it not be possible to transfer all of its specialists and executives to offices at the farms during this period of work? Maintaining the health of the animals and attaining large weight gains have acquired special importance. Either we will solve these problems and reach a new level of production of animal products, or we can expect stagnation with known consequences to the population.

Evidently we cannot do without a well organized system of calf raising. The work that will have to be done in pig and poultry raising will be just as hard. The first thing we need to do is free the output capacities and make wider

use of the experience of fattening young sovkhoz and kolkhoz animals in private hands.

An increase in supply of combined feed to sovkhozes and kolkhozes in exchange for soy and corn grain, and possibly millet and buckwheat, should promote development of livestock breeding. With these purposes in mind, and in order to achieve independence from the whims of centralized deliveries, it would be suitable to create a republic forage fund.

The development of sheep raising and horse-herding requires pastureland. At the same time over 5 million hectares of plowed pastures were placed into agricultural turnover over 10 years ago under the cover of slogans calling for attainment of the billion mark in Kazakhstan. Their regrassing is not being practiced. In this case some zealous proponents of grain farming are suggesting that we plow under even land seeded with grasses.

The republic's Council of Ministers favors not reduction of grain production but sensible use of land resources. This is why the position of those sovkhoz and kolkhoz executives who reduced orders for mineral fertilizers by almost a third in comparison with the 1988 level is incomprehensible.

Development of cooperation and of peasant, family and leased farms is another problem that deserves thorough discussion. Unfortunately, new forms of production are being held back by the absence of small-sized agricultural equipment. As far as introduction of cooperation into the agrarian sector is concerned, this is a completely untouched area of work for rural laborers. Incidentally, why not create milk producing cooperatives out of dairies, feed cooperatives out of combined feed plants, and associations such as the Dutch "work banks" out of agroindustrial banks? Here as well, we naturally need carefully weighed approaches adapted to specific rayons and oblasts.

Another major problem is scientific support to the agroindustrial complex by way of the scientific-production system. The latest developments and procedures are still being introduced too slowly into the sovkhozes and kolkhozes. Perhaps the reason for this is that insufficient attention is being devoted to reequipping the institutes, experimental stations, vocational-technical schools and strain-testing stations.

It is extremely important today to deal vigorously with problems such as training for all personnel, which would require reexamining the educational process in the secondary school, tekhnikum and institute from the standpoint of how well it corresponds to the objectives of modern production.

Now that agricultural product sales plans are no longer being submitted to the farms, and instead a system of direct contracts is being introduced, workers of the agroindustrial complex will have to exhibit high discipline, political maturity and responsibility before the people for supplying food to them. Unfortunately, many have arrived at an extremely unique interpretation of what the absence of planning means. They are not signing product sales contracts, and the volumes that are being written into the plans are significantly below the previously attained level.

Life raised the issue of democratizing and improving the management system of the republic's agrarian sector. The proposal to form a republic council for the agroindustrial complex, presented in the report to the conference, is fully in keeping with this objective. Creation of its commissions will provide an opportunity for efficiently and competently solving the problems.

Concluding his statement, Yu. K. Karamanov said that it is very important to ensure the stability of rural work collectives. Experience shows that the status of labor and production discipline and the level of fulfillment of state orders depend on it. Social development of the countryside is the foundation of this stability. In 1991-1995, there are plans for increasing investments into the nonproductive sphere of the rural areas by not less than a factor of 1.5 in comparison with the current five-year plan, by a factor of 2.8 in road construction, and by a factor of 2.2 in gas pipeline installation. There are plans for significantly increasing the volume of electric power in order to improve the standard of living of rural residents and to heat residential buildings and social, cultural and consumer service facilities. Here as well, we will have to rely on the assistance of industry.

"It is commonly accepted," Yu. K. Karamanov said in conclusion, "that people judge the work of rural laborers on the basis of the assortment and quality of food products. But today this is also the way the progress of perestroyka is assessed. We can achieve some movement in solving the problems that have accumulated in the agrarian sector only through united effort."

AGROTECHNOLOGY

Agronomic Instructions Cover Baby Food Raw Material

90P50017A

[Editorial Report] Kiev SILSKI VISTI in Ukrainian for 2 May 90 on p 3 carries a 1600-word article entitled "The Field From Which the Children Are Fed," offering detailed advice on cultivation of contamination-free raw material for baby food.

The article notes that baby food production is becoming a problem because of contamination of the raw material by heavy metals, mycotoxins, and pesticides. With the aim of correcting this situation, special zones are being designated in most oblasts in the steppe and forest steppe zones of the Ukraine in which "clean" corn for grain, buckwheat, and sunflowers are being cultivated this year for production of baby food products. The article's recommendations, adddressed to specialists, equipment operators, and others who work in the fields, contain instructions worked out by specialists at the UkSSR Gosagroprom, scientists at the southern branch of VASKhNIL, and scientific research establishments.

POLICY, ORGANIZATION

Government Directives Impede Rural Co-op Development

904D0066A Moscow SELSKAYA ZHIZN in Russian 17 Feb 90 p 2

[Article by V. Yermakov, chairman of Rospotrebsoyuz [RSFSR Union of Consumers' Societies] and USSR People's Deputy: "It is Difficult For My Cooperative Society to Stand on Its Own Two Feet: Why There Are Fewer Stores and Goods in the Village"]

[Text] Everyone has probably heard of consumers' cooperatives, but not everyone by far knows what they really are. There are various ideas about them. Some people feel that consumers' cooperatives are fabulously rich and not subordinate to anyone, existing as a kingdom within a kingdom. Others think of them simply as departments such as the trade ministry, but for the village. And since they are for the village, then the stores can be worse and the shelves can be stocked to a lesser degree.

Yes, in terms of their activities and history in our country consumers' cooperatives are closely tied to the village even though they did not begin as village organizations at all. The main principle involved the unification of consumers into societies or partnerships, whether in the city or in the village, on a foundation of independent organization of economic operations related to the wholesale procurement of consumer goods and their sale to member-shareholders at lower prices than in mercantile establishments.

All of the operations of the partnerships (societies) were managed by the shareholders themselves because operations were run by membership dues. In order to implement and protect their interests in state organs consumer societies formed unions on various levels. Usually these unions acted on a voluntary basis, having only a small paid staff.

But with time, especially after NEP, the state began to intrude upon consumers' cooperatives with administrative teams, all kinds of constraints, the deprivation of independence extending as far as confiscating the property of cooperatives and a legal lack of protection. Shareholders were actually separated from the work of their consumers' societies, their interests were ignored, and the unions selected by the shareholders were transformed from defenders of their interests to their very opposite—an appendage of the state administrative system standing above shareholders through which it was easy to implement the libertarian decisions of Gosplan, the finance ministry, Goskomtrud [State Labor Committee] and other ministries and departments. The discontent of shareholders and conflicts between them and unions finally resulted in their complete alienation from the affairs of consumers' cooperatives.

Even now consumer cooperatives have not acquired real independence. They continue to be oppressed by central and local organs of state authority. Although the Law on Cooperation in the USSR and cooperative directives call for consumers' societies (that is, shareholders themselves) to determine their own activities, dispose of their finances themselves and select forms of organization and wages, nevertheless various orders and directives continue administratively even today in the same way as they do for ministries and state departments. Plans, various assignments and control figures and state orders continue to be imposed, thereby forcing cooperatives to hand over to the city the meat and dairy products, potatoes and vegetables, honey and food worth many millions of rubles which they procure from the village population—their shareholders; the village is not supplied with goods in return.

I wish to remind you that the main task of our social-economic system is to provide our shareholders with consumer goods. But it cannot fulfill this task because even during the period of perestroyka it is removed from participation in distributing commodity resources as well as from protecting the interests of shareholders in the labyrinths of Moscow offices. According to the leftovers principle our system is left poor crumbs. Judge for yourselves—today in the RSFSR annual allocations of goods per village family are smaller by a value of 1,000 rubles than per city family. I do not want to compare the city to the village, but if the city has a shortage of goods let it affect the city and the village populations equally.

In our republic there are not that many village residents left, but the impoverished, partially dilapidated village still continues to feed the city. And villagers, the benefactors, are forced to travel to that city to make purchases, taking time off from work, cursing the roads and the ruined transportation, taking time away from their family and work. Where else can they go? Here are some figures. Each year sewn goods worth 129 rubles are allocated for city residents, and for village residents—sewn goods worth 85 rubles; leather footwear—59 and 31 rubles respectively, knit goods—59 and 41 rubles, stockings and socks—15 and 12 rubles. Village families receive 40 percent fewer television sets, 30 percent fewer radio receivers, sewing machines and washing machines and half the vaccuum cleaners as compared to city families.

It is especially offensive that government officials continue to look on the village as a semi-literate mass that does not require education—whereas for the city resident printed materials worth 30 rubles are allocated each year (also not much!), the allocation for the village resident is less by a factor of 6. Even toys are allocated at a disadvantage, less by a factor of 1.5 to the village; the city receives toys worth 10 rubles per capita, and the village—6 rubles, yet village families have more children than city families do.

How will people know about these figures if Goskomstat [State Statistical Committee] itself does not know them, and if it keeps what it does know behind seven seals? We must have public control over the regular publication in

large-circulation newspapers of data on the distribution of funds of commodity goods and on average per capita sales in the city and village. Then people will know the truth and will not allow functionaries to unscrupulously correct social justice.

I would like our shareholders to support the demand that is so important today to further develop the Law on Cooperation in order to return genuine independence to our system and to protect the rights of shareholders, consumer societies and their unions. Then it will be possible, by relying on the advantages of cooperation, to rejuvenate the initiative of shareholders.

Meanwhile the Law on Cooperation not only does not change a situation in which the consumer cooperative is without rights, it actually consolidates it to a certain degree. Four of the five sections were devoted by anonymous authors to the place and role of cooperatives within the country's economy, but it is not clear to what degree the sections apply to the various forms of cooperatives. With regard to agricultural cooperation, all rights stated in the law have been secured, but as regards consumer cooperation there is no corresponding notation and consequently the cooperative does not have full rights to operate according to this law. If in addition to this we add the sly provisos of the type "in the established order" then we can see the unconcealed loophole for the supremacy of orders created long before the law.

Three years ago the CPSU Central Committee and USSR Council of Ministers passed a resolution on the transfer of kolkhoz (it would be more correct to call them city) markets to consumer cooperatives. The "expediency" of such a decision was based on the fact that consumer cooperatives should affect market prices. However, prices do not depend on who owns the market but on the abundance and variety of goods that are offered. Nowhere in the world does the village organization have to be responsible for the complex and lax city enterprise. And did anyone asked the shareholders whether they thought it was expedient, whether they agreed to spend cooperative resources and efforts for city markets which have nothing to do with them?

Also, how can we influence market prices if cooperatives are not allowed to dispose independently of surplus agricultural products that they procure from the population and that are their property? We Russian cooperative members are forced by government organs to give up goods worth over 2 billion rubles procured from the population for the so-called centralized fund. This includes 8 million tons of potatoes and vegetables and thousands of tons of wool, wild fruits and berries, honey and furs. Yet what concerted effort did it take, what with the limited prices, low wages, shortage of tranport and fuel, to collect these kilograms and individual items, which were so scattered among farms!

We procure many types of cheeses at a loss to ourselves, and no one reimburses us even a kopeck for that. This has become the norm. In exchange the government does not even give us goods to stimulate that same procurement. They tell us that the goods do not exist. Yes, we have a shortage of them. But under conditions of a forced and not of a free exchange they will continue not to exist. If resources are not available the government must give us freedom of action—this will become our resource. Shareholders have simply grown tired of working for "someone else's uncle," and of paying the debts of others. We procure potatoes from shareholders at 20 kopecks per kilogram; they are all taken from us and directed into the state trade network for sale at 10-15 kopecks. At the same time the market price reaches 1 ruble. How can we bring it down?

The RSFSR Consumers' Cooperative sells over 5 billion rubles' worth of agricultural products procured on farms in cities in natural and processed form. On the average we annually take 600 rubles per year from each village household and as an incentive we supply it with goods worth 80 rubles! This is the kind of "equivalent" we provide!

The law on cooperation must guarantee us full rights to dispose of the goods that we procure and of which we are the owners. Then we, like all civilized cooperative members throughout the world, would exchange procured products at the market. Our contribution would immediately be obvious—there would be an increase in the sale of food products and of non-food products as well as of the means for building a material base.

We are often rebuked for the fact that we do not buy everything from the population. Yes, we have reserves, but our arms are too short to take everything. Our shareholders do not want to conclude "bare" contracts with cooperatives since we do not offer anything in exchange, preferring instead to take a significant portion of their produce to market or to sell it, as for example livestock, to kolkhozes and sovkhozes at high prices (incidentally, this is the subject of a separate discussion), which the cooperative cannot allow itself to pay. Let us imagine for a minute that we begin to procure more potatoes, for example; again all of them will be taken from us to the very last gram.

All of the so-called rights and advantages of shareholders as foreseen by the directives and by the Law on Cooperation remain such only on paper. Why talk about these "rights" if even the most elementary social justice is not maintained in the level of retail prices for many consumer goods! In the Russian Federation village residents annually overpay by about 1 billion rubles for purchases, of which almost half of the overpayment has to do with so-called supplemental land taxes—a type of tax levied on people living in distant villages to which there are no roads.

Considering our lack of protection consumers' cooperatives cannot stand up to the apparatus of state economic pressure, which through the system of direct taxes and different requisitions takes money into the budget without leaving a single kopeck of our earned assets to

allow us to build a processing and storage base. We are forced to direct our money into the budget and then immediately go to Gosbank to beg for credit, which also is not there for us. In other words, consumers' cooperatives are looked upon like a giant milk cow which does not have to be fed—somehow it will feed itself.

All kinds of coercion reaches the level of the absurd. Without a consideration of the desires and interests of shareholders, the state insists on the building in the RSFSR on over 1,000 tanker stations, which will remove at least 100 million rubles of cooperative assets. Let us look at city cooperative trade stores. In recent years we have spent 300 million rubles to build them, finish them and decorate them. You will agree that this is an expensive "gift" from the village to the city. How many millions did those gigantic restaurants built along main-routes cost us! Even today they have not only not paid for themselves but they continue to incur losses.

At the same time, oh how we need assets to organize the village! Right now there are tens of thousands of small villages, primarily in the depths of the non-chernozem zone, that have no stores. We also need money to build hothouses, shops, storehouses and procurement and other enterprises.

We are assessed a land tax, a tax on structures and an exorbitant income tax; moreover, this is done despite the subsidies which we allocate to consumers' societies working under the extreme conditions of the north, Siberia and the Far East and to unprofitable village or rayon consumers' societies (and we have 800 of these). After all, they cannot build anything and are just being ruined. Let us note that in pre-revolutionary times the treasury did not tax small cooperatives. In order to nevertheless implement a program of building of processing shops and storage bases in the village we try to collect monetary assets from shareholders on a voluntary basis. We have borrowed another 50 million rubles from them in addition to the 400 million rubles of dues they have already paid, but where is the guarantee that they too will not be taxed?

Finally it must be understood that it is more advantageous to increase capacities related to food production by means of cooperative assets and to feed the people than to take everything from them and not develop anything. If our cooperative industry were not subject to the income tax (the industry provides us with almost 400 million rubles of profits annually) the RSFSR's cooperative members could in the next 3 years produce an additional quantity of goods valued at 1.5 billion rubles. But our profits are taken away to darn the holes in the budget which, incidentally, cooperatives did not participate in creating.

Consumers' cooperatives reflect in miniature the general lack of balance throughout our economy. The government is looking for a solution to the crisis. Finances have been balanced and the finance ministry, which cannot seem to move away from habitual cabinet schemes, proposes to maximally increase taxes. Yet the commodity structure is also unbalanced. Gosplan, also according to instructions from the council of ministers and also on the basis of old command methods, makes assignments from above to increase the output of goods. Here truly the left hand does not know what the right is doing! Isn't it understandable that if money comes into the budget then losses in production volume are unavoidable! On what basis should we increase the production of goods when enterprises are deprived of the opportunity to make additional investments in this sphere?

All of these intricate moves cost society dearly, are against its interests and finally do not provide a real chance to create freedom in economic organization.

Today renewal is taking place within the party, even though it is somewhat late. However, unfortunately there is no cardinal renewal in the work style of government and economic organs. Different forms within the economy must be managed differently, but nevertheless consumers' unions are given directives in the form of "obligations" just as distribution organs of the state sector of the economy are. For example, a recent resolution by the republic's council of ministers ordered Rospotrebsoyuz to build candy stores. Yet at the meeting cooperative workers passed their own program. Why is no one taking it into account?

How can we not remember here Lenin's call to fight "bureaucratic gangsterism"! But how can we combat it if even the Law on Cooperation did not give us anything? Recently there have been congresses of leasees, farmers and new cooperative members. They are creating unions and associations for the protection of their interests. Evidently we will still have to prove for a long time to come that we are also cooperatives and also have our own interests. Frankly, it is a humiliating necessity to have to prove something that should be understood.

FOOD PROCESSING, DISTRIBUTION

Goods Packaging Technology Problems Remain

904D0080A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 7(33), Feb 90 p 5

[Article by Yu. Vladimirov: "Rapping About Wrapping": "Notes From A Session of The USSR KNK [Committee on People's Control]"]

[Text] **It seems that the problem of packaging materials is a problem that is exclusively ours. In the West people for a long time have been accustomed to having meat and fish products as well as prepared dishes from them delivered to stores wrapped in plastic packages. In France, for example, approximately 90 percent of edible and vegetable oils, vinegar and 75 percent of mineral water is produced in bottles made from polyvinyl chloride. In the USA, FRG and Great Britain and a number of other countries the most important place in the pattern of plastic products**

consumption is given to the production of plastic packaging materials. Lumber, cardboard and paper are saved and losses of food products during transport and lengthy storage are reduced to a minimum. As we see, it is both profitable for the state and convenient for the consumer. That is what happens abroad. How about here in our country?

During the past few years four resolutions have been issued by the directive organs in which the corresponding ministries and departments set specific tasks regarding the production of food products wrapped in plastic packaging, the elaboration and creation of new forms of wrapping materials, the expansion of the assortment and the increase of deliveries of these materials to the food processing branches of the agroindustrial complex, as well as the manufacture of equipment necessary for this. There is even a country-wide scientific and technical program ratified by the USSR Gosplan [State Planning Committee] and the USSR GKNT [State Committee on Science and Technology]. However, as the people's controllers were able to clarify, neither the decrees nor the program is being implemented.

The USSR Minkhimprom [Ministry of the Chemical Industry] in its day, for example, was supposed to solve completely the problem of plastic raw materials. Alas, the problem was passed by five deputy ministers to their replacements like a relay race baton. The last to accept the baton was M. Yesenkov, the former deputy minister and currently general director of the "Plastpererabotka" concern. The situation in the current USSR Minkhimnefteprom [Ministry of the Chemical and Petroleum Refining Industry] is eloquently described by the facts.

The construction sites for a series of new facilities for the production of plastic materials and their processing have yet to be determined. Questions about financing and supplying the construction sites with equipment have not been answered completely. Moreover, the existing potential for the expansion of the production of plastic packaging materials in facilities already in operation is being utilized extremely poorly.

Out of 25 specific types of materials, whose delivery orders are established by resolutions of the directive organs, 17 are manufactured at enterprises of the current USSR Minkhimnefteprom. Actually the technical possibility exists to fulfill all the deliveries. However, the lack of proper organizational work in the industry has led to the situation in which plans for the production of synthetic resins and plastics are systematically not fulfilled. Last year deliveries were short by 146,500 tons. The production of polyethylene, that very important raw material for the manufacture of plastic packaging materials, decreased by 15,000 tons in comparison with the previous year.

The production of several other types of plastic materials has decreased as well. For example, the processing branches of the agroindustrial complex are experiencing a critical need for rigid plastic sheets made from polyvinyl chloride. It is manufactured in our country at two enterprises of the USSR Minkhimnefteprom and during the current year production is supposed to increase to 41,000 tons. However, there is no guarantee that this goal will be met. During 1987-89 the Vladimirskiy chemical plant was approximately four tons short of fulfilling even those plans on production of these sheets. For five years (!) the plant's management spent its energy on something else; it raised before the ministry the question of stopping production of the sheets. The Dzerzhinskoye "Plastik" association also systematically fails to fulfill assignments (with a production capacity of four tons they produce a little more than half of the ill-fated sheets).

Similar shortcomings were uncovered at many enterprises of the USSR Minkhimnefteprom.

The ministry also is seriously lagging behind in organizing the manufacture of new kinds of plastic packaging materials. The leaders of the industry are well aware of this and they have made a number of decisions on paper to correct the situation. However, because of a lack of supervision and an undemanding attitude of the management apparatus these decisions have not been carried out satisfactorily. On the other hand, the ministry without justification continues as before to withdraw a significant portion of the enterprises' profits for the industry's centralized fund. It is as if the labor collectives did not have independence under the new conditions of management.

Machine builders as well have tripped up the enterprises of the chemical and petroleum refining segments of the industry. During this five year plan the primary manufacturer of equipment necessary for the production of plastic packaging materials, the USSR Mintyazhmash [Ministry of Heavy Machine Building] did not once fulfill government orders on volume of deliveries, or the technical level and quality of the product. The following are debts left by the former USSR Minkhimmash [Ministry of Chemical Machine Building] which now belong to the current USSR Mintyazhmash and which have led to a situation in which only 40 percent of the demand for equipment in the national economy is being satisfied: 128 production lines for the granulation of intermediate raw materials, the manufacture of corrugated cardboard and packaging sheets, 119 installations for drying and loading granules and for compressing plastics and others. This is happening when a quarter of the equipment for plastics production already has been in operation beyond the projected useful lifetime and has been in need of replacement for a long time. We know what kind of results can be squeezed out of equipment with this kind of overuse. The country is forced to compensate for the shortage of production lines and aggregates with imports. Approximately 100 million rubles of hard currency will go towards these goals during the five year plan.

This is how machine builders in the "Bolshevik" NPO [Scientific-Production Association] work, for example. Year after year this enterprise lets its customers down.

For four years of the five year plan only 75 production lines were delivered to consumers instead of 165. Then in 1989 in order to justify its inactivity the association's leadership simply hid part of the enterprise's capacity which could have manufactured 20 entire production lines! The plan for the current year had already been reduced by 43 percent and this means that consumers will not receive an additional 37 lines. The "Lenbummash" and "Petrozavodskbummash" associations, the "Dneprtyazhbummash" and "Kuzpolimermash" plants are guilty of similar failures to fulfill instructions.

But even that equipment which consumers do receive, does not thrill them. Judge for yourselves. The production lines for the manufacture of plastic sheets are 2-5 times less productive than foreign models. In metal and energy consumption they are 1.5 - 2 times less efficient and the level of automation of the technical processes is 10 years behind. The installations for the manufacture of corrugated cardboard are 1.4 times less productive than foreign analogues while they require one and a half times more energy per production unit.

The low technical characteristics of equipment made in our country do not allow for the manufacture of sheet products at the level of international standards. In addition, these "machine monsters" of Mintyazhmash simply devour raw material. The improvement of measurement accuracy alone in the production of packaging sheets and also the improvement of the equipment's technical flexibility would save 30 percent of the plastic used each year in the country.

Despite the obviously unfavorable situation the USSR Mintyazhmash is in no hurry to elaborate and implement mass production of modern equipment. Of five types of new machines only three have been introduced. The creation of production lines for the manufacture of combined and nonoriented plastic sheets took two years longer than scheduled. In other countries extruders have been used for a long time which produce plastic sheets with a width of two meters and more which allows for an improvement in the characteristics of the manufactured products. We do not have any of these machines and we have not organized the manufacture of equipment to produce polypropylene sheets with a heat sealing layer to take the place of cellophane.

One has the impression that it is beyond the scientific-technical capabilities of the industry to perfect the equipment for polymer plastics production and to bring it up to world standards. In recent years machine builders in cooperation with the consumers have adopted plans three times directed at raising the technical level and increasing the manufacture of modern production lines and aggregates. However, not once was the plan fulfilled. And yet each of these documents was given the blessing by the leadership of the ministry. On second thought, we already know the true value of these signatures...

The USSR Committee for People's Control has evaluated the serious ommissions of the production executives as deserved. Reprimands were received by M. Yesenkov, chairman of the board of directors of the "Plastpererabotka" concern; V. Volkov, director of the Dzerzhinskoye "Plastik" association; L. Malyshev, director of the Vladimirskiy Chemical Plant, G. Tyuftyayev, director of the "Ukrplastik" association and N. Kruglyak, head engineer of the "Bolshevik" NPO.

The USSR KNK has already indicated to First Deputy Minister of the Chemical and Petroleum Refining Industry A. Ustkachkintsev the serious shortcomings in carrying out assignments regarding the development of the synthetic resins and plastics industry. He will report to the committee about their elimination in March of this year and also in the report regarding results of work in 1990.

The declaration of First Deputy Minister of Heavy Machine Building R. Arutyunov was noted in which he described the ministry's plans to form a special group to analyze the situation regarding the manufacture of equipment for the production of plastic packaging materials, to adopt the necessary measures and to report to the committee on the results of work for the current year.

Officials from two USSR Council of Ministers' bureaus, the Bureau for Chemical and Timber Complex and the Bureau for Machine Building as well as USSR Gosplan also have been intimately involved in these results. There have been many joint meetings, protocols and decisions but their efficacy has turned out to be less than satisafactory. The situation regarding plastic packaging materials requires greater persistence and diligence.

PERSONAL INCOME, SAVINGS

Statistics on Pensions, Retiree Income Published

904D0076A Kiev POD ZNAMENEM LENINIZMA in Russian No 3, Feb 90 pp 64-66

[Unattributed article under the heading "In the Language of Facts and Figures": "Material Living Conditions of Pensioners"]

[Text] **Late last year, the USSR Supreme Soviet submitted the draft Law on Pensions of USSR Citizens for nationwide discussion.**

In order to help give readers a more complete picture of this problem, we are publishing materials on the living conditions of pensioners in our country. These materials were published in journal VESTNIK STATISTIKI, issue No 11, 1989.

The total number of pensioners increased by 8.4 million, or 17 percent, in the last 8 years and at the beginning of 1989 was 58.6 million. The state's expenditures for pension payments from all sources reached 55 billion rubles in 1988, which is 1.7 times higher than in 1980. The proportion of these expenditures in the national income increased from 7.2 to 8.8 percent, and from 28 to 32 percent in the public consumption funds.

Pensions are granted to 48 million people (82 percent) under the Law on State Pensions and to 10.4 million (18 percent) under the Law on Pensions and Benefits to Kolkhoz Members. The majority—43 million, or 74 percent—are old-age pensioners, and more than 7 million of them are granted pensions on preferential terms—5-10 years earlier than the conventional time in connection with difficult and hazardous working conditions and other reasons. There are 6.5 million people receiving disability pensions and 5.7 million receiving pensions due to the death of the breadwinner.

The number of old-age pensioners has increased at an excelling pace during this period (by 27 percent), which is the result of the aging process of the population. In 1980, the number of people above the age able to work was about 42 million (16 percent), and in 1988 they numbered more than 49 million, or 17 percent of the total population. The rate of increase in the elderly population during this period was 2.3 times higher than for the entire population increase. By the end of 1990, the population figure for this age group will be 51 million people.

Between 1985 and 1988, measures were implemented to improve the pensions of workers: minimum pensions were increased for kolkhoz members and their families, as were pensions for those residing in rural areas and involved with agriculture; and pensions were increased for blue-collar and office workers that were granted 10 or more years ago.

The average pension for blue-collar and office workers increased from 64 rubles in 1980 to 86 rubles in 1988, and for kolkhoz workers it increased from 35 to 54 rubles.

The distribution of pensioners by the size of pensions granted is shown in Table 1.

Table 1. Distribution of Pensioners by Size of Pension (according to 1987 survey data; in percentage of their number)

Size of Monthly Pensions, in Rubles	All Pensioners	Under Law on State Pensions	Of Them, Old-Age Pensioners	Under Law on Pensions and Benefits to Kolkhoz Members	Of them, Old-Age Pensioners
Total	100	100	100	100	100
Under 30	2.7	2.9	0.5	1.9	-
30-40	4.5	5.5	1.0	0.3	-
40-50	18.4	6.9	1.4	68.8	71.2
50-60	15.7	16.1	17.3	13.7	14.4
60-80	17.0	19.0	21.3	8.2	7.2
80-100	12.8	14.9	17.0	3.6	3.6
100-120	9.5	11.3	13.1	1.8	1.8
120-140	18.4	22.1	27.0	1.7	1.8
140-160	0.7	0.9	0.8	-	-
160 and over	0.3	0.4	0.6	-	-

On 1 October 1989, in accordance with a decision of the USSR Congress of People's Deputies, the minimum pensions increased to 70 rubles a month for old-age pensions, to 85 and 70 rubles for group I and II disability pensions, and to 60 rubles for widows of servicemen; the differences in pensions of blue-collar, office, and kolkhoz workers were eliminated.

In recent years, the correlation of the average pension and the average monthly wage has changed, which can be seen from the data in Table 2.

Table 2. Correlation of Average Pension and Average Monthly Wage

	1980	1985	1988
Blue-Collar and Office Workers			
Average monthly wage, in rubles	168.9	190.1	217
Average pension, in rubles	63.8	78.7	86.3
Correlation of average pension and average monthly wage, in percent	38	41	40
Kolkhoz Workers			
Average monthly wage, in rubles	118.5	153.4	178
Average pension, in rubles	35.2	47.0	54.3
Correlation of average pension and average monthly wage, in percent	30	31	30.5

In 1988, the maximum old-age pension granted blue-collar and office workers was 45 percent below their average monthly wage at the time the pension was established (in 1956 it was 63 percent less).

Information on the total income of pensioners' families in which no one works is shown in Table 3 (according to 1988 data).

Table 3. Total Income of Pensioners' Families in Which No One Is Working (according to 1988 data)

	Pensioners from Among	
	Blue-Collar and Office Workers	Kolkhoz Workers
Total monthly income for family members, in rubles	102	112
Including, in percent:		
Pension	75.5	49.1
Wage	1.1	3.7
Income from private subsidiary farm	11.5	40.9
Receipts from relatives, friends, etc.	11.9	6.3

The differences in the level of pensions granted and wages received earlier, and, consequently, in incomes before and after going on pension, impel a considerable portion of pensioners to continue labor activities.

In 1988, 10 million old-age pensioners were working from among blue-collar and office workers. They accounted for 4-6 percent of the people working in industrial enterprises, agriculture, construction, and transportation. In trade and public catering, as well as in the majority of sectors in the non-production sphere, one out of every ten workers is a pensioner. More than 400,000 pensioners—blue-collar and office workers—work part-time in the national economy.

Among working male pensioners, 25 percent are under the age of 60, 46 percent are 60—64, 16 percent are 65-69, and 13 percent are 70 and older. Working female pensioners are distributed as follows: 10 percent are under 55, 42 percent are 55-59, 29 percent are 60-64, and 19 percent are 65 and older. Half of all non-working pensioners are individuals age 65 and older.

The highest percentage of working pensioners are those who have been granted pensions on preferential terms (35 percent). The number of pensioners in this category is increasing at a pace surpassing their total number (in 1980 there were 3.8 million; in 1988 there were 7.2 million).

Table 4 shows data on the average per capita incomes and expenditures of a number of families of working and non-working pensioners in 1988.

Table 4. Average Per Capita Incomes and Expenditures of Families of Working and Non-Working Pensioners in 1988 (in rubles per month)

	Families in Which Pensioner Works and Retains Pension, in Moscow	Families in Which Pensioner Does not Work	
		Moscow	For Country as a Whole
Total income	280	107	102
including:			
wages	164	3	1
pension	91	94	77
Expenditures			
for food	94	56	56
for nonfood consumer items	61	22	22
services	32	19	12
savings	39	3	-0.6

According to family budget survey data among families having savings, 20-28 percent of the families intend to use these savings to maintain their standard of living after going on pension. About 40 percent of the families of pensioners have no such savings. The need for higher expenditures for purchasing medication and additional care increases with age.

Table 5. Number of Individuals Receiving Pensions (as of end of year, in millions)

	1980	1985	1987	1988		
				Total	Including Pensions Granted Under Law on State Pensions	Including Pensions Granted Under Law on Pensions and Benefits to Kolkhoz Members
All pensioners	50.2	55.7	57.7	58.6	48.2	10.4
Including:						
for old-age	34.0	39.3	41.8	43.2	33.8	9.4
for loss of breadwinner	7.2	7.2	6.4	5.7	5.3	0.4

Table 5. Number of Individuals Receiving Pensions (as of end of year, in millions) (Continued)

	1980	1985	1987	1988		
				Total	Including Pensions Granted Under Law on State Pensions	Including Pensions Granted Under Law on Pensions and Benefits to Kolkhoz Members
in families of blue-collar and office workers	5.1	5.0	4.6	4.5	4.5	-
in families of servicemen	1.5	1.7	1.3	0.8	0.8	-
in families of kolkhoz workers	0.6	0.5	0.5	0.4	-	0.4
for disability	6.4	6.4	6.4	6.5	5.9	0.6
for severe injury or occupational disease	0.6	0.5	0.5	0.5	0.5	0.04
for general illness	4.8	5.0	5.1	5.2	4.6	0.6
among servicemen	1.0	0.9	0.8	0.8	0.8	-
persons receiving special pension	0.4	0.4	0.5	0.5	0.5	-
service pension	0.1	0.1	0.1	0.1	0.1	-

Table 6. Number of Individuals Receiving Pensions, by Union Republics (as of end of year; in millions)

	1980	1985	1987	1988	
				Total	Including Under Law on Pensions and Benefits to Kolkhoz Workers
USSR—total	50.2	55.7	57.7	58.6	10.4
old-age pensions	34.0	39.3	41.8	43.2	9.4
Ukrainian SSR—total	10.7	12.0	12.4	12.6	3.4
old-age pensions	7.3	8.5	9.2	9.5	3.1

New forms of service and social assistance to the aged and disabled are slowly being introduced. As of the beginning of 1989, 32 territorial social services centers were set up for permanent or daytime care of pensioners. About 3,000 social assistance departments have been organized to provide assistance at home; they service 292,000 citizens who are alone and disabled, or 60 percent of those in need of this assistance.

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Savings Bank Official Details Individual Savings

904D0083A Moscow VECHERNYAYA MOSKVA in Russian 27 Feb 90 p 2

[Article by L. Batalov under "From Competent Sources" rubric: "Where Are the Underground Millions?"]

[Text] The Saturday issue of VECHERNYAYA MOSKVA published an interview with Vyacheslav

Solovo, deputy chairman of the board of USSR Savings Bank. He expressed his willingness to give the editor's office data on the deposits of the country's population in the savings bank and this morning he gave us this table. Judging by the figures, underground millionaires are not very eager to keep their money in savings accounts.

		Balance of Deposits	
Size of deposit	Number of Accounts	Millions of Rubles	Percent of Total
Up to 300 rubles	65,378	7,392.8	2.4
Over 300 up to 1,000 rubles	44,801	28,752.8	9.7
Over 1,000 up to 2,500 rubles	48,161	75,240.2	25.4
Over 2,500 up to 5,000 rubles	24,320	82,322.3	27.8
Over 5,000 up to 10,000 rubles	11,138	72,793.0	24.5
Over 10,000 up to 25,000 rubles	2,155	28,348.4	9.6
Over 25,000 up to 50,000 rubles	51	1,629.3	0.5
Over 50,000 rubles	3	217.9	0.1
Total	196,007	296,696.7	100.0

The table was assembled using data from the beginning of 1989. The USSR Savings Bank now has 209 million accounts, where 338 billion rubles are kept. The savings bank of the capital city has 10.7 million accounts with 16.7 billion rubles. Several tens of billions of rubles are in the hands of the population, that is, in circulation.

We frequently hear that 80 percent of all the money is kept in 3 percent of bank accounts. These figures reach the press. As it turned out, these data were obtained in the course of one of the investigations carried out in Latvia at the beginning of the 1980's. Analogous surveys covering other regions of the country did not reveal such a concentration of savings.

As for the impersonal accounts and savings books "to the bearer," their share in the total number of deposits is quite insignificant. There are presently about 500 million rubles in impersonal accounts and the average deposit size is 3,500 rubles.

The auction price of Volga GAZ 24-10 automobiles reaches 100,000 rubles. In the "black" market, we are offered video tape recorders for 5,000 to 8,000 rubles and imported color television sets for 15,000 to 20,000 rubles. You can familiarize yourselves with the reports of the agency Mosbazarinform in the pages of VECHERNYAYA MOSKVA. We will see what the commercial stores opening in the near future will do to please us.

So is a bank account of 5,000, 10,000 or 25,000 rubles a lot or little?

FUELS

Oil, Gas Construction Work Performance Reviewed

904E0087A Moscow STROITELSTVO TRUBOPROVODOV in Russian No 2, Feb 90 pp 1-10

[Article by USSR Minister of the Construction of Petroleum and Gas Industry Enterprises V.G. Chirskov: "Sector Operations Under the New Conditions of Business Management: Results and Prospects"]

[Text] A difficult situation had taken shape in the country's economy by the beginning of the 1990s. The difficulties of the processes of restructuring were superimposed on chronic problems in the development of the national economy. It would at the same time be incorrect to assert that positive changes have not occurred over recent years. The social re-orientation of the economy can be clearly discerned. This is expressed in the profound structural shifts in the production of capital goods and consumer items, the priority direction of capital investments in the social sphere and the acceleration of its material and technical base. The dismantling of the administrative system is underway, albeit not very quickly, and new forms of business management are becoming more widespread. It has not been possible, however, to overcome the negative processes that had arisen earlier. The careful and errorless choice of the paths of further development is demanded today as never before.

The USSR Council of Ministers, realistically weighing the capabilities of the economy, has developed a program of actions for the next 6 years whose implementation will create the conditions for the stable functioning of the national economy. It delineates the corresponding stages and defines the sequence of the tasks being resolved.

The year 1990 should be an especially crucial period in the realization of the program for invigorating the economy. The state plan and budget for that year that have been approved by the USSR Supreme Soviet is of an exceptional nature in its parameters and proportions, structural shifts and requirements for efficiency. Major maneuvering will have to be accomplished for the purpose of the invigoration of the economy and its social re-orientation. The removal of the growing social tensions in the country in envisaged via the fulfillment of paramount measures to raise the standard of living of the people and improve the situation in the consumer market and monetary circulation. A halt to the worsening of the country's economic situation, substantial reductions in the budget deficit, a refusal to permit significant increases in foreign economic indebtedness and the creation of the material and economic preconditions for the development of the economy are all projected in the 13th Five-Year Plan.

The measures envisaged in the plan and budget for 1990 are marked by a serious turnaround in business-management policy. It is not possible, however, to stabilize the economy over a single year.

The government of the Soviet Union feels that this task can and should be resolved to a considerable extent in 1991-92. It will be necessary first and foremost to achieve further reductions in the state budget deficit during that period and bring it to a level that does not impede the normal functioning of the economy. The amount of production construction should be narrowed sharply, and the incomplete amounts and unmet deadlines for the building of facilities must be brought up to standards. The process of increases in foreign debt will have to be overcome during this same period so that the country does not end up in dangerous economic and political dependence. An economically well-founded correlation between the money supply and production volumes must be ensured, along with a significant turnaround in inflationary trends.

The reality of the postulation of these tasks is based on the fact that this period will bring into effect the most important elements of the new mechanism of business management, which is being called upon to create effective incentives for labor and enterprise in combination with a high level of organization and discipline, as well as to provide for an efficient coordination of efforts among all participants in production. They are based first and foremost on the fundamental provisions of the legislation being developed on ownership, leasing and leasing contracts, the land, the socialist enterprise, a unified tax system, the economic independence of the union republics, regional economic accountability [*khozrashchet*] and local self-management. The implementation of reforms has begun in the realms of price formation, wages and the credit system. A decisive step will be taken to overcome the unprofitability of enterprises, including with their transformation into leasing, cooperative or joint-stock enterprises.

All of this should create a firm foundation for the functioning of the economy without the utilization of extreme measures in the future.

The conversion of our sector to the new conditions of business management is being implemented, as is well known, in two stages. First, 15 main administrations and enterprises were converted to full economic accountability and self-financing starting in 1988. Naturally, organizations and enterprises comprising the principal economic potential of the sector and having a positive growth dynamic and stable indicators were chosen. Organizational and economic work was performed to invigorate the financial situation of the remaining subdivisions.

The technical and economic indicators of sector operations improved in 1988 with the conversion of the first group of organizations to the new business-management conditions: production volumes, the amount of capacity

and facilities put into operation, labor productivity, profits and profitability, among others, all went up. The number of unprofitable enterprises and organizations dropped sharply. The positive shifts in the economy of the sector were noted at its first practical-science conference for improving economic operations. The conference at the same time pointed out the negative trends that had been noted even then in some trusts—increases in income at the expense of an intensification of business-management methods, improvements in management structure, resource conservation, incorporation of the achievements of science and technology or a rise in quality, as well as through price increases.

Conversion to the new conditions of business management of the remaining portion of the organizations and enterprises was completed with a regard for the measures devised by the conference to eliminate the shortcomings that were revealed and in accordance with the comprehensive plan for the further improvement of economic operations. The entire sector has beenconverted to full economic accountability and self-financing as of 1 Jan 89. We note that this conversion was accomplished at a favorable time. The highest growth rates of production and income in 1988 made it possible to have a non-deficit sector budget for the first time, which has created good preconditions for operations.

The results of sector activity under the new conditions of business management were summed up at a second practical-science conference.

What were the principal results of the work of ministry collectives over the first four years of the 12th Five-Year Plan?

The operational start-up of about 81,000 km [kilometers] of pipeline was ensured in conjunction with USSR Minneftegazprom [Ministry of the Oil and Gas Industry] and the Gazprom [Gas Indusrty] gas concern. The program for creating capacity for the production of gas and oil was fulfilled, and underground-storage capacity was augmented. About 90 new oilfields were outfitted.

More than 31 billion rubles of construction and installation operations were performed over the four years of the 12th Five-Year Plan, i.e. the growth totaled 8.1 billion rubles compared to the corresponding period of the 11th Five-Year Plan. The volume of production construction increased by 1.8 times, housing start-ups by 1.3 times, schools by 1.7 times, hospitals by 2.1 times and clinics by 2 times. More kindergartens, vocational and technical schools, clubs and movie theaters were put into service than in the prior five-year plan.

According to preliminary data, the sector has received 4.9 billion rubles of profits over the first four years of the five-year plan; the income totaled 1.4 billion rubles for organizations operating according to the second model of economic accountability.

Profitability in construction production and industry has gone up over those years. This growth totaled about 9 and 7 percent respectively. Profitability in construction production totaled 22 percent, and in industry 24.8 percent, by the end of 1989.

Whereas one out of two trusts were unprofitable or had low profits at the beginning of the 12th Five-Year Plan, the quantity of such trusts dropped by more than 3 times over this period. The process of a drop in the number of low-profit subdivisions, however, came to a halt in 1989.

An economy of financial resources of more than a billion rubles was obtained in construction in this five-year plan through accelerating the turnaround of standard working capital. This acceleration of working capital totaled 47 days. This was connected with growth in production and reductions in the stockpiles of material commodities and assets. An acceleration of account transactions was also achieved. The number of non-payments was reduced by half compared to the beginning of the five-year plan. The ability of construction organizations to pay grew worse in 1989, however, in connection with the sharp increase in the debts of customers for work performed.

The plan target for growth in labor productivity (114 percent) in line and above-ground construction was covered over the first four years of the five-year plan. The level of fulfillment of the stipulated indicator reached 132.5 and 149 percent respectively for these types of construction, and 117.3 percent in industry. The indicator of wage growth in line construction totaled 122 percent, while it was 121 percent in above-ground construction and 116 percent in industry.

We had planned wages up until 1987. A trend toward growth in wages has been noted since 1988, as testified to by the dynamics of funds expenditures for wage payments. This has impelled the adoption of measures for the additional regulation of those expenditures, at first with the aid of standard ratios. A considerable number of associations, however, have permitted disproportions in the correlation of the growth rates of labor productivity and average wages. The delimiter has not been triggered.

The procedure in effect before was abolished with the institution of the taxation mechanism of 1 Oct 89. The new regulation mechanism was restricted to a 15-month effective period. The increase in wages was defined by quarters (an increasing total as of the start of the year) relative to the corresponding period of the prior year.

The material and technical base of the sector was reinforced considerably over the four years of the 12th Five-Year Plan. The volume of construction and installation work performed for these purposes more than doubled compared to the corresponding period of the prior five-year plan. New capacity for the output of prefabricated reinforced concrete (827,000 m^2), metallic structural elements (28,700 tons), modular-unit assemblies (21 million rubles of product), cement slabs (50,000 m^3), wall paneling (1.22 million m^2) and machine-building products (8.6 million rubles) was put into service. A program for augmenting repair capacity is being realized.

We were unable to see to it, however, that issues of development of the base were considered paramount in each association and trust. Whence the shortages of personnel and material resources at many construction sites, the disruptions of design-engineering deadlines and equipment deliveries, and the large amounts of incomplete construction above and beyond the standards.

The utilization of existing capacity and the quality of product output leave much to be desired. Productive capacity for the manufacture of container units, cabinetry, connecting pieces and other output was only 70-80 percent utilized. The utilization rate of enterprises for the output of prefabricated reinforced concrete declined. The adoption of non-intensive plans by the collectives of a number of large-panel housing-construction plants led to a worsening of capacity utilization.

The technical retooling and modernization of enterprises in the sector is aimed at improving the utilization of existing capacity. Available reserves are unfortunately not being realized here. The organization of competitive design engineering associated with the technical retooling and modernization of the enterprises was not very well thought out. Measures aimed at raising the quality of design-estimate documentation and the elimination of "waste" expenditures on its development are not being undertaken actively enough. Ecological expert analysis of each design has not become the rule.

The situation in which some enterprises are trying to improve their financial condition at the expense of raising wholesale prices for their output also cannot be deemed tolerable. Enterprises that illegally claim a price under the aegis of a contract do not even consider it necessary to coordinate it with the customer. Enterprises are also finding other ways of obtaining unearned additional profits. All of this has become possible due to the absence of proper attention toward issues of price formation on the part of the executives of the associations and their deputies for economics.

The work practices under the new conditions of business management have also shown that we have not been able to eliminate the system of redistribution of financial resources—we are financing poorly operating organizations and enterprises at the expense of income for those that operate well.

Today some 57 trusts and other state enterprises are receiving subsidies from us in the amount of 94 million rubles a year. The system of subsidies is moreover in operation at all associations. This is a serious impediment on the path of radical economic reform.

The creation of an economic mechanism for the management of scientific and technical progress is an important direction of the work under the new conditions of business management.

The volume of scientific-research and experimental-design work has increased since the conversion of the ministry's scientific-research and experimental-design organizations to full economic accountability and self-financing in January of 1989. The quantity of direct contracts between scientific organizations and ministry associations, trusts and enterprises has increased by 2-3 times. Design and technological documentation for 27 types of new machinery and technologies was developed in 1989 alone; some 18 prototypes of new equipment were manufactured at sector plants, and 24 types of new machinery completed testing and were recommended for series production. New resource-conserving technological solutions have been incorporated in line construction of late.

The proportionate share of progressive types of construction and installation work attained in the sector comprises 35 percent of the overall volume of construction and installation work. The proportionate share of progressive output in the overall production volume of commodity output has been brought up to 24 percent in the realm of industrial production.

The utilization of scientific and technical innovations in practice is still occurring more actively in line construction. No marked re-orientation has occurred in the direction of above-ground construction.

The increase in the corresponding volumes of modular-unit designs has halted despite the considerable increase in the volumes of above-ground construction. A comprehensive analysis of the reasons for this situation is essential. There is no doubt, however, that sector science has proven to be unprepared for any sharp changes in the correlation of line and above-ground construction in the ministry's program of operations.

The new methods of business management in science have still not generated palpable results and have not led to an increase in its practical return or an appreciable rise in the quality of scientific and technical output. The technical means that would introduce fundamental, revolutionizing types of production and changes in design engineering and technology have not been created. The idea of incentives for institutes for the end results of incorporation and for their concrete impact has not been brought to a culmination.

The conversion of science to economic accountability and self-financing has thus not led to any substantial rise in the receptiveness of industrial and construction production to utilize innovations and incorporate more actively systems for managing scientific and technical progress. The point is that the prevailing system of indicators in the state plan for the development of science and technology has not been organically joined to the new system of business management; it has become isolated and has no immediate effect on improving the economic results of organization activity.

Some 319 organizations and enterprises in the sector are operating on full economic accountability with the legal status of a state enterprise. Another 95 structural subdivisions are operating on leasing contracts. Some 143 of

our organizations, or 45 percent of the total number, have converted to the second model; the remaining 55 percent are operating under the terms of the first model.

The objective reasons for the cautious transition to the second model are reductions in the growth rate and changes in the structure of operations and the preferential reductions of materials-intensive types of operations with the preservation of standards for the formation of the wage fund that were established earlier.

The fixed wage fund is being converted into a non-fixed one formed according to the residual principle. Strict standards for the formation of the remaining funds for economic incentives, payments to the budget and the higher organization are preserved therein. That is perhaps the chief reason.

There are moreover no guarantees for the receipt of any income counted on in advance, depending on material sufficiency and the fulfillment of all contract terms by the customers. A serious drawback of the current system for the formation of income consists of the fact that income is not the subject of contract relations, and its planning is thus seriously complicated.

The second model does not guarantee construction organizations against the non-fulfillment of the plan for volume of operations or income. This model is more "profitable" for the organizations that are not associated with the fulfillment of volumetric physical indicators (construction and installation work and industrial output), i.e. scientific and design institutes, Interneftegazstroy and other subdivisions offering various types of services.

Practice has shown that the choice of a model is not based on the economic categories of ownership, methods of organizing business management, the regulation of market relations, the tax system or other general economic laws, but rather proceeds from the varying degrees of profitability that take shape from factors that do not depend on the activity of the collective.

Experience in the application of the two models of economic accountability based on strict standards and depending on the competitive market situation testifies that neither of these models can radically alter economic relations and turn the economy onto the path of intensive development.

The reason that we have not yet been achieving the desired results is evidently that all of the indicated measures do not affect the low-level production collectives—the teams, flow lines, shops and the like. One thing is indisputable—the main thing under all the models is the incorporation of intra-business, lower-level team economic accountability in the primary labor collectives.

Diverse forms of intra-production economic accountability are employed in the organizations of the sector. Some 66 trusts and 2 industrial enterprises are operating according to the standards methods of planning and accounting for expenditures, including 48 trusts that are using a standards-check system; 114 construction administrations are incorporating intra-production economic accountability.

The collectives that have converted to intra-production economic accountability are raising the efficiency of their operations significantly. Their receipts, gross income and labor productivity all grow with the same or fewer personnel.

Intra-production economic accountability in the sector, however, is being incorporated too slowly. This work is being performed in an unsatisfactory manner in a number of enterprises and organizations of the Turkmenneftegazstroy [Turkmen Oil and Gas Construction], Obtruboprovodstroy [Ob Pipeline Construction] and Neftegazpromstroy [Oil and Gas Field Construction] SSOs. One cannot be reconciled to this situation.

One of the principal directions for raising the efficiency of the mechanism of business management is the widespread incorporation of leasing and lease relations both at lower levels of management and at the level of the state enterprise.

Certain experience has been accumulated in the development of lease relations in oil and gas construction. There are no few examples of the successful operation of lease collectives. The base subdivisions of the UMR [Administration for the Mechanization of Operations] trust of Tsentrgazpromstroy [Central Gas Field Construction] and the SMNU trust of Tsentrneftegazelektromontazh [Central Oil and Gas Electrical Installation] are operating in stable fashion under the terms of a lease contract, fulfilling all of the plan indicators, while the income at the UMR more than doubled for the first nine months of 1989 compared to the corresponding period in 1988. The fact that the organizational and production structure has been straightened out at them, excess echelons have been eliminated, the personnel composition and fixed capital have been optimized, labor organization has been improved and the standards methods for planning and accounting for expenditures has been further developed are all material factors in the improving work of these collectives.

It is essential first and foremost to actuate the system of lease relations in the lower-level production collectives, not substituting lease relations at the level of larger organizational structures for lower-level leasing.

The executives of organizations and enterprises should maintain the support of the labor collectives and create the economic conditions for lease contracts for them.

The cooperative movement has been further developed in the sector. Some 363 cooperatives have been created, including 16 planning-and-surveying, 99 construction, 17 industrial and 111 for the production of consumer

goods. Negative trends have appeared along with positive ones in the organization and activity of the cooperatives. It is essential that the executives of subdivisions and labor collectives define clearly what cooperatives are needed and which do not have the right to exist.

The restructuring of organizational structures is an inalienable part of radical economic reform and an indispensable condition for its realization. The specialized construction subdivisions and trusts, however, functioning under conditions of democratization and self-management, are not engaged actively enough with improving their own structures. Events are developing so rapidly that the general management scheme that was developed in May of 1988 is already obsolete.

The established distribution of functions between the ministry apparatus and the enterprises or associations arouses no objections in principle among the workers of various levels of management. The enterprises and associations, however, are not making the fullest use of their rights and independence in planning their production program, the distribution of income, the organization of mutual relations with the customers and the supply of resources. A large amount of operational-production activity, which diverts the workers away from the solution of general sector and long-term development tasks, arises in the ministry apparatus as a result.

The organizational and structural complex that has been formed in the sector can totally reveal its economic potential only with the broad development of new nontraditional forms and structures of management along with a radical turnaround in the economic and legal methods of business management, which are being projected in the process of radical economic reform.

These are first and foremost organizational structures that are based on new forms of collective ownership and the implementation of joint activity with the organizations of other sectors and foreign countries. Various associations, consortia, joint-stock companies, trading houses, joint and mixed enterprises and multi-sector scientific-production complexes or corporations, among others, could be relegated here as well. The responsibility of enterprises and organizations must be increased, their business activity emancipated and the mechanisms of personal and collective vested interest included in order to provide an incentive for the development of these new structures. Productive relations, in other words, must be raised to a new level.

The structure of the sector, while retaining the organizational foundation that was created, is thereby filled with a different economic substance and takes on a new quality with the inclusion of various forms of ownership.

The structural transformations require a concentration of attention on tasks of a fundamental nature.

The central link in the reforms, which must be taken up immediately, is practical work on the development of diverse forms of ownership. Our task is to study this central link and its constituent parts carefully, and pass it along to the specialists and labor collectives of the sector.

A system of measures to transform the nature of the utilization of state ownership and methods of business management must be developed.

Leasing should be considered the most suitable form for realizing full economic accountability under the conditions of state ownership.

It seems that the issue of vertical and horizontal lease relations, encompassing the whole sector, merits the most broad and profound study and discussion in the labor collectives.

A rise in production efficiency on the basis of a real reinforcement of economic accountability is a decisive factor in financial revival. The most important steps in this direction are the institution of a unified system of taxes and credit reform.

The replacement of individual standards for deductions from profits with taxes computed for all enterprises and organizations according to uniform principles signifies that now the deductions will not be adjusted to the capabilities of enterprises of any formations, but that the enterprises will be forced to pull themselves toward the overall requirements for efficiency. This means that the tax has not only a fiscal function, but is also a system for effecting a strengthening of a regimen of economy, an expansion of production and a rise in its efficiency. The tax system affects all aspects of the activity of the labor collective. One should therefore not await the institution of a system of taxes; the collectives must be prepared for a most important factor of restructuring now.

The transformation of the operative credit system into a two-tiered one—wherein the vital one for us will be the lower tier of commercial banks, transaction centers and associations operating on the principles of full economic accountability—could prove to be unexpected for us. This is a difficult problem, and we should thus prepare for its solution in comprehensive fashion.

The extant situation in the social sphere is now typified by the rapid polarization of income, the appearance of a schism, which is leading to acute socio-psychological tensions. Radical changes in wage payments and labor relations must be implemented more actively, while non-labor income must be eliminated entirely, taking into account the prospects for the development of market relations.

The principal direction for the reform of wage payments is raising their flexibility and ability to adapt to changing conditions. The state rate scales will be radically altered, and the tax system will become a strict regulator of the funds for wages as part of income.

We must, on the one hand, take active part in working these measures through and, on the other, broadly explain this new system of wage payments to the labor collectives.

The implementation of measures for the emergence of the capital-goods market, which should become the chief factor in the material balance of the national economy in the near future, will be continued in 1990. One of the first steps on this path is the gradual expansion of wholesale trade.

The enterprises, bypassing centralized planning and distribution, will be able to sell quite large volumes of material resources independently. This will create the preconditions for the subsequent development of the capital-goods market and an opportunity for every enterprise to sell a greater and greater portion of its product output without quotas.

An ultimately balanced nature of production and sufficiency of resources for each specific enterprise will thus take shape only on the basis of contract and, to an even greater extent, market relations under the new conditions of business management, wherein part of the flow of materials will begin to be organized by the market rather than by centralized distribution bodies.

Extreme measures must be taken to raise the level of contract work.

New paths must be sought and existing opportunities utilized to conclude contracts, including on a long-term basis, with manufacturers for the delivery of the products they produce, first and foremost construction materials. We could, for example, take part in the technical retooling of these enterprises and their modernization, as well as the construction of new capacity and social and cultural facilities. Funds must be invested in financing these operations. The efforts of enterprises and associations could be concentrated where necessary for the resolution and realization of major agreements. The enterprises and associations of the machine-building and repair subsectors could make a contribution to this work.

The conversion to settlement for finished construction output as of 1 Jan 90 is an important element associated with the change in economic relations. This problem affects planning, contract relations with customers, finances, credit, economic incentives according to work results—i.e. the end results.

The turnkey method of construction should be disseminated more widely proceeding from the changes in economic relations and taking into account the tight deadlines for the work.

The realization of the program of turnkey construction of all types of residential housing, pre-school institutions and schools must be accelerated. The experience acquired in building the Gryazovets—Leningrad and Virishi—Tallinn gas pipelines and field and interfield pipelines in West Siberia testifies to the fact that the turnkey method can and should become the principal form for organizing the management of the investment process over the long run in the construction of most construction-industry facilities and enterprises in the petroleum and gas industries regardless of their cost, purpose and technical features, despite certain difficulties of an economic, organizational, legal and psychological nature. The new procedure for bonuses for the start-up of capacity and facilities constructed under the turnkey method within the deadline is a great material incentive for the development of that method.

One of the chief tasks of 1990 is the successful culmination of the planning targets for the 12th Five-Year Plan.

The collectives of Minneftegazstroy started 1990 in a quite difficult situation. The volume of construction and installation work in the ministry dropped to 5.8 billion rubles as the result of a 40-percent reduction in state centralized capital investments in the productive sphere of the sectors of fuel power engineering compared to 1989. This is 1.6 billion rubles less than last year. Major pipeline construction sites are being mothballed. The construction volume of large-diameter pipelines, especially in West Siberia, has been decreased considerably. The volume of line construction comprises some 15.8 percent of the overall amount of sector operations (33.9 percent in the 1989 plan). The principal volume of operations (84.2 percent) thus falls to above-ground construction.

Profits are decreasing significantly in 1990 compared to 1989 due to reductions in the work volume, by 38 percent overall (allowing for the rise in deductions for social security and price increases for diesel fuel and transport rates). Profits remaining at the disposal of the sector after the payment of fees to the budget and interest on credit are also dropping. The overall shortfall of financial resources totals 410 million rubles. In-house resources will have to be sought out to make up for them through utilizing the leftovers of the economic-incentives funds, the receipt of profits over and above the plan and the performance of other measures to revive the financial situation. The possibilities for issuing subsidies to organizations with poor profitability from the centralized production-development fund are thus dropping sharply in 1990. Steps will have to be taken in the remaining period of the five-year plan to provide for a rise in profitability and reduce the expenses of organizations with low profitability, as well as to envisage the combination and re-organization of small subdivisions with parallel operations.

Since we will have to be operating under the terms of the first and second models by 1991, our task is to understand them more deeply and have a more flexible approach to their utilization with a regard for the new forms and methods of business management that have arisen. It is important to preserve the basic economic potential. We should adapt to the changed conditions in a difficult situation.

Reductions in the amount of construction and installation work for 1990 and the sharp reduction in the construction of large-diameter pipelines has forced sector enterprises to reconfigure themselves for general construction work and the building of small-diameter

pipelines in a brief time period. A considerable amount of work on the gasification of the Non-Chernozem Zone should be performed in 1990.

The plants of the sector—which have considerably upgraded the product mix of their machinery and equipment output, starting with assimilating the output of equipment for the construction of small-diameter pipelines, road equipment and equipment for above-ground construction—also face serious tasks.

The organizations of the sector face the task of preserving and making efficient use of fixed capital, especially the existing fleet of construction machinery, as a result of the reductions in the amount of construction and installation work.

The associations must profoundly analyze their utilization of equipment. The mothballing or sale of excess fixed capital must be done in order to preserve the return on investment that was achieved in 1988. Work on economizing resources must also be strengthened.

Changes in the structure of the construction operations performed by the organizations of the sector require serious changes in the structure of the motor-vehicle fleet of the ministry as well. A considerable quantity of pipe carriers for the transport of large-diameter pipe are being freed up, but the shortage of dump trucks, including small-capacity ones, is increasing.

Growth in the construction volumes of housing and social and cultural facilities is an important direction in the activity of the sector associated with its reorientation. The utilization of the capacity of the housing-construction combines must be raised substantially for the successful fulfillment of this program. Monolithic housing construction must be developed more intensively. One of the chief tasks is the accelerated construction of large-panel housing-construction plants.

Work to realize the program for creating health establishments (the "South" program) will continue in 1990. The tentative cost of this program, which envisages the construction of 11 sanitoria, 21 pensions, 17 vacation camps, 22 preventive-treatment facilities and 37 Pioneer camps, is 335 million rubles.

The contemporary mechanism of business management requires a qualitatively new approach to the resolution of issues of improving working conditions and preventing accidents and illnesses.

Economic methods of managing labor safety must be utilized more energetically in 1990. The level of information about losses suffered by the collective must be raised. Steps must be taken to avert accidents and the causes of illness. All of this will make it possible to reduce losses to a considerable extent, achieve growth in production efficiency and solve a number of social problems.

The agricultural complex of the sector will be further developed in 1990. The contribution of ministry collectives to the realization of the Food Program will increase substantially. Large amounts of construction of agricultural facilities and enterprises for other sectors of the national economy will have to be done.

Expansion and enlargement of foreign economic ties is an important task for 1990.

Great opportunities are revealed for augmenting the amounts of various types of work with the development of those ties.

Foreign construction is the principal form of sector exports and the main component of the export potential of the sector. The construction of foreign facilities, experience in which has been accumulated over 20 years, has taken shape as a separate specialization of the sector complex providing a suitable technical level of facilities construction, while the ministry has won a reputation as a major contractor in the world pipeline-construction market.

The foreign economic activity of the sector, however, still retains its auxiliary role, being first and foremost a source for balancing plans at the expense of additional imports of technology, equipment, materials and other commodities for domestic delivery.

The contemporary state of foreign ties does not correspond to the new aims of economic and social development of the sector economy in significance for the sector or scope and level. This situation is becoming intolerable under the conditions of full economic accountability and self-financing. The task is to alter the situation in foreign ties and take the position in the foreign market that is suited to the capabilities of the sector. Prolonged persistent work and a large program of special measures is essential for this. The expansion of organizational activity, development of the new management system and provision of sector support for the foreign-economic activity of enterprises should all be continued.

The further augmentation of the output of consumer goods is a crucial direction in the activity of sector industrial enterprises. Whereas some 76 million rubles of them were manufactured in 1989, in 1990 their production volume should reach 140 million rubles.

The creation and development of capacity for the output of consumer goods is determined by the program of reconfiguration of sector enterprises. We should strive to see that each industrial enterprise in the sector supports the production of non-food products in the amount of no less than one ruble per ruble of wages. The task of a constant renewal of the product mix, improvements in quality and a rise in the share of technically complex consumer durables are no less important than a quantitative growth in the output of consumer goods.

The sphere of paid services offered to the public should be expanded. The points for applying efforts here are

most diverse—apartment repairs, the construction of houses and individual-use garages.

Sufficient volumes of work can be gained. It is a question of initiative and a creative approach to affairs.

The further successful development of the sector is possible only where its is broadly configured. The main thing is to ensure high work quality.

The role of personnel policy is rising in exceptional fashion in connection with the re-orientation of the sector and with the structural changes, which, by the way, require a cautious and considered approach.

Any model or other new form of business management cannot alter the situation in and of itself. Any economic law, even the best one, that is mastered only by the executives and not by all the workers will not support restructuring or economic reform. The whole system of training and retraining personnel in the sector should be changed. The organizational steps that are being taken, however, will not produce the desired results if a system of continuous education of the personnel is not set up directly within the collective. It is essential at the same time to seek out efficient forms of incentives for the professional growth of engineering personnel.

The problem of the redistribution of labor resources has arisen in acute fashion with the changes in investment policy in the country and the reductions in the volume of oil-and-gas construction.

A working group has been created at the ministry, and the paramount measures have been projected, to ensure the efficient utilization of labor resources to coordinate actions for effective job placement and the retraining of the workers who are freed up.

Profoundly well-thought-out concrete work with people is essential today as never before. Enhanced attention toward each worker that is released is required on the part of the administration and social organizations. The fulfillment of the social program for sector development is essential in connection with the redistribution of labor resources and the necessity of preserving the personnel potential that has been accumulated.

A critical interpretation of the work experience of the collectives of Minneftegazstroy under the conditions of full economic accountability and self-financing, the search for new organizational structures and improvements in economic relations will all aid in selecting the optimal directions for the further development of the sector.

One of the immediate main tasks is restructuring planning and plan formulation for the 13th Five-Year Plan. It would be expedient to construct the plan for the 13th Five-Year Plan as a plan for the implementation of radical economic reform. It should provide for the distribution of resources with a regard for the demands for a social orientation of the economy and major shifts in the production of consumer goods, as well as the development of the production and market infrastructure. The development and practical realization of a new planning methodology, first and foremost a long-term one, that would proceed from the market formation and, founded on market information, ensure the planned regulation of production processes and the competitive market situation are essential.

The volume of work in our sector will not decline in the 13th Five-Year Plan. New capacity in the oil and gas industry remains the main thing. The amount of non-production construction is increasing sharply. The collectives of Minneftegazstroy will take part in the construction of major petrochemical complexes in Surgut and Urengoy. Large amounts of work will have to be performed for the gasification of the rural regions of the country.

There is thus a wealth of work. It is only necessary to apply labor—honest, dogged, creative. To make use of everything of value from cumulative experience—organizational, productive, economic. To take into account mistakes that have been made as well. To adopt non-standard solutions for today. There can be no doubt that the collectives of the sector, under these conditions and possessing the necessary technical and economic potential, will make their own worthy contribution to the realization of the large-scale national-economic programs.

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ELECTRIC POWER GENERATION

Article on Alternatives to South Urals AES Countered

904E0084A Moscow SOVETSKAYA ROSSIYA in Russian 30 Mar 90 Second Edition p 3

[Article by Doctor of Physio-Mathematical Sciences N. Rabotnov and Candidate of Technical Sciences A. Samarkin: "They Could Fly to the Moon..."; for a translation of article referred to see JPRS-UEA-90-004, 5 Feb 90]

[Text] The article by Candidate of Technical Sciences V. Budyanov called "A Chain Reaction of Wastefulness" (24 Dec 89) discusses the economic aspects of nuclear power. Specifically, the construction of the South Urals AES [nuclear power plant].

The author asserts that existing capacity without the AES virtually covers electric-power requirements. According to the data of Chelyabenergo [Chelyabinsk Power], meanwhile, the shortfall of electric-power production totaled 32 percent in 1988 and was covered at the expense of neighboring regions. Every morning in Chelyabinsk Oblast begins with radio announcements of the distribution of consumers according to various regimens of electric-power utilization. They had to take up to 40 percent of industrial production off line during the cold

winters of 1983-84. The continuously growing shortfall of electric power will total over 3,000 megawatts by 1995, according to forecasts. The shortages of fuel prevent us from compensating by building coal- and gas-fired plants. The oblast does not have gas of its own, coal production is falling and we have to use lesser grades of it, with understandable consequences for the environment. Thermal-electric power plants using those fuels with truly effective and high-quality gas scrubbing will cost more than nuclear ones, and there is no experience in the country in building them.

Features on nuclear-power engineering justly sound the call for energy conservation. But here is the form it takes for V. Budyanov: "According to the forecasts of Princeton University, the per-capita consumption of electric power in the United States will drop by half by the year 2020 and be equal to the level of electric-power consumption in the USSR in 1987." We do not know exactly who came forward with this forecast at Princeton University, but one should recall the facts before repeating it. One firmly established general economic law is that increases in national income tightly track growth in the production of electric power.

Some 37 percent of the electric power generated in the United States is consumed for domestic needs, while in the USSR it is 7 percent, even less—5 percent—in Chelyabinsk Oblast. Electric power is supplied to farms in some villages only for milking, for two hours a day. Refrigerators do not work, and televisions break down constantly due to the poor electrical supply.

It has become fashionable to counter nuclear reactors with alternative sources, which possess, with all the wondrous qualities that are being declared (efficiencies of 50-70 percent, maximum simplicity and cheapness, good ecological properties), a single drawback of no little importance—they do not physically exist and are not foreseen. Why we do not have them here is understandable—the nuclear mafia never sleeps. But why not, on a commercial scale, anywhere in the world?

A good example cited by V. Budyanov is the underground gasification of coal. It is worth dwelling on in more detail. This idea was expressed as early as by Mendeleyev. Many valued it as an idea, including V.I. Lenin, who published the article "One of the Great Victories of Technology" in PRAVDA in 1913. It stated in particular that "the turnaround in industry caused by this discovery will be enormous... The huge mass of human labor now being used for the extraction and hauling of coal would be conserved."

In 1933 the USSR Narkomtyazhprom [People's Commissariat of Heavy Industry] created the special Podzemgaz [Underground Gasification] body, which set about the construction of a commercial plant in 1936. The plant fed gas to the boilers of a coke plant in 1938. Efforts continued in the 1940s as well and came to naught very gradually. The truth that everything goes smoothly only on paper was demonstrated once more. Science and technology have proven their ability to handle great difficulties in the realization of fruitful technical ideas over the last 50 years. They have more or less mastered nuclear power, flown to the moon, assimilated semiconductors and lasers. But underground gasification has remained only promising. And at least one fact can be cited on the score of its ecological and safety properties—places are known around the world where underground coal fires have been burning for millennia.

The next example of V. Budyanov is steam-gas turbines. It is an idea several decades old now, and the principles of its physics evoke no doubts. Everything relies on materials that should withstand colossally high temperatures. They can be made—they are being made. But the service lives typical of aircraft turbines are a few thousand hours, while decades are needed for power plants. The idea will be started up as soon as it becomes realistic. Nuclear power, by the way, has more of a vested interest in high-temperature power technologies than any other sector, because the temperatures of the fuel used in the cores of the fuel elements even now surpass 2,000 degrees.

V. Budyanov calls underground gasification and steam-turbine installations "realistic alternatives against which the nuclear-power scientists have been unable to muster any serious arguments."

The article makes no mention of one of the main reasons for choosing the location for the AES. It is being constructed on the site of a very large defense-related enterprise—the Mayak Chemical Combine. What is being proposed is close to ideal for a large-scale example of conversion, where no machine-building and construction and installation organizations or operational workers will have to re-orient themselves at all. The unique experience of an enormous collective, a few decades ago one of the chief bulwarks of the country's defensive capability, will be shifted into peaceful channels without losses.

Finally, the author asserts that the "ecological expert analysis of the AES is constructed using just the materials offered by the nuclear-power people themselves." We turn, however, to the conclusion of the State Ecological Expert Analysis Commission of USSR Goskompriroda [State Committee for Environmental Protection]. The staffers of USSR Goskompriroda, at the suggestion of the Chelyabinsk Oblast Ispolkom, brought into the commission experts from USSR Minzdrav [Ministry of Health], USSR Goskomgidromet [State Committee for Hydrometeorology], the Urals Division of the USSR Academy of Sciences and all interested oblast organizations. The plans for the AES are still the only ones in the country that have received a positive evaluation by the independent expert commission.

The word "realistic" has unfortunately been subjected to very strong devaluation in our discussions on power engineering, and the article by V. Budyanov is the latest evidence of that. Whatever we may say today in the heat

of the moment about nuclear power, it is a genuinely realistic variation. Let us compare it with possibilities that are realistic in the same sense of the word. Any debate will prove fruitless otherwise.

Roundtable Debates Nuclear Power Issues

'After Chernobyl'

904E0079A Moscow NASH SOVREMENNIK in Russian No 1, Jan 90 p 140

[Roundtable materials prepared by G.P. Kushnarev under the rubric "Roundtable": "After Chernobyl..."]

[Text] The Chernobyl catastrophe (on the one hand) and the weakening of departmental censorship (on the other) have done their work: the press has been inundated with a wave of features against nuclear power. The authors, as a rule, are unanimous—it is essential to halt and review the ambitious program of AES [nuclear power plant] construction. However... construction of the planned facilities is being accelerated, and the plans for the creation of the nuclear giants in the immediate proximity of human habitation are not being reviewed. The unanimity of the public features is a unanimity of ecologists, powerless before the silent solidarity of the nuclear-power engineers. The editors of this journal, in organizing the roundtable, strove to bring the defenders of the environment and the representatives of the agencies face to face. We wanted to hear the arguments of both sides and offer the public an opportunity to choose. We hope that design succeeded. Although only partly, it must be acknowledged. Not all of the representatives of agency science took the risk of offering their features for the judgment of the readers. Doctor of Medical Sciences I.K. Dibobes, a laboratory head at the Institute of Applied Geophysics of USSR Goskomgidromet [State Committee for Hydrometeorology], more zealously defending the interests of the nuclear-power people than they themselves, vetoed the publication of his own presentation at the last minute. The positions of the two sides were defined quite clearly nonetheless. It is for the readers to decide whose arguments are more convincing. But the public—under the conditions of most profound ecological crisis—has a far more crucial task today: seeing that the position of common sense actually triumphs.

Nuclear Waste, Security Issues

904E0079B Moscow NASH SOVREMENNIK in Russian No 1, Jan 90 pp 147-150

[Presentation by Boris Kurkin: "Last Call"]

[Text] Will there be nuclear power in our country or not? In order to answer that question, we must consider the most important problems of it—its physical, technical and socio-political properties.

The first is the storage and reprocessing of the radioactive wastes (RW) of nuclear power plants. The standard million-watt power unit of each AES provides mankind with 300 tons of spent fuel over five years containing 12 tons of highly radioactive wastes. But alas, no one in the world yet knows where and how to store—for millions of years!—the hundreds and thousands of new "Chernobyls." Very exotic plans for the removal of RW are being developed, especially firing them into the sun, since their safe storage on Earth is simply impossible over the course of millions of years. It only remains to guess what stupendous sums the delivery of wastes to the sun will cost us. But what will we do if the rocket with the RW container suffers an accident?

The seriousness of the situation in nuclear-power engineering is aggravated by the fact that our country is being transformed, bit by bit, into the RW storage area for the CEMA member countries, Finland and, possibly, other Western countries as well. We are moreover building an AES in Cuba and will be building one in India, and we will accordingly be receiving RW from those AESs as well. We, by the way, are the sole country that accepts RW from abroad. We are also, aside from that, exporting electric power generated at our AESs to the CEMA member countries, Austria and Finland, leaving the wastes for ourselves.

The export of our nuclear-electric power to China and North Korea is being planned (NOVYY MIR, 1989, No 4, p 199). We are also designing, in conjunction with West Germany, a high-temperature reactor (HTR), very unreliable in the judgment of Soviet and foreign specialists. This dangerous reactor is being proposed for construction in Dimitrovgrad in Ulyanovsk Oblast. There is, however, as yet no technology for reprocessing its wastes, and it is not known when one will be created.

It is not known, for example, how the geological formations in which RW are proposed for burial will behave. These formations should meet high requirements for seismicity, water permeability etc. Soviet specialists have indicated at least a dozen conditions that the ground should meet. And those conditions, lamentable as it may be, are just the main ones!

The conclusions of a commission of the USSR Academy of Sciences that did its work in January of 1989 and included in particular academicians B.N. Laskorin, V.I. Subbotin, A.S. Nikiforov and professor G.N. Yakovlev—leading specialists in this realm—testified to the unsolved nature of the problems of safe storage and burial of RW. And disputing the topic of the unsolved nature of the problems of RW—as is being done by, for example, K.V. Sukhoruchkin or B.A. Semenov—is, in general, equivalent to disputing the multiplication tables.

True, senior officials of the nuclear-power agencies, and especially the former deputy chairman of the State Committee on Nuclear Power (GKAE), B. Semenov, and the director of the Atomic Power Institute (IAE) imeni I.V. Kurchatov, USSR Academy of Sciences Vice President Ye. Velikhov, are trying to convince the public of the advantages of these "negotiations." If we are to

believe comrade Velikhov, the spent fuel (strictly speaking, RW) is a most valuable product devoid of any harmful impurities whatsoever, while according to Semenov, we could raise our welfare greatly by accepting spent fuel (essentially the same RW) from foreign AESs. The only thing that is unclear is what this crude disinformation is counting on—the complete illiteracy of our people or their complete obliviousness?

We are clearly now dealing with "wastes" of a moral nature in this instance. And anyway, let comrades Semenov and Velikhov tell us in more detail about the terrible catastrophe at the RW storage area near Chelyabinsk in 1957, which has been called the "Hiroshima of the Urals," and about how we are continuing to destroy our artesian wells by pumping highly active RW into them.

On the "profit" of the perpetual storage of death on our land, by the way, B. Semenov promises us the receipt of about a billion dollars over 30 years (per million-watt power unit). I would like to ask him where the 176 billion dollars we received for the sale of oil over the last ten years alone has gone (from 1974 through 1984). Won't it happen that we sell off the whole country and are left in a radioactive dump?

The problem of dismantling the AESs themselves—as well as the enterprises that produce and reprocess nuclear fuel—is no less difficult, since they also turn into "nuclear wastes" after a certain period of service. It should be emphasized that the nuclear-power plants have been operating for many years now, and the first and second units of the Beloyarsk and Armenian AESs have been halted along with the first units of the Novovoronezh and Rovno AESs, while the concepts of AES dismantling are still in the development stage! The first power unit of the Leningrad AES has also been halted to reprocess the "swollen" graphite pile. The fate of these facilities is exceedingly uncertain: the Chernobyl agencies are not letting go any money to dismantle them.

The "cheapness" of nuclear-electric power is also a skillfully concealed myth by which the gigantic expenses for the dismantling of nuclear power plants and the burial and perpetual storage of RW, not to mention the fabulous sums allocated for the construction of new AESs, are hidden from public view. The cost of the so-called post-reactor fuel cycle, including the removal of spent fuel from the reactor and the transport, chemical treatment and storage of it, has increased tens of times over in the last 15 years. But we accept the wastes from the AESs of the CEMA member countries and Finland for free. And how much will the high-temperature reactor procured in West Germany cost?

We will also not forget that a risk of catastrophe is always present in the transporting of spent fuel and RW, especially if one takes into account that it will be delivered to the storage places by railroad over thousands of kilometers.

The second unsolved problem is the "absolute" safety of AES operation, as well as that of the enterprises producing and reprocessing nuclear fuel. Absolute safety naturally does not exist for nuclear-power facilities, and the sword of Damocles of a new Chernobyl thus hangs over us daily.

The risk of a new nuclear catastrophe is extremely high—the workers of the nuclear agencies acknowledge this themselves (see NOVYY MIR, 1988, No 9, p 173). They see the reason for this in the extremely poor quality of the construction and operation of Soviet AESs. One cannot fail to agree with that. As testified to by the press, we are clearly lacking in qualified operators, and the training of specialists in the realm of nuclear-power engineering grows worse year by year. There are none of the appropriate simulators, and labor discipline is low. The operators of AESs are shutting off reactor protective systems left and right (so as not to shut down the reactor and disrupt the plan targets). And all of this is **after** Chernobyl!

Moreover, accidents at our nuclear-power facilities are still concealed even from the AES workers themselves, not just the public. Under those circumstances, one would ask how the errors of operational personnel can be analyzed so as to prevent them in the future (see KOMMUNIST, 1989, No 4, p 94). Many specialists feel in this regard that we simply cannot permit ourselves the luxury of this totally explosive sector at the current exceedingly low level of technology and labor organization and discipline.

It would not be superfluous to recall that **according to the estimates of American specialists, the direct and indirect costs of the accident at the Three Mile Island plant totaled 130 billion dollars!** And that accident, after all, is in no way comparable to the one at Chernobyl.

It would not be superfluous to recall that the signature of AES VNII [All-Union Scientific-Research Institute] Director A. Abagyan, along with that of Yu. Izrael, are on the conclusion of the experts from the Governmental Commission on the Causes of the Accident at the Chernobyl AES, in which it is stated that the total emissions of fission by-products (FB) were 3.5 percent of the total amount of radionuclides in the reactor at the time of the accident. (Proceeding from those data, a calculation was also made from which it followed that the reactor discharged about 63 kg [kilograms] of FB.)

As becomes apparent from the "Chernobyl Notebook" of G.U. Medvedev (NOVYY MIR, 1989, No 6), however, about 50 tons (!) of nuclear fuel were discharged into the atmosphere and evaporated.

The experts of the governmental commission, which included, aside from A. Abagyan, Academician L. Ilin, professor A. Guskova, I. Kuzmin, A. Khrulev, professor Yu. Sivintsev, Candidate of Technical Sciences V. Sukhoruchkin, the current chairman of the GKAE, A. Protsenko, and many others, understated the data on the catastrophe by an unimaginable number of times! In

other words, they lied to the country in a most obscene manner, essentially repeating that nothing terrible had happened. The country, as they say, should know its "heroes"!

The principles for locating AESs are also most unsatisfactory. They are located close to major cities and at the sources of rivers. The whole Volga, and all of Russia along with it, are thus "mined" with delayed-action nuclear charges. AESs are being constructed on standard chernozem, clay and karst soils, which is exceedingly intolerable.

The construction of exceptionally expensive nuclear heating-supply plants (AST) in Arkhangelsk, Gorkiy and Voronezh is eliciting particular alarm. These plants have been placed in the immediate proximity of large cities. The whole enormous industrial center of Gorkiy, with a population of one and a half million people, will fall into the nuclear-disaster zone in the event of a catastrophe at the Gorkiy AST, which would in fact deal a shattering blow to the country's industry overall. An accident in Voronezh would deprive us, aside from vitally important industrial enterprises, of even more excellent chernozem in the era of the Food Program. Curiously, none of the senior officials of the Chernobyl agencies has been able to explain himself satisfactorily on the score of alternative variations for heating Arkhangelsk, Voronezh and Nizhnyy Novgorod.

Now the consequences of Chernobyl.

The inhabitants of Mogilev, Gomel, Zhitomir, Bryansk and a number of other oblasts are in a disastrous situation. There is nothing to treat the people stricken with radiation sickness: the appropriate medicines are lacking. It became clear *three years after Chernobyl* that **it is now simply impossible to live in many areas**. This was discussed at the USSR Congress of People's Deputies as well. But according to official data, there are no funds to move people out. Reports have appeared in the press that "most of those who have been working in the stricken zone for three years have not undergone clinical medical examination," while "the link between the 'clumps' of illnesses and ionizing radiation, or at least with participation in operations to eliminate the consequences of the accident, has not been ascertained" for many who sustained doses of radiation (IZVESTIYA of 2 Apr 89). An enormous number of stricken people has not received medical care. They have been cast to the whims of fate. Perhaps human life is not really the topic of first necessity (KOMSOMOLSKAYA PRAVDA of 11 May 89)?

It should be noted that this blasphemous—if not criminal—attitude toward people is no accident. It is the result of **a letter of instruction** from the 3rd Main Administration of USSR Minenergo [Ministry of Power and Electrification] **signed by comrade Shulzhenko. The letter discusses the necessity of keeping information on the Chernobyl accident and the results of treating those stricken, as well as the extent of radiation injury of personnel involved in eliminating the consequences of the accident, secret.** (This letter was discussed on the *Vzglyad* program on 7 Apr 89.) Which cannot help but evoke in people a feeling of rightful indignation.

All of this provides grounds to assume that **nuclear-power engineering in its current form has no right to exist in our country.**

Our society should clarify its actual energy needs in this regard and determine how much energy we really need. We unfortunately do not know and, taking the prevailing organization of our socio-economic life into account, no one can find out in principle.

Can we really know clearly what the energy appetites of the sadly famous Minvodkhoz-Minvodstroy [Ministry of Land Reclamation and Water Resources], Mintyazhmash [Ministry of Heavy, Power and Transport Machine Building] or the very same Minatomenergoprom [Ministry of the Nuclear Power Industry] are? We should finally understand that **we need not an Energy Program, but a program to raise the welfare of the people.**

We are, as before, squandering more energy per unit of production output than everyone and remain a poor country anyway. And the reserves for power conservation are enormous. They include the incorporation of gas and steam-gas turbine installations with high efficiencies (50 percent and up), wind and solar power installations and cheap modular GESs [hydroelectric power plants] without dams, as well as TESs [thermal electric-power plants] using fundamentally new technologies for fuel combustion. TESs using coal that are ecologically clean in both the cleanliness and composition of the emissions are already in operation in West Germany and Japan ("The Rush to Progress"—SOTSIALISTICHESKAYA INDUSTRIYA of 19 Feb 89). Such TESs have also been developed here, but it is unprofitable for the agencies to incorporate new equipment. The Americans procured a license from us for a technology of underground coal gasification as early as 1975 that we ourselves did not want to incorporate at all.

It should be recalled that our AESs are currently able to provide just about 12 percent of all the electric power produced in the country. Nuclear power, or more accurately the expenditures associated with its implementation, could be categorized, in the witty remark of professor Yu.I. Koryakin, as the economic punishment for a country unable to organize a resource-conserving technological policy, as a measure of compulsory nuclear "make them happy" for our people, due to our foolish socio-economic organization that engenders the colossal squandering of energy. It is no accident that a number of representatives of the nuclear agencies are coming forward with the idea of freezing AES construction for 15-20 years—until a new generation of safe reactors is created and the problem of storing RW is solved.

If society decides that it needs nuclear power, a well-defined system of legal regulation for the construction and operation of nuclear facilities will then also be

required. **Departmental "legislation" in this realm has led to tragedy. This false legislation must be stopped.** The necessity of the most rapid possible adoption of a well-defined and clear Nuclear Energy Law, which would be developed under conditions of skilled parliamentary and nationwide discussion under glasnost, has become acute.

Nuclear Plants Beneficial

904E0079C Moscow NASH SOVREMENNIK in Russian No 1, Jan 90 pp 154-156

[Presentation by Doctor of Technical Sciences and Professor A.A. Abagyan, general director of the Energiya Association of USSR Minatomenergo, director of the All-Union Scientific-Research Institute for AES Operation, member of the central board of the USSR Nuclear Society and member of the council of managers of the World Association of AES Operators: "Chernobyl Is Not Grounds to Veto Nuclear Power Plants"]

[Text] Comrades! I was among the specialists who arrived by airplane immediately after the accident at Chernobyl. Immediately! They took us there at night to eliminate the consequences of the accident. I thus have a picture of what it is. I was also among the specialists that were delegated to Vienna—to the IAEA—to explain to the world community and all specialists, as well as the press, just **what** happened there. And we answered the specialists for five hours and the press for two on just **what** happened there. What happened there was really terrible, was really a completely unique thing. I could tell you if you want, if there is a need for it. But I do not need to tell you now that this was a misfortune for nuclear power, a misfortune for this type of reactor. The steps that have now been taken rule out accidents of that type. For your information, by the way, reactors of the Chernobyl type are not being built or used abroad. They are used only for other—military—purposes. The whole world is basically developing using a different type of reactor, which we also have.

What troubles me? I have been listening attentively to the presentations today. I understand everything that is troubling you, you are asking the question of a strategy for survival. We are all people! I also have four grandchildren, by the way. I also love them very much, the same as you. And I think a lot about the future too, by the way. And the anti-nuclear heat than has arisen surrounding Chernobyl seems very dangerous to me. That is the natural reaction of people who have lived through Chernobyl. All of that is so, but a ban on nuclear power will lead to grave economic consequences. I should say to you that under the weight of public opinion—and principally that—the nuclear program has today been curtailed. A healthy, quite healthy, AES in Armenia has been closed. It withstood an earthquake of 6—we went there immediately after the earthquake, and there wasn't a scratch on it. Elements of it would have been destroyed had it been an earthquake of 10. True, I should tell you that there would have been nothing catastrophic at all, since the Armenian AES has a different type of reactor. There would have been no Chernobyl there. I have many relatives living there, I love and respect them very much. When they ask me, I tell them that it need not have been closed! Since it is an ecologically clean source of energy regardless of social cataclysms. But I understand those people: they ask. Once they *ask*, let's do it. That was my answer. I cannot call myself an ecologist, but I can probably call myself a human being. It seems to me that the ecological consequences of persecuting nuclear power will be sorrowful. The majority are probably truly doing this. I would like to believe it. I call for this—we must do a comprehensive and considered assessment of everything. There are, after all, **ecological** and **social** problems here—we are all people: can our people agree? I agree with you: let's preach the philosophy of limitation—you would perhaps agree, and I would perhaps agree. I say *perhaps*. Will our system agree overall? **Question number one is thus: do we need additional power, is it needed or not?** Everything you are saying is correct, it is true. Yes, the non-traditional sources—sun, wind and the like—must be utilized. But a solar plant with the capacity of single nuclear-power unit—a gigawatt—is ninety square kilometers, ten kilometers by ten [as published] of mirrors. I have been reading features that these wind-power plants generate low frequencies that have a negative effect on all life. I address writers to approach in very considered fashion what we are doing. That way is impossible! Yes, Chernobyl happened—you will answer me and tell me correctly—but I myself know the reasons for Chernobyl. I want to say to you—let's determine it! Do we need additional power? That is first.

Second. How can it be augmented, proceeding from reality? It is all well and good for us to talk about the past and criticize that past. We can all talk about the distant future and how bad what we are doing today is. But there is a transitional period between the shining future and the hard, awful past. But what to do *now*? Countries that are developing nuclear power strongly, especially France, are ecologically the most favorable. They are keeping thermal electric-power plants closed—healthy, solid plants that are able to work, they are not operating them, because nuclear power is ecologically cleaner. I understand that I have to get back to Chernobyl again. You will get me back to it! **Our task is thus first and foremost to ensure the safety of power engineering in operation** and thereby facilitate the solution of the ecological problem of how we get out of this situation. That is why we are talking, that it is bad for us, and we are correctly enumerating these issues—that part is essential but not sufficient. We must then say, what will we do next? That problem, it seems to me, is a comprehensive one. How people want to live is important. A representative of the people of the north, the writer comrade Sangi, was talking earlier. He was saying very correct things. But now, where are we heading, since there is no way out, additional power is essential, the additional production of oil and gas is required, which has a negative effect on the ecology of the north.

I thus ask you question number one: tell me, does society need additional power or not?

Voices: "That's a debatable issue!" "Very debatable!" "It's needed!" "It is clearly not needed!" "It's needed, but not from nuclear power."

A.A. Abagyan: "Very debatable. But that is the basic question.

"But we must conduct all ecological and economic research, not relying just on emotions, but rather make calculations."

O.V. Volkov, writer: "Today they have said that our salvation lies only in coal and the atom. Coal is being depleted, but the atom..."

A.A. Abagyan: "Well, that really is so, according to our calculations—coal and nuclear power plants. If we ban nuclear plants now, we will be committing terrible violations of the environment."

N.A. Lebedeva, doctor of geological and mineralogical sciences: "Please explain how in our student years we studied Armenia as our leading republic in the use of small rivers—there were waterfalls and small rivers there on which there were dozens of small GESs in operation. Why were they curtailed?"

A.A. Abagyan: "That is a big mistake! And that must be taken into account." (General agitation, noise, laughter.) "But calculations are needed—for which I am calling!"

V.N. Morozov, doctor of medical sciences: "So who has been stopping you—the director of the institute—from doing them? For decades! And why didn't you think of this before, why have you only now started talking about this, and to whom are you appealing?"

A.A. Abagyan: "I am appealing to the press, which is fanning the anti-nuclear sentiments. It is thereby making it impossible to develop all of our technology in an objective and ecologically sensible manner. That's what I'm talking about."

A.G. Trusov, candidate of physio-mathematical sciences: "Excuse me, please, but isn't that just the easiest way out—continue working along the lines of gigantism instead of troubling yourself with the resolution of difficult issues?"

A.A. Abagyan: "You see what I was just warning about? I am cautioning against extreme statements—ban nuclear power, develop only wind plants, develop only solar or small ones. All of this—I'm not saying 'only'—this must be looked at as a whole. And we have to start by asking people what the writers are calling on people for—how do you want to live? *How* do you want to live?"

M.V. Cherkasova, ecologist: "We want to live *on*. We are for safety."

A.I. Krylov, ecologist and candidate of philosophical sciences: "Perhaps you have read the book by Barbara Ward and Dubeau in which it is stated that there is a limit to the construction of nuclear power plants, since even without explosions and other accidents the nuclear industry is creating such background radiation that it will destroy all of mankind."

A.A. Abagyan: "No, I haven't read it."

A.I. Krylov: "Second. Do you acknowledge the effect of synergism, that is, the simultaneous effects of chemical usage and radiation on the organism? The facts reported today by Mariya Valentinovna Cherkasova are to all effects the result of synergism"[1].

A.A. Abagyan: "You know, I am not an expert on your second question. I cannot tell you here. Possibly there are correlations, possibly Dibobes knows about them."

A.S. Onegov, writer: "I have had to create techniques for calculating reliability in our defense industry. I know that there is always a probability of failure. When I get on a plane with hunting bullets, they tell me I cannot. I say, 'My dear people, they will never go off!' They answer, 'There is a probability that they will go off. We cannot allow you to pass with bullets!" Do you understand what is going on here? Is there a probability that, say, a nuclear power plant will have an explosion? I'm not asking you the question, I will quote an article by L.P. Feoktistov, a corresponding member of the USSR Academy of Sciences, from the journal PRIRODA, issue No. 1 for 1989 (Feoktistov works at the Physics Institute of the USSR Academy of Sciences): 'It is obvious that if all the control rods are suddenly removed from the reactor core—the consequence, say, of some fatal error—then the reactor will become supercritical and, consequently, explosive. **None of the existing reactors can be ascribed to be unconditionally safe in this sense.**' I do not understand this emotionally, I reason as an engineer: a probability of a failure exists, there is a probability of an explosion. And you tell me that it is very insignificant. And you offer me an atom bomb to take home."

A.A. Abagyan: "No, I am not offering you that."

A.S. Onegov: "I am prepared to be blown up: I have been exposed—I worked at Sredmash, I know everything. But *people* do not want to be blown up! I have not told them a hundredth of what I know. But they are saying they want to live without nuclear power. How can that be? You tell us."

A.A. Abagyan: "A person was speaking here saying that the increased attention toward nuclear power has distracted society from chemical matters, from other affairs, that are in fact *orders of magnitude* more dangerous than nuclear power. And just what is my basic idea? Let's look at it optimally. We don't need these extreme assertions—let's look at *what* must be done. I understand your situation. I happened to get a newspaper from Zaporozhye by chance, by the way. There is both a TETs [heat and electric power plant] and an AES in Zaporozhye. I am in favor of people knowing the situation, they must, of course, be given a maximum of

information. So that they know what is being created, what an AES is. The Zaporozhye AES is one of the largest of our plants. The newspaper published data on the radiation situation of the air basin—at the current moment and before the start-up of the AES. Their values were *background* values, that is, it has remained the way it was before the construction of the AES, the AES has added nothing. They publish this regularly there. I feel, for example, that such data must also be published in the central press, let people know. Dosimeters? I agree: let them all have dosimeters, go and take measurements."

Increased Energy Production Needed

904E0079D Moscow NASH SOVREMENNIK in Russian No 1, Jan 90 pp 158-160

[Presentation by USSR Minenergo Scientific and Technical Main Administration Chief Engineer V.V. Nechayev: "We Should Double the Production of Electric Power"]

[Text] A serious attitude of society toward power engineering should, in my opinion, be structured with a regard for a minimum of two aspects of the problem: how to reduce the negative effects of power engineering on the environment and the person in the best and optimal manner, on the one hand, and what the strategy should be for satisfying the ever-increasing power requirements of that same person, on the other. The latter are such that **we will have to double the power potential created over the whole prior 70 years of Soviet power** in order to satisfy them, allowing for the accepted scope of economy of electric power—more than one third of all of its production today over the next 13-15 years. And that is at an average annual economic growth rate of 4.5 percent a year.

The slogan of the utmost self-restriction in requirements, including for power, stated in a number of presentations as the first postulate of the law of survival would hardly be justified or popular in the face of the considerable lag of the socio-economic conditions of life in our country. A strict line must unconditionally be followed at the same time on issues of the efficient consumption of power resources and the utmost reduction of the power- and electrical-intensiveness of national income, but in no way at the expense of the social conditions of the life of the workers.

It has happened that the accent has fallen on nuclear power in discussing ecological problems today. These problems, however, are no less topical in thermal-power engineering, and they exist in hydropower engineering as well. I do not consider the non-traditional energy sources to be ecologically clean...

The primary structure of the capacity projected in the Energy Program for the future has been subject to considerable deformation over the last two years since the Chernobyl tragedy under the influence of public opinion and as a result of the halt in the construction of AESs with channel reactors (reactors of this type—RBMK-1000—had been installed at the Chernobyl AES). Total AES capacity went down: 200, 100 or less million kilowatts. The extremely difficult task of developing an alternative structure of power engineering **as quickly as possible** in which the shortfall that has arisen will be covered through thermal and hydroelectric power plants has arisen in the prevailing situation. The developers of the Energy Program have largely fulfilled this.

I would like to make a small digression in this regard and note the exceptionally important role that is played by the fuel-and-power equation in the national economy. It has been come to be associated with constant tension for the planning bodies by virtue of the shortage of reserves both in the electric-power and the fuel sectors. Like any scarcity or disruption of the balance, when there is not enough capacity or electric power, instability is caused in the economy and the national economy is thrown into chaos. That situation cannot be tolerated. This especially concerns the future. The inertia of power engineering is high, and the time periods for the start-up of capacity in it from the moment design engineering begins to the completion of electric-power plant construction embraces 10-12 years.

All of this forces us to be extremely responsible in our judgments and actions right now, since procrastinations and errors committed now could be uncorrectable tomorrow. Criticism addressed to the power-engineering officials should thus be constructive, contain a profound unease for the power-engineering future of society and proceed from the fact that power engineering is a unified whole **and will consist of the same TESs, GESs and AESs today and tomorrow** that are being criticized. It is a matter for specialists to make them as clean as possible in an ecological regard and locate them intelligently. It is a matter for society to establish the appropriate monitoring of that.

Much has been said today in the presentations of the speakers on renewable energy sources. The main idea is to get seriously engaged with the problems of non-traditional power engineering. I would like to emphasize immediately that the ministry leadership has *recently* undertaken practical steps to move from word to deed, to *set about* the development of that area in the sector. The construction of wind-powered electric plants is being planned in twenty regions of the country, including primary ones in Kazakhstan, the Crimea and the shores of the Gulf of Finland, the first stage in the assimilation of a solar-electric power plant has been completed in the Crimea and the second stage of operations in the use of direct photoelectric conversion is being worked out, while heat-pump plants are being constructed according to the plans of the VNIIPIenergoprom [All-Union Scientific-Research Institute of the Power Industry] sector institute. There are, of course, no few difficulties of an economic and technical nature. **We are far behind.**

But at the same time, I can in no way agree with the opinion that non-traditional power engineering does not deserve attention by virtue of economic inefficiency and

the inconsiderable share (less than 1 percent) in the future power equation. Economic indicators are exceedingly dynamic, and they improve together with growth in the scale of production—that is axiomatic. These indicators are at the same time increasing for non-traditional power engineering. Non-traditional power sources will prove to be competitive in relation to conventional power engineering in the next few years in the developed foreign countries. We will also have to take that path, making use of the all the best that has already been created. A system of state subsidies should be widely utilized at first.

I would also like to express this, perhaps seditious, thought. Power engineers have been striving since the times of the GOERLO [State Commission for the Electrification of Russia] plan for the maximum concentration and centralization of electricity and heat production. This has, of course, had its own positive results. We can be proud that a mighty power engineering has been created in the country, second only to the United States in the world. This has made it possible to resolve a number of ecological problems as well; more than two thousand small, inefficient and ecologically harmful boilers, for instance, have been shut down in the cities.

But we cannot fail to see that this concept has its minuses as well. It leaves no room for decentralized power engineering, which includes small GESs and the non-traditional and renewable energy sources that have already been mentioned. In prior years **the small GESs were dismantled** to a considerable extent rather than upgraded and modernized as a result of it, and the creation of equipment for solar and wind power was restrained for many years; one consequence of that is that a number of specialists have a disdainful attitude toward non-traditional power engineering even today.

The situation is currently starting to change, and a special section has been developed in the draft Energy Program and a draft for a program in non-traditional power engineering prepared. It is gratifying that some defense firms have displayed interest in this realm of power-engineering activity. This is perhaps a serious pledge of success. An elaboration of the very concepts for the further development of power engineering has also become essential.

Returning to the main problem of the roundtable—the ecology and the survival of humanity and the role and place of power engineering in it—I would like to emphasize its profoundly moral nature. The leaders of the sector at its headquarters—the ministry—have today created a moral climate in which priority is given to the solution of urgent environmental-protection problems, a climate of high exactingness toward oneself and the associates on whom the solution of those problems depends.

The strictest of restrictive economic frameworks exists here at the same time. It is being proposed that a sulfur-scrubbing installation for the power unit of an average-sized TETs will cost 35-50 million rubles. Some 150 of those installations will have to be built in the next 10-12 years, at a cost of 5-7 billion rubles. Summing up the whole spectrum of problems of safety and ecology in nuclear, thermal and hydropower engineering, we are coming to the conclusion that power will become 20-25 percent more expensive to society—that is, you and me—and will require an increase of 30-40 billion rubles in spending in the next 2-3 five-year plans. It is extremely important to manage those funds correctly. And the power engineers, it seems to me, could receive a great deal of help from the public in that matter.

Dangers Stressed

904E0079E Moscow NASH SOVREMENNIK in Russian No 1, Jan 90 pp 164-167

[Presentation by Doctor of Economic Sciences Professor M.Ya. Lemeshev, UN expert on the environment, president of the Soviet Anti-Nuclear Society and head of a laboratory at KEPS [Permanent Commission for the Study of Natural Productive Forces of the USSR] under the Presidium of the USSR Academy of Sciences: "The AES—A Fatal Challenge to Life"]

[Text] I have asserted and continue to assert that an awareness of the need to reject nuclear power at its technical level today should be considered an indispensable condition of our common survival. This awareness, however, is an exceedingly difficult process. It requires surmounting the narrow sector stereotype of thought, which has put down deep roots. It is not easy for people who do not possess the ability to analyze the socio-economic and ecological situation in a systematic fashion to overcome that stereotype. It is all the more difficult because the idea of a perpetual shortage of power in the country, that a rise in the welfare of the people depends first and foremost on increasing the production of electric power and that there is no possibility, they say, of providing for that increase without the construction of AESs, has been hammered home persistently over the course of decades.

This delusion has become so firmly lodged in the consciousness of people that even the most honest of the nuclear-power experts, such as G.U. Medvedev, who has my utmost respect for his high sense of citizenship and courage, assumes that we cannot get by without nuclear power. His proposal to shut down nuclear-power units that do not meet safety requirements, at least to the extent of their replacement with other capacity, is patently erroneous. The country's economy could manage painlessly without nuclear power (its comprises just 11 percent of the overall equation) if we refrain from the gigantic and power-intensive types of production that no one needs. And there are no few such types of production—from 60 to 80 percent of our industrial output, according to my calculations, has no real consumer value. It is produced just for the sake of fulfilling the bureaucratic sector plans that are paralyzing the economy.

The creation of a science for the location of AESs, as it is being proposed by G.U. Medvedev, will also scarcely increase our safety. First of all, the majority of them have already been located and will not be moved. Second, the creation of two mighty nuclear-power belts—the Northern and the Southern—creates only the illusion of safety, not genuine safety. The reasoning in favor of such a disposition of AESs, based on the fact that there is a **low population density** in those regions, is egotistical and immoral. The planned demise or simply the possibility of the demise of a few people, or even one person, is amoral and intolerable. Third, the remoteness of major cities and heavily developed regions from AESs **will not spare them from radioactive contamination**. The tragedy of extensive regions of Zhitomir, Gomel and Bryansk oblasts, located hundreds of kilometers from Chernobyl, testifies convincingly to this. We are not the masters of the air and water currents that are able to scatter the deadly radiation over enormous distances.

The sole condition for absolute elimination of the radiation danger that is created by contemporary AESs is thus their complete repudiation.

The idea has been instilled in people day after day over the course of decades, however, that nuclear power is a seemingly indispensable part of contemporary civilization and practically its main achievement, which, they say, will provide us with chances for survival. The nuclear-power people and other active popularizers and propagandists of AESs had convinced society before the Chernobyl tragedy that it was at the threshold of a "golden age," that the "peaceful" atom was on the point of becoming an inexhaustible source of power and that everything good would spill forth to us in a broad stream. And that was not just propaganda. The idea of the accelerated growth of nuclear-power engineering had been elevated to the rank of state policy. The "Guidelines for the Development of the National Economy of the USSR for 1976-80" that were adopted by the 25th CPSU Congress contained the directive, "Envisage the rapid development of nuclear-power engineering in the European portion of the USSR. Accelerate the construction and assimilation of fast-neutron reactors. Begin preliminary work on the utilization of nuclear power for the purpose of heating supply" (Materials of the 25th CPSU Congress, p 177).

Later—more. In 1977 Academician M.A. Styrikovich wrote that nuclear power plants would be providing up to 50 percent of electric power as early as the beginning of the 21st century ("*Nauchno-tekhnicheskaya revolyutsiya i chelovek*" [Scientific and Technical Revolution and Man]. Moscow, Nauka Publishing House, 1977, p 52). Then, with the "blessing" of the highest authorities, nuclear monsters began springing up like mushrooms—the Leningrad, Chernobyl and Smolensk AESs with million-watt RBMK reactors, that is, with exactly the same kind that brought the catastrophe, unheard of until now, of Chernobyl that rocked all of mankind. That disaster occurred in April of 1986, but it has not receded into the past. It is with us even today. It is not just with the millions of inhabitants of Kiev and Zhitomir oblasts of the Ukraine, not only with the population of Gomel and Mogilev oblasts of Belorussia, not only with my countrymen from Bryansk Oblast of Russia. This disaster concerns all Soviet people and the whole world community. The bell of Chernobyl has been heard around the world. And not just heard. It has served as the start of the sobering up of millions of people from the nuclear intoxicant, from the empty and dangerous promises of the nuclear-power types, from the illusory hopes for an inestimably easily achieved good that was to be brought to us by the "peaceful" atom.

It must be stated in all fairness that there were sober-thinking people long before Chernobyl. As early as 1922, V.I. Vernadskiy (1863-1945) wrote, "The time when man will obtain nuclear power—a source of power that will give him the opportunity to build a new life, the way he wants—in his hands is not far off. Will man be able to make use of this great force and direct it toward good, and not toward self-annihilation? Has he grown to the level of skill of using that force that science should inevitably give him? Scientists should not close their eyes to the possible consequences of their scientific work and scientific progress. They should feel themselves responsible for the consequences of their discoveries" (Vernadskiy V.I. Sketches and Speeches, Issue I, 1922). Many scientists had and have that responsibility. The world-famous physicist Academician P.L. Kapitsa pointed out—in 1976, that is, 10 years before the Chernobyl tragedy, at an annual meeting of the USSR Academy of Sciences—the possibility of major accidents in RBMK reactors, the complexity of the problems of dismantling nuclear-power plants after their not-very-prolonged lives (25-30 years) and the danger, expense and technical difficulties of burying radioactive wastes (VESTNIK AN SSSR, 1976, No 1, p 18). Alas, that wise warning was not only not heeded, it has been covered up to this day by the apologists for the development of nuclear-power engineering in our country.

It is a different matter abroad. A referendum was held in Sweden back in 1980, according to the results of which the government not only decided to not to build new AESs, but also to dismantle all existing ones. The last of those should be closed by the year 2010 (ENERGIYA, 1988, No 5, p 38).

Analogous decisions were later made on the basis of public opinion by the governments of Austria, Italy, Brazil and other countries. Not a single new order for nuclear reactors for an AES has been placed in the United States, West Germany, England, Switzerland, Canada and Belgium since 1981. The construction of AESs is underway in a number of countries, but they are facilities that had been started earlier. The foundation of just one AES has been laid abroad since Chernobyl.

This progressive world trend has unfortunately not affected us. The nuclear-power people, guided by *mercenary* departmental interests, are thrusting the policy of

launching the mass construction of AESs on the leadership of our country as before. I utter the word *mercenary* and have my doubts for a moment—perhaps these people are creating evil and taking a grave sin on their souls out of ignorance, unwittingly? Perhaps they do not know of the ruinous consequences of the accelerated construction of gigantic nuclear plants? Perhaps the energy of the nuclear-power types, worthy of better use, is engendered by their narrow specialization and super-narrow world view? After all, Bernard Shaw, paraphrasing the ancient Greeks, said that "the narrow specialist learns more and more about less and less until he knows everything about nothing and nothing about everything." Notwithstanding the profound sense of that opinion, it is hard to believe the activeness of our nuclear-power people is explained by their economic, ecological and social ignorance—their *bias* in evaluating the significance of nuclear power is too obvious. They have stopped at nothing to propagate it: covering up objective information, deceiving the public, speculating in the economic and social difficulties of the country, defaming honest scientists and specialists, garbling data and social demagoguery—everything is put into play. The unlimited possibilities of the bureaucratic-command system are utilized to adopt decisions and manipulate public opinion using the mass media.

It is entirely appropriate to assume that the nuclear magnates of foreign countries are striving to obtain profits, while the leaders of our nuclear agencies and institutions are striving to save their social positions, high posts and salaries, social privileges and wavering prestige. The ecological safety of society and nature is a task of the second order for most of them. There is no more topical task than *survival* for mankind. And not only the survival of you and me; our coming heirs will face a huge question.

The world-famous American research firm Oak Ridge National Laboratory did a mathematical forecast of accidents at AESs in 1982. According to that curious forecast, one major accident is possible around the world in 4,000 reactor-years, or once every 8 years. Recall that the accident at Three Mile Island occurred in 1979, and Chernobyl was in 1986. It looks like the specialists at Oak Ridge have figured it out...

And what if the rate of AES construction is increased? Then *the likelihood of catastrophe increases* as more and more new AESs are put into operation. According to some estimates, another 2-3 accidents of the Chernobyl type are possible before the turn of the century. By the way, commissions investigating both accidents have established that the causes for them were as alike as two drops of water—shortcomings in AES design and operator error.

Investigation of AES personnel by the Tennessee Valley Authority, the largest in the United States, in April of 1987 showed that 14 out of 26 operators and workers used narcotics (!). All of the operators at the Peach Bottom AES in Pennsylvania were found found asleep (!) in the control room while the reactor was operating at full power (NTR: PROBLEMY I RESHENIYA, 1989, No 8, p 7). Such is the situation with the infamous "maximum highest level of AES safety" in the world. But there are, after all, dozens of other reasons for the appearance of accidents, including some that are completely unforeseen and not under the control of either the AES personnel or the valiant nuclear agency. Just recall the tragic fact that a Yugoslavian aircraft carrying medical supplies to aid the stricken crashed in the immediate proximity of the Armenian AES after the earthquake in Armenia. Thank God it did not land directly on the plant! Had that disaster happened, we could have lost not twenty thousand and more of our Armenian brothers, but practically the whole population of the republic with its unique culture many centuries old.

The Chernobyl accident alone, according to official estimates, inflicted 8 billion rubles of damage on the national economy (PRAVDA of 15 Jan 88). If we also take into account the economic valuation of the lands lost due to radioactive contamination in the thirty-kilometer zone alone, the overall amount of the economic harm totals roughly 18 billion rubles. And 35 billion rubles if we allow for the expenditures to resettle people from the regions stricken by radiation. Note that this sum is twice the *annual* amount of capital investment in housing construction across the country (16.3 billion rubles) and 14 times more than the annual nationwide amount of capital investment in environmental protection (The National Economy of the USSR in 1987, pp 295, 577).

Such is the actual, not the mythical, "contribution" of nuclear power to solving the economic and ecological problems of the country. But the losses to society do not end there, after all. USSR Goskomgidromet Chairman Yu.A. Izrael, appearing in PRAVDA (20 Mar 89) with the article "Chernobyl: The Past and the Forecast for the Future," noted that the overall territory of contamination with radioactive elements, and cesium-137 in particular, totals about 21,000 square kilometers. Over 10,000 people were engaged in decontaminating it in 1989. Has the thought of what useful things these people could be doing in the country's national economy, for example, ever occurred to our nuclear-power types? I can cite one possible solution to this dilemma. A thousand construction workers built the modern city of Zelenograd for 150,000 inhabitants over 15 years. An AES with four million-watt reactors, by the way, is also built in an average of about 15 years, only fifteen thousand, rather than one thousand, construction workers are employed on that project. This is, I think, a visible illustration of the mythical economic efficiency of nuclear power.

The nuclear-power people are actively launching a program for the construction of nuclear-power heating-supply plants [ASTs] in 15 major cities today. The first of those, and the first in the world, will be the plant in Gorkiy—its construction is already coming to a close. The two power units of that AST, with a total capacity of

100 megawatts, are able to provide heat and hot water for almost 400,000 residents. But nuclear boilers have an important feature that forces us to be on guard: they should be located in the immediate proximity of the city. An exceedingly dramatic collision, as we see—it is expensive to build an AST far from the city, since the length of the heating lines increases, heat losses rise and spending goes up; but putting the AST next to the city is also expensive, since enormous expenditures are required to increase reactor safety. What is the way out? In the opinion of B.Ye. Shcherbina, the former deputy chairman of the USSR Council of Ministers and chairman of the USSR Council of Ministers on the Fuel-and-Power Complex, there is no way out—they must be built.

But the way out is in fact simple. I will show this using the example of that same Gorkiy AST—it could be retrofitted to operate using natural gas. Experts have calculated that constructing a small building off the main wing to house gas boilers is all that need be done to accomplish this. All of the water-treatment systems, the pumping station and all of the facilities already constructed could be utilized without alteration. Just one percent of the gas from the pipeline running nearby would need to be taken to support the operation of the plant. The spending associated with converting to gas would total 10-15 million rubles, while the completion of AST construction will require about 70 million rubles (SOTSIALISTICHESKAYA INDUSTRIYA of 26 Mar 89).

Rough calculations have shown that improvements in the thermal insulation of the heating lines alone could reduce losses of the heat going to warm residential and official buildings by 30-40 percent. Such an economy could could prove to be 1.5-2 times the nominal capacity of an AST for a major city.

The leaders of the nuclear agencies, preaching and implementing the accelerated growth of AESs in the USSR, often refer to world practices in the development of nuclear power. Gross distortions of the facts and disinformation are committed therein. The chairman of the USSR State Committee for the Utilization of Nuclear Power, A. Protsenko, reports in the article "Nuclear Power: After Chernobyl" in PRAVDA (6 Sep 88) that about 100 nuclear power plants are presently being built around the world. But he remains silent on the fact that 15 of them are being built in the USSR (ARGUMENTY I FAKTY, 1989, No 1, p 8). It is also not mentioned anywhere that the nuclear power plants abroad, as a rule, have 1-2 power units, while 4 units is the customary practice in the USSR.

What is the true situation of the dynamic of nuclear-power development in the world and in the USSR? According to the information I have, the construction of AESs is being curtailed around the world and expanded in the USSR. A. Protsenko writes that there are about 400 nuclear power units operating worldwide. The number of power units connected to power grids really does currently total 417 units. But the author says nothing of the dynamic of new construction, to wit: the number of reactors on which construction has started totaled, by periods, 142 in 1971-75, 104 in 1976-80, 75 in 1981-85 and 1 (!) in 1986—after Chernobyl (Muzdybayev K. "*Risk yadernoy energetiki*" [The Risk of Nuclear Power]. Leningrad, 1988, p 35). An expressive series, isn't it? **The construction of several dozen nuclear reactors is beginning in the USSR at the same time.** And this same A. Protsenko does not report the exact number of them, but he expresses regret that the rate of increase has dropped in recent years. He also says nothing about the fact that this reduction was caused by a halt in the design and construction of AESs due to the high seismicity of their sites, in Georgia, Armenia, Azerbaijan and Krasnodar Kray, and due to their proximity to major cities, in Minsk, Odessa and others. But the author is not embarrassed by this. He concludes his feature on a pseudo-optimistic note: "There is one alternative to the slowed growth of nuclear power—its accelerated development."

The "agency" participants in the roundtable are in unison with the leaders of the agencies. The lack of seriousness in their reasoning in favor of augmenting electric-power potential at any price evokes surprise first and foremost. Here is a typical utterance in this regard by USSR Minatomenergo Scientific and Technical Main Administration Chief Ye.I. Ignatenko: "We all know that there can presently be nothing without power engineering—either we return to the stone age, or we will use electricity." But excuse me, are any of the opponents really calling for the rejection of electricity? Is anyone really dreaming of heading for the stone age? It is obvious to everyone that that is impossible, in my opinion, even if someone wanted it. The discussion concerns something else: how we can construct an ecologically acceptable power engineering that does not destroy nature and the health and very life of people. That is what should be discussed, and not some contrived dilemma—will there or will there not be power engineering? And the answer here is obvious—there will be. But what kind?

The second argument of comrade Ignatenko is that the production of electric power in the USSR is supposedly insufficient. He cites, at first glance, convincing figures. Sweden generates 15,000 kWh [kilowatt-hours] per inhabitant of the country per year and the United States 10,000, while in our country it is only 6,000. But what follows from this? Why do we have to catch up to Sweden and the United States in that indicator? The amount of production of electric power, after all, is not an end in itself. It is important that the production of it completely and efficiently satisfy rational public and personal needs for it. Namely rational requirements, not any requirements. And matters are quite awful here in that regard. I will cite just two examples. In 1987, industry in the United States consumed 870 billion kilowatt-hours of electricity, while 957 billion were consumed in the USSR, i.e. 1.1 times more. Agriculture in the United States consumes 50 billion kilowatt-hours, while in the USSR it is 160 billion, that is, 3.2 times more. Does it follow from this that our industry and

agriculture are developing more efficiently than the American ones? Alas, no. The Americans produce considerably more industrial goods and foodstuffs than we, and—which is very important—of much better quality. (National Economy of the USSR in 1987, pp 51, 623, 642).

It is also impossible to agree that a high level of production of electric power automatically means, as they say, a high standard of living for the population. Such countries as Japan, France, England, Holland, Denmark and Czechoslovakia produce less electric power per capita than the USSR, but the welfare of the citizens of those states is much higher than in our country (*ibid.*, pp 629-630).

The statement of the leader of the Scientific and Technical Main Administration of USSR Minatomenergo *defining the development strategy of the sector* that "we should provide for growth in capacity—whether anyone likes it or not," thus cannot be regarded as other than an exclusively technocratic-departmental one, as proof of adherence to the truly bureaucratic cost-is-no-object principle of business operations. The senior officials of USSR Minenergo who favored a *doubling* of electric-power production in the near future unfortunately also adhere to analogous positions. And that does more than make one sit up and listen. That is socially dangerous, since the path they continue to take and call upon us to follow is not simply an erroneous, but a fatal path.

Footnote

1. A number of presentations were not part of this selection, since the speakers ranged far from the principal topic.

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Andrey Sakharov Article Calls for Underground AES Siting

904E0062A Moscow PROBLEMY MIRA I SOTSIALIZMA in Russian No 2, Feb 90 pp 22-23

[Article by Andrey Sakharov, academician, Peoples Deputy of the USSR: "We Cannot Do Without AES's, But..."; first two paragraphs are source introduction]

[Text] **In controversies about what is the best way to protect the environment and to preserve the ecological balance, the matter of power engineering, especially atomic, occupies one of the central places. Is it possible, in drawing lessons from the Chernobyl tragedy, to dispense entirely with the AES? But even if one does not lapse into the extreme, then what kind of nuclear reactors are to be relied upon?**

We publish below an article by Andrey Dmitriyevich Sakharov, which contains his answer to these questions and which he wrote for our journal, but which, unfortunately, did not reach print while he lived.

Mankind needs nuclear power, and without it solution of the global economic, social and ecological tasks that face mankind will be hampered. Despite the development of energy-saving technologies, a substantial worldwide increase in power generation is inevitable. The reserves of chemical fuel (oil, gas and even coal) are being depleted, and in this case electric-power and district-heating stations that operate on chemical fuel are extremely harmful ecologically. The use of renewable sources of energy (solar and wind, geothermal and tidal) require great capital expenditures, and, in the first two instances, require solution of the task of storing the energy, which increases the financial costs even more. Moreover, vast areas are required for obtaining solar energy.

Nuclear power can and should be safe in practice. **The fundamental solution is underground siting, deep down, of nuclear reactors,** which will provide for maximum safety during accidents that are dangerous. Even before Chernobyl, engineering designs for such stations were worked out and described in the literature. There is some—small, it is true—practical experience. The increase in capital costs (on the order of 20 percent) under these designs is completely acceptable, and the increase in construction time is relatively small (1-2 years). It has been possible to solve the problem of isolation from the ground water in an emergency. Moreover, in the long term it will be possible to build stations in areas with a favorable hydrogeological environment (for example, the Kola Peninsula for the USSR's European part), and to transmit the electric power over superconducting lines without loss. It is proposed that we can create such lines by using recently discovered phenomena of high-temperature superconductivity.

I consider that a basic solution is necessary at the international level—for example, an agreement that commits all states not to build new surface-sited reactors and to gradually close down all reactors which do not meet the demands of safety. Similarly, only in this way is it possible to obtain underground nuclear power, which is encountering opposition from two mutually exclusive standpoints—from the standpoint of those who oppose nuclear power in any form, and from the standpoint of those who consider that, even without underground siting, adequate safety can be provided. In practice, one usually has in mind the so-called water-water reactors with protective domes and casings. Of course water-water reactors (in which water is simultaneously both the heat bearer and the neutron moderator) are much safer than graphite-moderated reactors, and the protective domes and casing reduce the probability of radioactive discharge during emergencies of moderate magnitude. But still, discharges can occur in cases of major accidents. There remains also the danger of sabotage and damage in a nuclear war. Also, the current AES's are dangerous not only in regard to accidents. Nuclear fuel can be stolen and used for military or terrorist purposes.

Returning to unforeseen accidents, I note that none of the specialists considered such an accident as the one at Chernobyl possible. Nowadays sensible thought requires that we show due caution.

Now for the long-range promise of the controlled thermonuclear reaction. There are several directions for solving the problem of thermonuclear fusion. Some of those examined (with magnetic Tokamok-type thermoinsulation of the plasma, with laser squeezing, and, perhaps, with muon catalysis), evidently are workable in principle, but even in the most favorable case they are very complicated in their technical and technological aspects—incomparably more complicated than nuclear reactors based on fission. Nevertheless, work on these systems are exceptionally important. Thermonuclear fusion in the initial stage of its industrial use (approximately the first decades of the 21st Century), has been called upon, to be more precise, to solve the problem of introducing into the power-engineering turnover the main isotope of uranium, which makes up 99.3 percent of the natural mix, and thorium. This is the so-called thermonuclear breeding. It is possible—and it has been done in practice—both in special nuclear reactors that operate on fast neutrons and in heavy-water reactors. However, these methods probably are less effective in their economic and engineering aspects than thermonuclear reactors in case they are built. In the more distant future, in the second stage, one can hope for the realization of systems with a purely thermonuclear cycle (not breeders) that will use only deuterium as the fuel.

The expedience of a joint search for the key to the controlled thermonuclear reaction is evident. The solution of such a complicated problem will require great expense and scientific and engineering efforts. That is why it is especially important to do the work within the framework of international collaboration, in order to avoid parallelisms and duplication.

Debate Over Post-Chernobyl Radiation Danger Continues

904E0063A Moscow SOVETSKAYA ROSSIYA in Russian 14 Feb 90 Second Edition p 3

[Letter by V. Parkhomenko, head of the Bryansk Laboratory of LenNIIRG, [Leningrad Scientific Research Institute for Radiological Hygiene], candidate of technical sciences; and D. Popov, senior scientific associate at the laboratory, candidate of chemical sciences; response by Yu. Lodkin, correspondent: "The Turkey Method"]

[Text] Our journalists are acting strangely. In his article "Isotopes for Billeting" (5 October 89) TASS correspondent Yu. Lodkin cites the accusation N. Ogorodney, party office secretary at the Pravda Kolkhoz in Krasnogorskiy Rayon, made against physicians-hygienists. He said they made an unfounded claim that it is safe to live in settlements contaminated by radiation. It was not for Yu. Lodkin himself to explain to the party office secretary that there has been no increase in cancers and cardiovascular disorders in the rayon and that it was not because of radiation that "inhabitants of the countryside were having thyroid operations" and that "two had become invalids." Incidentally, the article also cites an official announcement by V. Redkin, head of the Department of Radiation Medicine at USSR Minzdrav [Ministry of Health]: "It has not been established that illnesses are linked to the effect of ionizing radiation or that there is a correlation between dosages and the characteristic progression of chronic illnesses." However, Yu. Lodkin does not advocate the position of the specialist, but that of the party office secretary, who incorrectly interprets the facts.

During 1986-1987 there was an unprecedentedly careful and complete medical survey of the population of our rayon. Clearly, if the medical examination covered 100 and not 10 percent of the people, then it would reveal 100 and not 10 ill people. But is it due only to radiation? It never occurred to the correspondent that in spreading alarming information he is counteracting what needs to be done to prevent illnesses caused by fear and vitamin deficiency. Because of such articles people are afraid to eat vegetables and fruit from their private plots, which have contamination levels below permissible norms. They forget that they are hurting their diets.

Also, the correspondent trusts some nonprofessional measurements of contamination levels. From where does he get "160 curies per square kilometer" if there is not a plot of such size either in Bukovets or in the other Bryansk villages? Has soil soaked by rain running off roofs been brought in for analysis? One should first investigate before expressing disbelief in specialists!

And how can one regard the assertion that in Krasnogorskiy Rayon in 1986 out of every 1,000 children 580 (who had received maximum dosages of up to 10 rem a year) were ill, while last year the figure was 976 (who had received maximum dosages of 2.5 rem annually)? It is more probably due to the "notorious radiation phobia." Incidentally, the Leningrad Institute for Radiation Hygiene proved its existence by taking polls. No examples "from his practice" give physician V. Selezenev, who was mentioned in the article, the right to assert that radiation is the reason for all the problems.

Worldwide experience in studying the health of people who have been and are subjected to radiation in the background range (0.2-10 rads annually, 14-700 rads in a lifetime) has not revealed any abnormalities in their health or any genetic changes.

Unfortunately, readers are not acquainted with statements by the world's greatest radiologists. Here, for example, are the words of Professor D. Beninson (Argentina) "According to radiation safety norms in our country, the evacuation of people will begin if the radioactive background reaches 10 rems in 24 hours. It

will be possible to return to the area left if the background declines to 5 rem annually.. We think that 100 rem over 20 years is safe."

A Japanese scientist said at a press conference in Gomel: "The health of people who received 100 rem (in a microsecond) from the explosions over Hiroshima and Nagasaki did not differ from that of people who received no radiation."

Why then, knowing all this, did Yu. Lodkin believe the party organization man and kolkhoz chairman?

The Chernobyl misfortune ended in 1986 in Chernobyl. The psychological situation that has now been created in the contaminated regions requires attention and concern about the population. However, no concern will be useful if there continues to be disinformation about the health effects of radiation.

* * *

The Authors' Arguments

Logically, the questions should be answered in the same sequence as they were raised by the authors of the letter. However, I cannot help but violate this requirement. My thoughts return again and again to the sentence "The Chernobyl misfortune ended in 1986 in Chernobyl." I reread it and cannot understand how one could write a phrase that is intentionally misleading and, if you will, criminal in regard to people who have become targets for "isotope bullets."

The answer to my article came into my hands at the same time as papers containing a report from a meeting of the Politburo of the CPSU Central Committee that discussed problems in eliminating the consequences of the Chernobyl accident. In sharp contrast to the inhuman assertion about the end of the Chernobyl misfortunes is the statement that M. S. Gorbachev made at that meeting: It will take more than one year for us to solve the Chernobyl problem. It is impermissible here to be indifferent about people's fate; their concerns, emotions and return to a normal life should be at the center of attention of central and local organs.

I would like to think that the phrase "about the end of the Chernobyl misfortunes" was written accidentally. Alas, there is more likely a reason for it. It expresses the fundamental views of LenNIIRG and associates at its Bryansk laboratory for problems in the liquidation of the consequences of the Chernobyl catastrophe. These follow from the "the safe living concept" advocated by the Leningrad radiologists and hygienists. This concept assumes that only that which is economically beneficial is advisable and rational with regard to health protection.

Adherents of this concept are able to find arguments "working" for their theoretical views. The letter clearly shows that facts not fitting into the concept's "Procrustean bed" are discarded and hidden under the "necessary format." How, for example, can one get around the statement A. Potapov, RSFSR minister of health, made this year in Bryansk?

"Irradiation of the thyroid gland," the minister stated, "can lead to more frequent tumor growth. Scientists predict that, in addition to the spontaneous level of thyroid cancer, there will be 200 such cases among the population in the western regions of Bryansk."

As concerns the growth dynamics in the general incidence of illness among inhabitants of Krasnogorskiy Rayon, this information was not obtained from statistical amateurs, but from a comparison of indicators from two large medical surveys in 1986 and 1988. However, these facts do not work for the "safe living concept" so they are left in the "zone of silence."

The authors of the letter see the machinations of radiophobia even in the increase in the illness rate among children. However, it must be asked, how can radiophobia explain the additional increase in the illness rate for infants and nursing babies?

Now something about the contamination levels of private plots. They were determined by measurements taken by the Bryansk radiological laboratory of the oblast agroprom and by monitors from the Tayfun Science-Production Association in Obninsk. Is this unprofessional?

The Leningrad scientists are trying to find support for their concept from international authorities. Without deprecating the experience and knowledge of the foreign scientists mentioned, I want to ask why the authors think these opinions to be more authoritative than the well argued judgements of our domestic academicians, doctors and professors or the recommendations made by dozens of scientific research institutes in Belorussia? Are they not prophets in their own fatherland? Of course, in their conclusions foreign experts use experience from throughout the world. However, in the entire world there had not yet been experience in cleaning up after an accident the size and nature of Chernobyl. As concerns the references to Japanese experience, listen to the opinion of Academician V. Legasov, who wrote in 1985: "As time passes the residual activity from an accident at a nuclear power plant becomes higher than the contamination after a nuclear weapon explosion, because of the large number of long lived elements in the former. Given equal initial dosages, after 5 years the dosage from a nuclear power plant accident will be 100 times (!) higher than from a bomb."

I refer to experts from the International Atomic Energy Agency, who assert: "There is still considerable lack of clarity about the consequences of low level radiation in low dosages."

Lack of clarity! In such lack of clarity is, perhaps, hidden danger to the presently living and their descendants. In such a situation would it not be more rational to take

extra cautious measures? The Leningrad scientists say no, that for us everything is clear, everything ahead is completely safe.

On becoming acquainted with the recommendations made by the Bryansk laboratory of LenNIIRG, one automatically recalls the fallacious statistical "turkey method": One person ate an entire turkey, another did not get anything; on the average each had one-half turkey. For example, last year V. Parkhomenko issued a radiation hygiene authorization to hunt for moose and wild pigs and to eat their meat. This recommendation is based upon the present rule that half the meat should go to the hunter and half will be sold to the local population.

The scientist writes: "If one mentally distributes the annual quantity of moose and wild pig meat to the entire population of the western (contaminated—Yu. L.) rayons, the contribution of moose and wild pig meat to the annual intake of Cs-137 by the human organism is negligibly small."

Even a person who knows very little about radiology will probably ask: How can one distribute the meat from a moose or wild pig to the entire population of the seven western rayons? Really, this can only be mentally performed.

However, the main misfortune is that the "turkey method" is the basis for general evaluations of the radiation situation in the Russian zone of Chernobyl. Speaking this year at a meeting of party and economic activists in Bryansk, Professor Ramzayev, director of LenNIIRG, said that over a 3 year period each inhabitant of contaminated rayons in Bryansk Oblast only received an average of 6 rem. This is the average dosage for the entire population living either in the first zone of radiation danger, where contamination level ranges from 5 curies per square kilometer; and in the third zone, where there are "spots" with contamination levels of more than 100 curies per square kilometer. In these "spots" the population receives up to 20 rem in 3 years. The average permissible dosage over a 70-year lifetime is 35 rem.

Republics Cope With Chernobyl Aftermath

Belorussian Ukase

904E0083A Minsk SOVETSKAYA BELORUSSIYA in Russian 24 Feb 90 p 1

[Ukase of the Presidium of the BSSR Supreme Soviet: "On Intensifying Responsibility for Violation of Radiation Safety Requirements in Locales Subjected to Radioactive Contamination"]

[Text] In order to intensify protection of public health, the Presidium of the Belorussian SSR Supreme Soviet **resolves**:

I. To introduce the following amendments and supplements to the Belorussian SSR Code of Administrative Law Violations, adopted by the Belorussian SSR Supreme Soviet on 6 December 1984 (SZ BSSR, No 35, 1984, Article 505; No 32, 1985, Article 449; No 17, 1986, Article 227; No 28, Article 362; No 22, 1984, Article 282; No 12, 1988, Article 194; No 24, Article 377; No 12, 1989, Article 114):

1. In Article 461:

Adopt the following wording for the name of the article: "Violation of Radiation Safety Requirements in Locales Subjected to Radioactive Contamination";

Supplement the article with a second part of the following content:

"Removal, by vehicle or by person, of construction materials, fuel, agricultural products, equipment, tools, food products and any other property containing radioactive matter beyond permissible levels from territory contaminated by radionuclides without radiometric control and the permission of the corresponding organs,—"is punishable by a fine in the amount of 50 rubles in the case of citizens and from 50 to 100 rubles in the case of officials, plus confiscation of this property."

2. Supplement the code with Article 46^2 of the following content:

"Article 46^2. Sale of products contaminated by radionuclides beyond permissible levels.

"The sale (and any other transfer) of products contaminated by radionuclides beyond permissible levels by citizens is punishable by a fine of from 30 to 50 rubles, and confiscation of these products.

"The same actions committed by an official are punishable by a fine in the amount of 50 to 100 rubles."

3. Supplement Article 202 with the numbers "46^2" following the numbers "46^1".

4. In Clause 1, Part 1, Article 234^1:

—in Paragraph 10, replace the words "Part 2, Article 143" by the words "Article 46^2, Part 2, Article 143";

—in Paragraph 11, replace the words "Article 103" by the words "Article 46^2, 103";

—in Paragraph 25, replace the words "Article 144" by the words "Article 46^2, 144";

—adopt the following wording for Paragraph 27:

"The USSR State Committee for Output Quality Control and Standards and its organs providing for state inspection of standards and measuring resources (articles 46^2, 171)"

5. Supplement Part 2, Article 247 and Part 1, Article 274 with the numbers "46^2" after the numbers "46^1".

6. Supplement Part 2, Article 257 with the numbers "46^2" after the numbers "46^1".

7. Supplement Paragraph 3, Article 291 with the numbers "46^2" after the numbers "46^1".

II. Supplement the Belorussian SSR Criminal Code, approved by a Belorussian SSR law dated 29 December 1960 (SZ BSSR, No 1, 1961, Article 4), with Article 149^2 of the following content:

"Article 149^2. The sale of products contaminated by radionuclides beyond permissible levels.

"The sale (or any other transfer), by citizens, of products contaminated by radionuclides beyond permissible levels following imposition of administrative punishment for the same kind of violation,—"is punishable by corrective labor for a term of up to 1 year or by a fine of up to 50 rubles, and confiscation of these products.

"The same actions committed by an official following imposition of administrative punishment for the same kind of violation,—"are punishable by imprisonment for a term of up to 2 years or corrective labor for the same term, or by a fine from 500 to 1,000 rubles, or dismissal."

III. Replace the numbers "$148\text{-}149^1$" by the numbers "$148\text{-}149^2$" in Part 3 of Article 123 of the Belorussian Code of Criminal Proceedings, approved by a Belorussian SSR law dated 29 December 1960 (SZ BSSR, No 1, 1961, Article 5; No 10, 1966, Article 100; No 23, Article 375; No 30, Article 398; No 33, 1969, Article 501; No 26, 1970, Article 358; No 10, 1973, Article 164; No 11, Article 188; No 31, 1974, Article 496; No 14, 1978, Article 269; No 14, 1980, Article 316; No 3, 1984, Article 48; No 35, 1987, Article 477; No 19, 1989, Article 186).

Chairman of the Presidium of the BSSR Supreme Soviet N. Dementey.

Secretary of the Presidium of the BSSR Supreme Soviet L. Syroyegina.

22 February 1990, Minsk

Ukrainian Comprehensive Program

904E0083B Kiev PRAVDA UKRAINY in Russian 13 Feb 90 p 3

[Article: "Our Zone of Concern: Basic Provisions and Objectives Foreseen by the Draft Integrated Program to Eliminate the Consequences of the Accident at the Chernobyl AES in the Ukrainian SSR"]

[Text] On instructions from the government of the republic and on the basis of proposals of the UkSSR Academy of Sciences, the All-Union Scientific Center of Radiation Medicine, the Ukrainian Affiliate of the All-Union Scientific Research Institute of Agricultural Radiology, UkSSR ministries and departments, and the Zhitomir, Kiev, Rovno, Chernigov and Cherkassy oblast executive committees, the draft Integrated Program to Eliminate the Consequences of the Accident at the Chernobyl AES in the Ukrainian SSR was drawn up with the participation of the corresponding executive committees of rayon and city soviets of people's deputies and forwarded to the State Commission for Extraordinary Situations under the USSR Council of Ministers and to the USSR Gosplan in October 1989. The measures stated in the program are intended for the 1990-2000 period.

The main goal of the program is to create safe living conditions for the population in all monitored regions subjected to radioactive contamination.

The following basic objectives were determined on this basis:

—moving, in short order, residents out of population centers in which safe living conditions cannot be created;

—providing scientific support to solution of problems associated with normal life of people in contaminated rayons;

—fundamentally improving medical services and the health of the population, especially of children and pregnant women;

—organizing the work of public education and cultural institutions at the required level;

—creating safe conditions for work and quality rest;

—providing the population with clean foodstuffs;

—installing gas lines in population centers in the zone of radioactive contamination;

—developing and introducing agricultural and industrial processing procedures corresponding to requirements dictated by radioactive conditions;

—raising the effectiveness of efforts to decontaminate terrain and stabilize the radiation situation;

—providing complete and regular information to the public on the actual radio-ecological situation.

The integrated program foresees tapping the republic's entire scientific, technical and economic potential and the manpower and capabilities of the appropriate union enterprises and organizations to eliminate the accident's consequences.

In the writing of the program, consideration was given to the fact that a significant volume of work had been done in the first disaster recovery efforts in the stricken rayons with the purpose of reducing radiation exposure and improving medical services to the people and the social and personal conditions of their life. Over 93,000 persons were resettled; 11,000 farmhouses, 27 apartment buildings and over 600 social, personal service, trade and cultural facilities were built for this purpose. One thousand four hundred kilometers of paved motor roads were laid and repaired, and gas lines were installed to 10,800 farmhouses and over 5,000 apartments.

Important measures to protect water sources from radioactive contamination were implemented in extremely short order in the course of emergency recovery operations. One hundred thirty-one hydraulic engineering structures such as filtering and dead-end dikes with a length of around 18 km, four bottom traps and five underwater dikes were built and placed into operation in the lower reaches of the Pripyat River, on other tributaries of the Dniepr and at the Kiev Reservoir, making it possible to delay the flow of radioactive matter out of the most contaminated territories. Five hundred seventy artesian wells were drilled and 810 water conduits and pipeline networks were laid in population centers of Kiev and Zhitomir oblasts.

Three hundred forty-two population centers were decontaminated, a land area of 3.5 million square meters was improved, agricultural improvement and land reclamation efforts were carried out on an area of over 460,000 hectares, and so on.

The state spent 2.3 billion rubles on priority disaster recovery measures, while the total loss was over 8 billion rubles. The work made it possible to significantly stabilize the radiation situation and reduce the public's exposure by three to four times in relation to the iodine factor and 10 to 20 times in relation to the cesium factor, as compared to the calculated possible doses. This conclusion is confirmed by the results of around 400,000 direct measurements and personal dosimetry readings.

However, the situation in the zone of radioactive exposure remains complex. The government is concerned first of all with the health of the people. According to clinical examination and treatment results, an increase in the incidence of diseases of the upper respiratory tract and the gastrointestinal tract and growth of the number of cases of iron-deficiency anemia, pregnancy disorders in women and manifestations of thyroid hyperplasia occurred in 1987-1989 among residents of contaminated territories. During this time, 309,800 persons, including 67,400 children, were under dispensary observation in the republic.

All of this elicits the need for planned implementation of large-scale measures within the framework of the integrated program, with the support of all-union resources. The program consists of 15 sections, each of which is supported by the necessary justifications and calculations.

Section I. Creation of Safe Living Conditions for the Population in Contaminated Zones.

This section devotes its main attention to hastening the resettling of the residents of population centers in which individual exposure doses may exceed the safe level, as well as of families with children up to 14 years, pregnant women and persons for whom residence in other population centers within the zone of radiation exposure is medically contraindicated and who expressed the desire to resettle.

Construction of dwellings with a total area of more than 2 million square meters is foreseen in 1990-2000 for this purpose; this will require over 830 million rubles of capital investments.

Because of the complex radio-ecological situation in 14 population centers of Zhitomir and Kiev oblasts, the government of the republic adopted a decision at the end of the past year to complete resettlement of their residents as well as part of the residents of the towns of Polesskoye, Narodichi and Vilcha as early as in 1990. Construction organizations are being brought in from 19 of the republic's oblasts to erect dwellings (2,910) and social and cultural facilities for them. In addition 800 apartments in residential buildings that will be placed into operation in the republic in 1990 have been reserved for resettled residents.

The program provides for maintaining constant surveillance over the exposure level of the population, for introducing stiffer permissible norms of contamination of local foodstuffs, and for maintaining sanitation and dosimetric records on all population centers. It foresees clinical examination and treatment of 100 percent of the population on an annual basis. Rigid surveillance is being established over the condition of water and sewer lines and over the quality of sanitation of population centers. An interdepartmental republic commission is created in order to coordinate the efforts to determine the radiation situation.

Section II. Scientific Support to the Population Living in Regions Exposed to Radioactive Contamination.

The actions specified in this program bring together basic directions such as developing and implementing scientifically grounded measures to stabilize the radiation situation, preventing further spread of radioactive contamination through water and air, and predicting changes in the radiation situation. A system ensuring the safety of the population and providing for sensible nature use in rayons subjected to radioactive contamination will be developed with regard for the combined effects of radionuclides and industrial pollutants.

The attention of scientists and specialists is to be concentrated on the following objectives:

—taking a direct part in the development of the technical preconditions that would ensure complete safety of Block Four of the Chernobyl AES and permit shutdown of the entire plant;

—creating a system of models of radionuclide migration and models by which to predict the radiation and general ecological situation in the event of accidents at nuclear power plants and large power and chemical facilities located on UkSSR territory. Planning water supply with regard for using the most highly protected underground water and implementing preventive nature protection measures;

—carrying out a program of radiation monitoring of the biosphere within the zone affected by the Chernobyl accident, and creating safe living conditions for the population in rayons subjected to radioactive contamination;

—constantly studying the radio-ecological situation, and scientifically substantiating recommendations in the area of radiation hygiene concerned with ensuring safe living and dietary conditions for the populations of the indicated rayons;

—scientifically substantiating new methods of containing radioactive contamination and conducting decontamination efforts;

—investigating and scientifically substantiating the socioeconomic problems of living and working in contaminated zones;

—developing and initiating production of instruments and systems for quick monitoring of the radiation situation and integrated monitoring of the environment.

Forty scientific institutions of Ukrainian SSR ministries and departments and three all-union institutions will participate in the research. The Republic Coordinating Center for Ecological Problems, created under the Presidium of the UkSSR Academy of Sciences, will assume leadership over the effort. There are plans for allocating over 230 million rubles to scientific research.

Section III. Improving Medical Services and the Health of the Population, and Protecting Motherhood and Childhood. Creating Safe Living Conditions for Children in the Zone Affected by the Chernobyl AES. Social Welfare.

This section foresees implementing a complex of state social-hygienic measures and reinforcing the material and equipment base of public health and social welfare institutions. In particular the plans are to build hospitals, outpatient-polyclinic institutions, paramedic-obstetric stations, sanatoriums for parents with children, boarding hotels, Pioneer camps, physical culture facilities and others in 1990-2000. Over 672 million rubles of capital investments are required for these purposes.

Specific assignments are determined for the corresponding ministries and oblast executive committees concerned with protecting the health of mothers and children. Over 80,000 passes to sanatoriums and health resorts will be given out annually in the summer period in order to improve the health of mothers with children and pregnant women.

There are plans for staffing medical institutions in the stricken rayons with highly qualified personnel and equipping them with medical apparatus and medications produced here and abroad. In order to prevent turnover of experienced workers, a proposal has been made to introduce extra pay equal to 100 percent of wages and to provide privileges to local residents enrolling in medical training institutions, and so on.

Measures will also be implemented to introduce an automated system for clinical examination and treatment of the population.

Section IV. Public Education, Specialist Training and Social and Cultural Services to the Population.

This section contains measures to reinforce the material and equipment base of public education and cultural institutions, and in particular, to build new buildings, rebuild old buildings and improve building grounds. Over 300 million rubles of capital investments are foreseen for this purpose. As a result the population's demand for children's preschool institutions will be completely satisfied, teachers and cultural workers will be provided fully equipped housing, and construction of children's general health improvement institutions will be organized.

Special attention is devoted to improving the sanitary and hygienic conditions under which children undergo training and education, and organizing free meals for them in schools and children's preschool institutions is foreseen.

In order to achieve full staffing of public educational and cultural institutions with specialists, graduates of secondary schools in rayons of the indicated oblasts will be admitted to the corresponding institutes and schools on a noncompetitive basis.

Section V. Organization of Public Food Services and Trade, Provision of High Quality Foodstuffs to the Population, and Personal Services. Reinforcement of the Material and Technical Base of Consumer Cooperatives and Consumer Services.

This section foresees the following measures:

—raising to standard levels the marketing space of stores and the capacity of public food services enterprises in population centers within the monitored zone in the course of 1990-2000. Widening the network of stores and public food service enterprises through new construction and reconstruction;

—opening, prior to 1995, stores in all population centers with a population over 100 presently lacking a permanent trade network, and organizing stores on wheels for small villages;

—ensuring that the full volume of goods is delivered to the trade network, and that hot meals are organized in children's and school institutions, at work sites, at farms and at the locations of field work;

—raising the annual supply of the basic foodstuffs to the population residing in the monitored zone to scientifically grounded, sensible nutrition norms;

—significantly widening the network of dry cleaning enterprises, laundries, baths and other consumer service facilities.

Over 100 million rubles of additional state allocations will be needed in order to develop the trade, public food services and consumer services sectors in these rayons.

Section VI. Fuel and Power Supply to Population Centers Within the Zone Affected by the Chernobyl AES.

This section contains measures by which to fully satisfy the population's demand for fuel. In particular the 13th Five-Year Plan foresees building 55 gas pipelines and branches with a total length of around 1,000 km, and laying over 15,000 km of gas distribution networks, which will make it possible to provide gas to the overwhelming majority of population centers in the contaminated zone.

Construction of the necessary volume of electric power transmission lines, transformer substations and other power distribution facilities is foreseen with the purpose of increasing the reliability of electric power supply to all population centers and industrial and agricultural enterprises in contaminated rayons of Zhitomir, Kiev, Rovno and Chernigov oblasts. The total cost of this work will be around 150 million rubles.

Section VII. Agroindustrial Construction and Forestry in the Conditions of Radioactive Contamination.

This section includes a complex of measures directed at maximally reducing uptake of radionuclides from soil into agricultural products and creation of safe conditions for agroindustrial production and forestry. In particular this section calls for a halt to agricultural activities on land exhibiting cesium contamination of over 40 curies per square kilometer, removing dairy herds from zones having a contamination level of 15-40 curies per square meter, switching farms to other forms of production, fulfilling a complex of agricultural land improvements, reforesting farmland, and producing and supplying the population with "clean" foodstuffs.

The average annual effort to lime contaminated farmland will double in the 13th Five-Year Plan. Mineral fertilizers will be introduced into soil containing a higher concentration of radionuclides in a scientifically substantiated nutrient ratio.

The area of "clean" pastures and hayfields at private farms intended for cow grazing will also more than double.

Specific targets are set for placing into operation a number of productive capacities of the agroindustrial complex, processing enterprises manufacturing children's foods, farm roads, dwellings for livestock breeders and machine operators, radiological laboratories and so on. Over 1 billion rubles of state capital investments must be allocated just to construction of productive facilities of the agroindustrial complex.

Section VIII. Organization of Control Over the Radiation Situation and the Quality of Agricultural Products and Foodstuffs, and Protection of the Environment.

This section foresees:

—allocating around 31 million rubles in capital investments for construction of radiological laboratories under rayon agricultural chemical subdivisions and veterinary laboratories, and in the cities of Rovno, Zhitomir and Zaporozhye in order to create an automated forecasting and modeling information complex and public warning systems;

—carrying out efforts to protect water from radioactive contamination. Over 190 million rubles will be needed for this purpose;

—allocating Soviet and foreign made instruments and equipment worth a total of around 15 million rubles;

—providing scientific support to radiation monitoring. The complex of this work will require budget appropriations totaling 46 million rubles.

Section IX. Development of Transportation, the Road Network and Communications.

This section contains measures directed at continuing construction of paved roads, sidewalks and squares equipped with water drainage systems in the cities and towns in 1990-2000.

Fulfillment of this work will help to increase the effectiveness of decontamination measures and improve transportation services to the public residing in the indicated rayons. The cost of this work will be 553 million rubles.

The structure of the truck park and the quantity of trucks necessary to carry out motor road construction and haul household coal, peat, wood, construction materials and foodstuffs and satisfy other needs of the population are determined.

Development of urban, suburban and intercity bus services is foreseen in connection with growth of cities due to construction of new microdistricts and with the need for providing bus service to an additional 265 towns.

Twenty-seven rayons and 219 population centers requiring expansion of communication resources were identified by the UkSSR Ministry of Communications jointly with oblast executive committees and public health organs.

These measures will require capital investments totaling 44 million rubles.

Section X. Material and Equipment Support.

This section presents figures for the volumes of basic material and technical resources required in support of the program's assignments. It should be noted for example that the demand for motor transportation and construction equipment in support of work in contaminated territories is 5-10 percent of the republic's average annual allocations.

Section XI. The System of Material and Financial Benefits to the Population Residing in Contaminated Territories.

This section includes proposals on providing additional material and financial assistance to the population of contaminated rayons. There are plans for expanding payment of monetary assistance in connection with the limits imposed on consumption of locally produced foods, for supplementing the pensions of nonworking veterans, for increasing one-time assistance for newborn children, and so on.

The total expenditures for these purposes will be over 500 million rubles annually. These matters have already been resolved to a significant extent by decrees adopted by the republic's government.

Section XII. Development of the Material Base of Construction and Construction Materials.

This section foresees placement of new capacities into operation for the production of bricks, claydite, crushed rock, linoleum and other materials for construction projects foreseen by the integrated program. This will require allocation of around 365 million rubles in capital investments.

Section XIII. Support of Law Enforcement, Fire and Traffic Safety Organs in Monitored Zones.

In order to reinforce the material and equipment base of departments under the internal affairs administrations, there are plans to build fire stations, to provide special equipment to firefighting units for active prevention of fires in population centers and forests, and for fulfilling a complex of other projects.

Section XIV. Utilization of Condemned and Evacuated Zones.

This section presents the position of the republic's government in regard to awarding a special status to the 30-kilometer zone and other evacuated regions providing for the conduct of engineering, technical and scientific research work on these territories by the USSR Ministry of Atomic Energy and Industry and other ministries and departments with the purpose of gradually returning restored land to economic use.

Section XV. Capital Investments, General Expenditures.

This section contains figures for the amount of money required for the measures foreseen in all of the program's sections.

Over 6 billion rubles of capital investments will be required in 1990-2000, including 3.5 billion rubles in the 13th Five-Year Plan, to fulfill the work of evacuating and relocating the population in new rayons, creating guaranteed conditions for normal life, developing the productive infrastructure and implementing other disaster recovery measures.

Appropriations to cover benefits paid to the public, acquisition of medical equipment and medications, and the conduct of scientific research will total 6.5 billion rubles, including 3.5 billion rubles in the 13th Five-Year Plan.

* * *

At the moment the program is being reworked and refined with regard for remarks of the State Expert Commission of the USSR Gosplan and the contributions of oblast executive committees, ministries and departments. The final version will be approved by the republic's government following its discussion by deputies at a session of the UkSSR Supreme Soviet and by the public.

Register of Chernobyl Radiation Victims Compiled

904E0055A Moscow SOVETSKAYA ROSSIYA in Russian 2 Feb 90 First Edition p 3

[Article by O. Plakhotnikova: "The Computer Searches for the Victims"; first paragraph is source's introduction]

[Text] In Russia, 71,313 persons who took part in winding up the accident at the Chernobylskaya AES have been registered. Evacuated were 1972 residents. Today 24,855 people reside on contaminated lands. According to the data of the All-Union Registry of Victims, 562 babies have been born to them.

May the reader pardon the abundance of figures. They bleed, like summaries from the battlefield, for each—not only for the fate of the living but also of their future children, and their children's children. The reference point is 26 April 1986, when the hellish glow of the 4th power unit rose above sleeping Pripyat. How many generations to come will bear the frightful burden of the increased risk of genetic mutations and oncological and endocrine illnesses? One thing is clear: Chernobyl will not be a closed case either tomorrow or in the foreseeable future. And in order to extend active assistance to the victims, it is necessary, as a minimum, to know who they are, how many of them there are, and what their radiation dosages were.

How to go about working out such an inventory? This was discussed at a Conference on Problems of the All-Union Registry of Victims, which went on for a couple of days at Obninsk. Taking part in it were scientists of Russia, Belorussia, and the Ukraine, as well as other republics, since the "liquidators" (this is the bitter word devised for those who are suffering from the damage) are living in each of them. But Russia, the Ukraine and Belorussia also have another anguish—people who still carry on and even today will receive radiation doses at the contaminated grounds.

The source documents on the victims were made out in central regional and city hospitals. Then after expert review, the information was transferred to computer memories. Naturally, the data base should include not

only the family names but also the individual radiation doses. Alas, these data still are available only on a fourth of all those included in the registry. For, in the first post-Chernobyl months there were not enough personnel or opportunities for performing such research. What prevents them from studying it today? The excuse is indecently simple: funds have not been allocated for the All-Union Registry "by order" of USSR Minzdrav [Ministry of Public Health]. Four years have passed since the accident, and the state of siege of the computer centers under the republic ministries is lasting even until today. Indeed, all the work is being done by volunteers.

But then, we shall not hurry with reproaches for Minzdrav. Is it the one who is guilty of the difficult situation at the contaminated areas? Was it the medical personnel who caused a deterioration of the health of Chernobyl's veterans? In all justice, the money for maintaining the register should come not from Minzdrav's thin purse but from the budgets of the nuclear departments.

And here is another aspect of the problem. A. Tsyu, Director of the NII [Scientific-Research Institute] for Medical Radiology of the USSR AMN [Academy of Medical Sciences] and Corresponding Member of the USSR AMN has cited these figures: of 198,000 victims, only 4 percent of those who are on the inventory of "liquidators" are in the age group of less than 25 years. How can that be? We recall the shots of the TV broadcasts of 1986—how many beardless, entirely childish faces there were! How sad it is that 18- and 20-year-old "liquidators," who were then serving their term of service in the army, as well as regular servicemen, still have not been taken into account by the All-Union Registry. True, there is an All-Army Registry at the Naval Academy imeni Kirov base in Leningrad. Still another part of the information is contained in agency archives of the Ministry of Defense, the MVD [Ministry of Internal Affairs] and the KGB [Committee for State Security]. But to whose liking is this agency isolation?

Press a few keys, and the smart machine gives out the dynamics of morbidity, charts of radioactive contamination, and all possible kinds of tables and charts. These dry statistics are extremely necessary for organs of Soviet authority and medical institutions in the field, in order to take precise and considered measures for alleviating the consequences of the tragedy. The statistics literally shout: the death-dealing inspiration of the radio nuclide fire in Russia turned out to have scorched not only Bryansk Oblast, which everyone already knows about, but also Kaluga, Tula and Orel Oblasts.

Even today a high background of radioactivity is observed in certain communities of Ulyanovskiy Rayon of Kaluga Oblast. Up until recently milk samples from private-plot farms in Zhizdrinskiy, Khvastovichskiy and Ulyanovskiy rayons registered a radio nuclide level of 14-18 percent above the permissible level. In the words of V. Stepanenko, director of the dosimetry laboratory of the Internal Irradiation Institute, scientists are alarmed by the long-term consequences of the radiation load. Incidentally, these were determined not by individual irradiation dose, as one usually thinks, but by the collective dose, in which the average dose received by a definite group is multiplied by the number of people. Let us remark: the collective dose, based on the thyroid gland, of 1 million man-rads that was received by the children of seven Kaluga rayons is a frightful indicator! But it is better to know these figures than to remain in ignorance.

Working with precise data, scientists of the NII of Medical Radiology are making recommendations to medical institutions. Incidentally, the most important, perhaps, conclusion that the scientists made while creating the register was the fact that the government of Russia, unlike the higher organs of authority of the Ukraine and Belorussia, has been indifferent to the misfortunes of the suffering rayons. Tomorrow this will cause new expenditures and, what is far more terrible, irreparable harm to people's health.

According to the scientists' assessments, the total number of victims of the Chernobyl tragedy comes close to one and one-half million. The people who survived Chernobyl will pass on, but the tragedy itself will still be remembered for many decades, for even children yet unborn are already doomed to go onto the Chernobyl list of names. The register is an attempt unprecedented in scale to save them. But can it be supported only by the enthusiasm of scientists who remember their duty?

Confederation Created by Congress of Independent Workers' Movements

904F0159A Moscow RABOCHAYA TRIBUNA in Russian 4 May 90 p 1

[Article by RABOCHAYA TRIBUNA Correspondent A. Parshintsev, Novokuznetsk: "We Cannot Wait Passively: Notes from the 1st All-Union Conference of Worker Movements and Organizations"]

[Text] The 1st Congress of Independent Worker Movements and Labor Organizations of the USSR worked in Novokuznetsk for three days—from April 30 through May 2. Delegates came to the congress from 40 republics, krays, oblasts, and major industrial centers. They named the new union socio-political movement—The Confederation of Labor. It adopted a declaration of its fundamental principles—a charter.

USSR People's Deputy N. Travkin's emotional speech at the congress became ingrained in our memories. Especially his words that were directed at the delegates: "You arrived at the congress as respected people and full-fledged envoys of your worker collectives. I am convinced you will return home extremists. That is what the Party press will call you after the congress."

These words were heard on the first day.

On what did Nikolay Ilyich base his certainty? Once they have returned home, he called upon the delegates to begin aggressive activities for workers to leave the CPSU and to create leading cells of the new party that is confronting the CPSU. And, he says, the Party press will go into hysterics in connection with this. The delegates generally rejected the resolution on support to the new party that N. Travkin proposed forming. The congress' participants noted that any party must be created not according to someone's desire or appeal but must naturally arise from below. If a new worker movement party comes into being with time, maybe it will also receive our support, summed up the delegates.

Incidentally, N. Travkin was not the only one who attempted to turn the congress into an endless mass meeting wave. Representatives of other so-called democratic currents pointed out "their one true path" to the congress. But for many delegates, especially those from Kuzbass, Donetsk, and Vorkuta, the proposed paths have already been covered and interpreted using common sense.

In opening the congress, Kuzbass Soviet of Worker Committees Chairman V. Golikov delivered the keynote speech. He pointed out that during the last five years the country's leaders have been attempting to carry out a revolution "from above" but it is proceeding inconsistently and incomprehensively and does not affect the deep causes of the crisis condition. Why? Society's main driving forces—the people's initiative and individual initiative—have not been activated.

"Taught by the bitter experience of recent years," said V. Golikov, "we do not have the right to wait passively for things to change for the better. As the 1989 strikes demonstrated, self-organization of worker collectives is a powerful manifestation of public involvement. Direct contact with collectives leads to the fact that working people's economic, social, and political interests are most clearly expressed in independent worker movements."

A democratic society must spur on the authorities, simultaneously support, prop up, and correct them—and this constitutes a characteristic feature of revolutionary transformations. Worker movements can do this with greater effectiveness while united and organized.

Of course, noted a delegate, the unification of movements and organizations that operate in various regions and sectors and that reflect the different world views of their participants is a complicated matter. But there is no time to be lost. It is time to begin the journey toward unity.

Yes, the journey toward unity is complicated but a step has been made, a common language has been found, delegation representatives became acquainted for three days, they exchanged addresses and, the main thing, they drafted the Confederation of Labor's fundamental principles of conduct. I will only list some of them.

It is the establishment of real and stable guarantees of labor and all other rights, freedoms, and interests of workers. It is the guarantee of protection of worker salaries, the right to a job, to assistance when unemployed, and to personnel retraining; reduction of government expenditures for arms and other expensive projects, depoliticization of the organs of the MVD [Ministry of Internal Affairs], the KGB, the Army, the courts, and the procurator's office. The declaration talks about cooperation with the intelligentsia as follows: "The worker movement has no future without contact with the democratic intelligentsia."

The decisions of the congress, whose work was partially broadcast on oblast radio, found a responsive chord. Dozens of telegrams from Kuzbass worker committees and city worker unions requesting their acceptance into the Confederation had already arrived by the end of the second day. On the third day, I read similar statements on the desk of the secretariat—from the city of Talnakh—from a miners union, from Novosibirsk—from a worker union, and from other locations. Later, I asked the delegates and those invited what had attracted them to the Confederation's program and how they assessed the congress. The answers were as follows.

A. Tulikin—member of the Donetsk City Worker Committee—an electrician: "Constructiveness, the business-like approach, and the reflection of worker thoughts." A. Ozolin—member of the Shchit Organization: "The democratic approaches of the workers and tolerance of other social strata and toward servicemen, in particular." Clergyman G. Yakunin—USSR people's deputy: "I see a

real force for the country's democratic renewal in a united worker movement." L. Ryabev—deputy chairman of the USSR Council of Ministers: "The congress did not follow the path of denial and all in all made quite a few constructive decisions." A. Yevladov—CPSU Central Committee worker: "The strongest factor is that delegates came to an understanding of unity. This is a new process in our social development."

Many delegates talked about the beginning of a turning point in the worker movement. But I think the weighty thoughts of Delegate S. Mukharkin is closer [to reality]: "A child has just been born. There are pitfalls ahead. Whether he will be able to negotiate them depends mainly on us—his parents."

A few words about the make-up of the Confederation's founders. Workers comprised 69 percent of the delegates, employees—24 percent, and members and candidates for membership in the CPSU totaled one fifth of the delegates. Thirteen USSR and RSFSR people's deputies participated in the congress' work and 62 percent of the deputies have higher or middle technical educations.

There is symbolism in the fact that adoption of program documents by the congress fell on May 1—the Day of International Worker Solidarity. On this day, toasts, appeals and "hurrahs" were not heard from the rostrum of Theater Square for the first time in many years in Novokuznetsk. A free microphone was set up on the square of one of the microrayons and city workers congratulated one another on the Spring of renewal and expressed the hope for the best. Then a woman approached the microphone and said agitatedly: "The workers congress occurring in our city must decisively advocate the deepening of perestroyka, support it from below, and then our lives will progress and then we will survive...."

And the congress delegates who soon arrived at the rally promised the people they would firmly defend the right of workers to a better life and to democratic freedoms.

Economic 'Exploitation' of Workers Refuted

904F0149A Moscow EKONOMIKA I ZHIZN in Russian No 15, Apr 90 pp 5, 16

[Article by B. Borisov and L. Mikhaylov: "A Burning Secret, or the Norm of Surplus Product: On the Degree of Exploitation of the Soviet Worker"]

[Text] **In the discussion of ways to renew relations of socialist property in our country and what the Law on Ownership should be like, the question of the permissibility of private ownership has come up. Support has been voiced for its forms based on exploitation of hired labor. It was often claimed that our workers are "exploited" by the state, which appropriates a considerable portion of the created product. The command-administrative system, they say, conceals in every way data on the norm of surplus product in our country, since exposing this secret is dangerous for its very existence. In issue No 12, in the article "National Income: Fairness of Distribution," we already talked about what portion of the national income goes to the workers themselves and cited similar calculations for other countries, too. In this issue, we are publishing an article that continues the analysis of these questions and shows that the rumors about "brutal exploitation of Soviet workers" are unfounded.**

First, let us recall certain political economic concepts. Norm of surplus value or norm of exploitation in a capitalist country is the relationship of surplus value to variable capital. This involves the correlation of the value appropriated without compensation by a capitalist with what a worker receives for his manpower.

In a socialist economy, the norm of surplus product—the relationship of surplus product to the needed product—is important for the characteristics of distribution of income in the national economy, global assessments of the dynamics of social labor efficiency, and financial security of the national economy.

The norm of surplus product is determined for the sphere of material production, where national income is created. Two methods can be used to calculate it. In the first method, the relation between surplus produce and wages is determined at the stage of primary distribution of national income—directly in production itself before various distribution and redistribution processes. In the second method, the calculations use the final income received as a result of distribution and redistribution of national income.

So, in the first method the primary incomes of enterprises and organizations of the material production sphere are defined as part of the surplus product. These are profit from sales (without bonuses from the material incentive fund); net income of kolkhozes; turnover tax; carry-over funds of interrelations of economic organizations for regulating the differences in prices for agricultural products and so forth; enterprises' contributions for social insurance and deductions to union funds for social security and social insurance of kolkhoz farmers; other elements of net output not included in wages.

Next the wages of workers employed in material production and their primary incomes at enterprises and organizations are determined. These incomes include: wages of workers and employees; wages of kolkhoz farmers; net output created on the population's subsidiary farms; bonuses from the material incentive fund and others; other monetary payments to a worker, for example, travel allowances.

Calculations showed that the norm of surplus product in our country was 113 percent in 1985 and 97 percent in 1989. By comparison, according to our calculations using a similar methodology, in the United States in the early 1980s the norm of surplus value was about 100 percent.

It is interesting to analyze the dynamics of the norm of surplus product for the period 1959-1989, for which

there are intersectorial balance data. Calculations were made for material production as a whole and for two of its subdivisions (see Table 1).

Table 1. Dynamics of Norm of Surplus Product for 1959-1989 (in percent)

Year	All Material Production Sectors	Including	
		Production of Means of Production (Subdivision I)	Production of Items of Consumption (Subdivision II)
1959	88	62	139
1960	90	71	125
1972	98	82	127
1977	102	82	137
1980	105	79	150
1982	112	87	153
1984	116	99	144
1985	113	98	140
1986	108	96	129
1987	107	93	132
1988	107	93	130
1989	97	82	119

As you can see, since the late 1950s, the greatest norm of surplus product for material production as a whole and for the first subdivision was in 1984, and for the second subdivision it was in 1982. This norm was the smallest at the beginning of the time period examined—88 percent.

The norm of surplus product increased up to the mid-1980s, and particularly intensively in the first subdivision. This is primarily because, as a result of the reform of wholesale prices, prices for products of heavy industry were increased more than for other products. For a long time the increase in foreign trade revenue had a stable influence on the increase in the norm. But the norm decreased beginning in the mid-1980s. This was the effect of several factors—a significant increase in wages, a slowing down of the dynamics of foreign trade revenue (due to unfavorable market conditions in the fuel and energy resources market), and also the turnover tax, which caused by a decrease in the production and sale of wine and vodka products.

If you examine the norm of surplus product in individual material production sectors, it turns out that the predominant effect on it is from the differences in profitability and the particular features of price formation. In calculation of the norm of surplus product, it is also advisable to eliminate the influence of income from individual activities (private subsidiary farms, individual construction). These calculations are shown in Table 2.

Table 2. Norm of Surplus Product in 1988

	Surplus Product	Wage (product for self)	Norm of Surplus Product, in percent	
	Billions of Rubles		Using Generally Accepted Methodology	Not Counting Distorting Factors*
Total for material production	326.3	304.6	107	83
including:				
Industry	158.6	110.9	143	133
of it:				
Electrical power	9.27	2.5	371	265
Oil and gas industry	26.49	1.36	1,948	1,046
Ferrous metallurgy	9.24	4.45	208	204
Chemical and petrochemical industry	14.61	5.42	270	210
Machine building and metal working	62.57	49.43	127	104
Timber, wood-processing, and paper and pulp industry	7.0	8.22	85	82
Construction materials industry	6.82	7.25	94	69
Light industry	33.30	11.36	293	143
Food industry	-21.63	8.4	-258	165
Agriculture	45.9	98.0	47	89
of it, the public sector	45.9	51.5	89	89
Construction	26.3	54.3	48	51
Transportation and communications	20.8	17.9	116	116
Circulation sphere	20.0	20.0	100	100

* Not counting revenue from foreign trade, turnover tax, subsidies, net product output from the population's private subsidiary farms, and individual construction.

It can be seen from the table that even without counting many distorting factors (data in the last column), there is still a substantial differentiation in the norm of surplus product by sectors. And this is understandable. After all, the differences in the level of profitability in the final analysis determine the correlation between the incomes of enterprises and the wages of their workers.

Also of interest are the calculations of the norm of surplus value by union republic, reflected in Table 3 (the second column gives data which exclude the effect of price-forming and certain other factors given in Table 2). Since the processing of materials of intersectorial balances of the union republics has not yet been completed for 1988, the calculations were made for 1987.

Of course, one must take into account the certain conditionality of the interrepublic comparisons and the differences in the structure of social production. But this, however, still does not interfere with drawing the conclusion that only in two republics—the RSFSR and the Belorussian SSR—does the norm of surplus product noticeably exceed the average unionwide level (see Table 3).

Table 3. Comparison of Norm of Surplus Product by Republic

	Norm of Surplus Product	
	Excluding	Without Excluding
	Price-Forming and Certain Other Factors, in percent	
USSR	107	95
RSFSR	123	100
Ukrainian SSR	92	93
Belorussian SSR	121	125
Uzbek SSR	60	55
Kazakh SSR	58	71
Georgian SSR	83	71
Azerbaijan SSR	108	97
Lithuanian SSR	79	89
Moldavian SSR	106	91
Latvian SSR	101	98
Kirghiz SSR	55	71
Tajik SSR	73	65
Armenian SSR	103	79
Turkmen SSR	79	94
Estonian SSR	89	96

We will reemphasize that for the time being we are talking about the norm of surplus product, which characterizes the process of primary distribution of national income into incomes of enterprises (and of the state) and incomes of workers in material production. A more accurate picture is given using final incomes.

First of all, the final incomes of enterprises in the material production sphere are formed as a result of the distribution and redistribution of national income. They were 67.6 billion rubles in 1980, 84.9 billion rubles in 1985, and 81 billion rubles in 1988.

Secondly, the final incomes of enterprises, institutions, and organizations of the nonproduction sphere are formed. They were 97.6 billion rubles in 1980, 137.2 billion rubles in 1985, and 155.4 billion rubles in 1988.

Thirdly, the final incomes of the population are formed during distribution and redistribution of national income. Part of the surplus product, for example, is returned to workers and their family members in the form of pensions, benefits, grants, and other payments and privileges at the expense of the state. And part of the primary income of workers goes to the state budget in the form of taxes and duties.

We will note that these types of final incomes do not add up to the entire sum of produced national income; one must also bear in mind the losses reimbursed from national income and the foreign trade balance.

No one sees anything unusual in questions of utilization of the population's final incomes. A different attitude in public opinion has taken shape with respect to incomes of enterprises and the state; namely, they are kept in mind in discussions about exploitation of the Soviet worker. So, how do enterprises and the state actually dispose of the final incomes received?

On what do they squander it?

It turns out that most of the final incomes of enterprises of the material production sphere—nine-tenths or more—are used for accumulating fixed assets and working capital, that is, they are spent for purposes of expanding and improving production.

The end incomes of enterprises and organizations of the nonproduction sphere go for their upkeep, after all, the activities of these enterprises and organizations are aimed at satisfying the urgent needs of the population (free tuition, medical services, and so forth), as well as for ensuring the country's defense capability, maintaining bodies of government, increasing nonproduction fixed assets—housing, social and cultural facilities, and so forth. This nature of utilization of the final incomes of enterprises and the state eloquently attests to the absolute groundlessness of the statements that the norm of surplus product is the norm of exploitation of the Soviet worker.

Just what is the norm of surplus product calculated according to final incomes? This norm, which takes into account all the process of redistribution of national income, is less in size than in calculations based on primary distribution of incomes. It is significant that the correlation of the incomes of enterprises, the state, and the population changes in the population's favor when such an accounting procedure is used.

In 1980, the norm of surplus product at the stage of primary distribution of national income was 105.3 percent, and it was 57.6 percent when all subsequent distribution and redistribution processes are taken into account. In 1985, the norm increased to 113.2 percent at primary distribution, and to 63.7 percent taking into account the formation of final incomes. The increase was 7.5 and 10.6 percent, respectively.

After 1985, the process of redistribution of national income goes in the population's favor. This is expressed in the fact that the norm of surplus product decreases. Thus, in 1989 it decreased by 15 percent compared to 1985 both at the stage of primary distribution of national income and at the stage of formation of final incomes. Using the first method of calculation, the norm was 96.5 percent in 1989. This means that on the average the creators of national income spent half of their workday working directly for themselves and the other half provided income of the enterprise and the state.

Using the method of final incomes, the norm of surplus product was 54.4 percent in 1989. That is, the portion of national income the population received was 1.84 times greater than what the enterprises and the state received (in 1985 they received 1.57 times more). Once again, we repeat that when evaluating these data one cannot forget about the nature of utilization of the incomes of our state and our enterprises.

Work Force Statistics, Implications Viewed

904F0083A Moscow IZVESTIYA in Russian 1 Feb 90 p l

[Article by E. Gonzalyez: "Labor Resources Mirrored By the Census"]

[Text] One year has passed since the all-union population census. The USSR Goskomstat [State Committee on Statistics] has not only analyzed the data obtained, but in addition it has grouped it in a manner such that information on the size, age composition, educational level of the population and other types of information can be used for making realistic forcasts and for solving practical tasks.

One large and vital task: that of ascertaining if we have at our disposal the labor potential required for ensuring that 286,731,000 individuals are capable of adequately satisfying their requirements for clothing, footwear and food.

For more than one quarter of a century, USSR Gosplan and USSR Goskomstat have been preparing demographic forecasts on the whole and by regions. In particular, 10 years ago it was predicted that there would not be as rapid growth in the able-bodied population as was earlier the case and that in Russia and the Ukraine there would be an absolute decline commencing sometime during 1982.

Alas, the forecasts almost proved to be true. True, the population increased in all of the republics during this decade. However, in the RSFSR, the Ukraine, Belorussia and the Baltic, this increase occurred mainly owing to the older age group. This process of aging of our society is continuing, albeit at different rates in the various regions.

Nevertheless, the increase in our labor resources is low: roughly 7 million, of which almost 5 million (approximately 70 percent) is found in Central Asia. Such growth for the economy, which has still not been converted over to an intensive basis, cannot be considered as adequate. Let us compare: during the 1976-1980 period (that is, over a period of 5 years), there was an increase of 10.2 million, but this was at a time when, you will recall, announcements concerning acceptance for work were still being published.

There was still one forecast which proved to be accurate: the flow of manpower from the countryside into cities declined by more than twofold. During the previous decade, roughly 1.5 million individuals migrated annually and during the last one—900,000. And it was not a case of the rural areas becoming more attractive. It was simply a case of the proportion of city dwellers, compared to the overall population, had reached an extremely impressive figure—66 percent. This was on the average. And in Latvia, Estonia and the RSFSR—from 70 to 74 percent. It could be stated that those who could and wished to, had already made the change.

But it is believed that in the future the number of new settlers will include those who did not desire such action and still do not long for it. In particular, this will certainly be the case if the practice of trade on the basis of passports and visit cards is employed on an extensive scale. The time has long since passed when people traveled to remote areas for imported goods and rare books. Today villagers travel to cities in order to obtain all types of articles—even including garden implements. There is nothing wrong with individuals wanting to utilize the experience accumulated in Leningrad and to sell goods in conformity with their place of residence.

It seems to me that the last census has confirmed once again that the country's demographic development is proceeding in various directions: in the one instance—in Central Asia and partly in the Trans-Caucasus and on the other hand—in the remaining territories of the country. Even with a very high overall concentration of the municipal population in the republics of Central Asia and in Moldavia, more than one half of the people still live in rural areas. And in Turkmenia, Kirghizia and Tajikistan, owing to a high birth rate level, the proportion of the municipal population has even declined compared to 1979. In Russia and some other republics, the situation is just the opposite—the birth rate is low and the municipal populations are increasing. Unfortunately however, the population is aging.

In our case, the birth rate is generally speaking a key factor, a strategic concern and to a large degree an indicator of the quality of life. Over a period of 10 years, there has been no change in the size of a family—3.5 persons. But there is one circumstance that is worthy of note: there are more families consisting of four or two individuals and fewer families consisting of three. This serves as further proof of the fact that the process of stratification is taking place in our society.

This is obviously an inevitable process. It would be good and even vitally necessary if it were to be accompanied by growth in the birth rate. Many demographs believe that the chief condition here is that of reorienting women from the business world to family life. We may lose a certain number of working hands today, but in return our labor potential will increase tomorrow by virute of an increase in young workers.

But the experience of a decade has shown that material conditions play an important role as far as family structure is concerned. The assistance for large families introduced in the early 1980's had a noticeable effect on the birth rate in 1986. The last year of the five-year plan differed from the first by .6 million children. Certainly, this cannot be referred to as a baby boom, but we must take into account the fact that soon privileges will appear that are being promised to our women and children by certain draft laws under discussion at the present time.

In the meantime, we must base our actions upon the available labor resources. They are being distributed in an irregular fashion and the regions are divided into those with surplus labor and those with insufficient labor—as determined by specialists. This represents one more circumstance which tends to complicate national economic development.

Labor reserves are available in Central Asia, the population of which is not inclined towards migration. But the construction there of large enterprises or branches of factories and plants, if you please, creates more problems than it solves. For example, when they built the Yuzhno-Tajik TPK [territorial production complex], they relied upon the unemployed local population for assistance. Actually however, it amounted initially to only one fifth of the workers needed. And one can only imagine how many problems were caused by the newcomers.

Thus the labor resources, judging on the basis of the census, do not allow us to manage as we have in the past. This represents one more objective condition which forces us to hasten with production intensification, with scientific-technical progress and with improving the standard of living, without which the normalization of demographic development would scarcely be possible.

There is still one other conclusion: we have great differences in the various regions and the differences are not disappearing with the passage of time. And neither science nor practical experience are properly taking into account these differences, especially in planning the social infrastructure. Almost all of our good things of life are considered in terms of 10,000 individuals—it matters not what comforts they are or where. Sick beds, spaces in schools and kindergartens, cafeterias, dining halls, maternity homes and homes for elderly people—it is all the same both for a newly built European city or for a Central Asian memorial city. Certainly, there is some differentiation and yet it does not take into account one tenth of the differences. It is possible that the decentralized administration of the republic economies will reduce all of us to the same level.

Readers' Questions on Draft Pension Law Answered

904F0108A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 8, Feb 90 p 4

[Interview with Yu.Z. Lyublin, member of the working group for a draft law on pensions, by O. Solomonova: "The Law We Are Adopting on Pensions: Opinions, Doubts, Discussions"]

[Text] Hundreds of thousands of Soviet people have given their criticisms and suggestions on the draft law "On Pensions for USSR Citizens." How are they taken into consideration? How is the work going on revising this law about which many are concerned? Yu.Z. Lyublin, a member of the working group revising the draft law on pensions, will answer these questions by our readers.

[Lyublin] Naturally, everyone wants this law to be adopted as soon as possible. But it is still early to speak of the end result. Work on it will still continue for some time because we have received many suggestions on the draft, and they require thorough and detailed study. But we sometimes receive suggestions of another kind.

For example, there is the suggestion that the retirement age for shepherds working in pastures on high mountaintops be lowered. Of course this is an important issue, but it is of a purely regional character. One asks oneself, why should this be decided in Moscow? Especially since the draft law states that every union republic should itself make desions on the conditions required for individual categories of workers to retire on pension, taking into account the specific nature of their work.

But on the other hand the problem of pensions for workers in the Far North is by no means a regional one. It is indeed a rather vast territory. But it is also a special case. The privileges for working people there stipulated in the draft law have a distinct aim—attracting labor to that area. But today the view is being expressed that, while there is no unemployment in the North, there is also no observable shortage of labor.

[Solomonova] Could you tell us in more detail about the mechanism for the working group's activities...

[Lyublin] Several working groups have been created to give the draft preliminary consideration and to summarize the suggestions made. A number of commissions have also been organized in the USSR Supreme Soviet, and one of these is the Joint Deputy Preparatory Commission.

All of the suggestions received from workers are processed, classified, and sent to the computer. Our materials go to the USSR Council of Ministers and then to the nation's Supreme Soviet. More than 500 thousand suggestions from citizens and worker collectives are examined and summarized by the working group with the participation of the union republic Councils of Ministers, ministries, and agencies. Sociological surveys have been conducted: 75 percent of those surveyed approve the basic provisions of the draft law. On the whole the population has expressed satisfaction with it.

[Solomonova] As is known, the original draft law on pensions which was published in the press would have required an additional 29 billion rubles when put into practice. Have revisions made the draft law "more expensive"?

[Lyublin] Yes, our version is more expensive. The aggregate "cost" of suggestions made during the course of the public discussion has come to around 25 billion rubles. Of course, not all of these additions can be adopted. If corrections presented for consideration are taken into account, putting the law into practice may require expenditures to increase, from 29 to 33-35 billion rubles per year. But so far we have only found one financial source for the increase: raising fees for state social insurance to 32 percent of the wage fund, instead of the 30 percent stipulated in the draft law.

[Solomonova] What do you think, will the draft law have changed significantly after the introduction of additions and corrections?

[Lyublin] It is possible that there will be no conceptual changes. But the expense of the draft in its revised form, I will rework once more, is increasing significantly. So the decision must be made whether or not to change the draft law.

Let us just consider the problem of earlier pensions. The draft provides for recalculating all previously granted pensions in accordance with new norms. Thus everyone is guaranteed an increase in the "old" pensions of no less that 10 rubles. We are discussing ways of increasing this sum. Perhaps this problem looks like an indivual case, since it involves only one article. But nevertheless, it involves a large group of people.

Or consider the question of taking earnings into account when adding to pensions. There were many suggestions concerning cases in which multiple posts are held. For several categories of workers this means additional earnings, but in the case of nurses and doctors, holding multiple posts is occasioned by the way labor is organized and remunerated for the duration of all working activity. I think that in this area the suggestions of physicians merit support.

Or take the issue of merited pensions. Depending on what is decided, some of the draft law's provisions might also be changed. The Joint Deputy Commission arrived at what I consider an acceptable solution: maintaining the merited pensions, but improving the procedures for granting them.

[Solomonova] Which article of the draft law has aroused the most controversy in discussion?

[Lyublin] Perhaps the most heated discussion centered around pension levels—their upper as well as lower limits. Incidentally, the greatest number of letters were also about precisely this issue. The idea expressed in the draft law represents the most progressive position: the minimum pension should be equal to the minimum wage. But many do not agree with this and feel that the minimum pension should be determined by the subsistence wage. And the subsistence wage is often determined—using "the naked eye"—to be around 100 to 140 rubles. Many variants have been suggested. I think that we must all the same start with the minimum wage—this is the subsistence wage. If this wage is not at subsistence level, then let us raise it.

The other side of this same problem is the upper limit for pensions. In some letters one encounters the view that this law has been drafted by and for the apparat. Is this really the case? Why, the administrative apparat makes up a miniscule percentage of all workers. And one must consider that in some of our branches salaries are rather high, as, for example, in metallurgy and the mining industry. It is mainly unskilled workers who are voicing objections. Professionals in any branch understand the necessity of differentiating pensions. Those who suggest an upper limit of, say, 240 rubles, think that the means that are freed up in this way can be directed towards raising the lowest pensions. But let us just add that even if this is done, the savings will be so insignificant that they will have no impact except to give rise to an additional problem—the creation of "wage- levelling."

[Solomonova] How will the law be put into practice after it is adopted?

[Lyublin] Of course, under present conditions it is unrealistic to think that we can just "toss" even 30 billion rubles into the domestic market in one year. It has been suggested that we introduce the pensions by stages that are determined by pension level rather than by region. Moreover, it should be gradual. First priority, of course, goes to solving the problem of minimum social pensions and pensions for war veterans.

In conclusion I would like to say that today it is impossible to please everyone and adopt every suggestion. And not all of our problems can be solved through legislation on pensions.

Most Serious Industrial Accident Figures Reported

904F0088A Moscow TRUD in Russian 13 Feb 90 p 4

[Report by USSR Gosprometomnadzor: "Victims of Slipshod Operations"]

[Text] The overall number of those who perished during January was 107. This included: in the coal industry—40, in the mining industry—26, in the chemical, petro-chemical

and petroleum refining industry—2, in metallurgy—5, during the extraction of petroleum and gas—4, and during the operation of hoisting equipment—30.

We asked the 1st deputy chairman of USSR Gospromatomnadzor [State Committee for Safety in Industry and in the Atomic Power Industry], M.P. Vasilchuk, to comment upon these figures:

I can state that, compared to January of last year, the number of those who perished increased by 14.7 percent. As regards the reasons for the accidents, it can be said that they are frequently being repeated and this underscores a lack of ability or lack of desire among the victims themselves, their fellow workers and their production leaders to draw the proper lessons from previous accidents. Just as in the past, the rules for the safe operation of installations and equipment are being violated and officials are not exercising sufficient control in the interest of ensuring safety at work. In discussing the causes, we must single out the technical factors: obsolete and antiquated equipment and less than adequate technologies. Shortcomings in production organization are also making their presence known. But certainly, special indignation is being aroused by negligence and lack of discipline.

On the first working day of the new year, 2 January, at the Perevalskaya Mine of the Voroshilovgradugol Association, workers decided to overcome a portion of a path along an inclined working using mine cars that were intended to be used exclusively for delivering rock. A cable parted and, as a result, two men were injured. Moreover, one of them—fatally.

On 28 January, a gas explosion occurred in the Palace of Culture in Plavsk, in Tula Oblast. The gas issued from a pipeline at a point where the latter intersected with an electric power cable. There were three victims of this explosion. And indeed the accident could have been avoided the previous evening if a brigade of the emergency-dispatcher service, which had been summoned by local residents, had inspected the underground lines of communication and undertaken the necessary measures.

There have been accidents which caused serious harm to production operations. On 26 January, for example, at an oil-rig of the Ukrneft Production Association, which carries out extraction work in the northern rayons of Tyumen Oblast, a powerful oil-gas gusher was struck during operations. The mixture self-ignited. The drilling tower and a portion of the equipment were burned during the fire. This accident occurred owing to the absence at the mouth of the well of anti-gusher equipment. It was for this reason that the drilling personnel were unable to cope with the misfortune in a rapid manner. A great amount of effort was required in order to suppress the gusher.

On 21 January, at an oxygen station of the Novolipetsk Metallurgical Combine, an accident took place at an air separation unit. Moreover, it occurred only one week after capital repair work had been carried out. The causes of this unfortunate incident are being examined by an inter-branch committee. Fortunately, there were no injuries.

It is my understanding that readers of the newspaper and I myself are disturbed over incidents involving losses of explosives. Unfortunately, these incidents have recently been increasing in frequency. Thus, a guard at the Mamslyuda Mining-Enrichment Combine gathered up explosive materials which were left behind at work positions. He thus collected 2 kilograms of ammonite and 10 meters of fuse cord, all of which were removed during a search. On 18 January, in the city of Petrovsk in Voroshilovgrad Oblast, as a result of the deliberate exploding of stolen explosives, a staircase for three floors was destroyed in an apartment building. Four individuals were killed.

As you can see, many unfortunate accidents have taken place as a result of criminal negligence and failure on the part of executive agents and officials to carry out their assigned obligations.

Unofficial 'Association of Socialist Trade Unions of USSR' Criticized

904F0093A Moscow RABOCHAYA TRIBUNA in Russian 20 Feb 90 p 2

[Article by L. Kornilov, special correspondent: "On Leaflets, Strikes and Manna From Heaven"]

[Text] Recently I peeped in on my old friends—long-time residents at the Moscow municipal air terminal. Their number, just as in former times, is approximately 50. And, just as in the past, the majority of these people are categorized as being socially deprived. They came to Moscow "for the truth" and for the purpose of solving their housing problems or finally winning long-standing labor disputes at the higher levels.

For example, A. Pronina, from the polar settlement of Cherskiy, has had a problem since 1977. Thirteen years ago she was simply removed from her post for attempting to criticize the management of the Zelenomysskiy Maritime Port. Meanwhile, Pronina's work booklet contains no mention of this discharge. To the contrary, it contains a note of gratitude for shock work performed in the postion of engineer-rate fixer. And throughout all of these years, this woman, having already raised a son, has been seeking support from the USSR Procurator's Office and from the AUCCTU.

Similar situations are confronting Ye. Boyko from Krasnoyarsk and Ye. Yegorov from the city of Mikhaylovka in Volgograd Oblast. It makes no sense to enumerate all those who are huddling together under the roof of the municipal air terminal and going to the various levels in an attempt to find a solution in the labyrinth of jurisprudence of an unlawful state or in the contradictory

responses from reliable organizations. They leave, correct their financial affairs by means of temporary work and return anew in order to lay siege to the Moscow institutes.

One year ago, I attempted to help them by addressing a request through the newspaper VOZDUSHNYY TRANSPORT [Air Transport] to the Mossovet [Moscow City Soviet of Workers' Deputies] asking for the creation of normal conditions for the forced temporary residence of these people in the capital. I placed a telephone call to the AUCCTU and attempted to organize a special reception for these individuals who seek the truth. However, nothing changed a year ago and nothing is changing at the present time. Just as in the past, several rows of armchairs are occupied by these long-time residents in the air terminal, the administration of which humanely categorizes them as being homeless. Just as in the past, a pile of newspapers can be seen alongside their scanty baggage: these people attentively monitor the course of perestroyka throughout the country. But there is still one other sign: among the official publications scattered among the armchairs, one sees leaflets, appeals, program documents and other paper products that are being distributed throughout the country at the present time by unknown individuals.

And I can very easily imagine how these pallid individuals, who are awaiting solutions for their problems, are deluded by the promises of an informal organization and spend their last bit of money on entrance dues.

For example, why is it that the program for associations of socialist trade unions in the USSR is not attractive? "...To promote in every possible way socio-economic development, multiply national wealth, to improve the conditions for work, daily routine and recreation for workers and to protect their rights and interests." A sotsprof [socialist trade union] promises to protect the interests of workers, peasants, cooperative specialists and engineers and precisely those interests which are associated with the act of marketing manpower. And the more we look into the program of the association, the more distinctly we see the balm poured over the wound. "We are creating not an alternative AUCCTU for trade unions, but simply trade unions in the form in which they are needed by the people." "...A sotsprof does not have any restrictions for membership. With regard to the personal protection of a worker, the socialist trade unions ensure free legal services for him. The doctors of a sotsprof are presently preparing a draft system for sanatorium-resort services."

Boldly. Temptingly. And nevertheless, some doubt surfaces: and to what extent does the sotsprof program conform to existing legislation and to the constitutional norms? For example, how specifically will protection be provided for A. Pronina from Cherskiy, if the KZoT [Labor Code] is firm and if the sotsprof has no contact with the USSR Procurator's Office and no mutual obligations with the legal protection organs?

I must confess that at the moment that I became acquainted with the functions of a sotsprof, I felt that I alone was incapable of objectively evaluating the association of socialist trade unions being created for the USSR. Moreover, I clearly understood how difficult it would be to refrain from admonishing a sotsprof for my wards at the municipal air terminal. And only them? Indeed, the fate of such unfortunates is an issue in all cities. There are many of them and they are all searching for justice.

And certainly, in the final analysis many find their truth. I am happy for the large Titarenko family from Alma-Ata, which was helped greatly by an article in the weekly publication SEMYA [Family]. I am happy for flight mechanic A. Zlobin from the Igarsk aviation enterprise, who succeeded in emerging the winner of a conflict with the administration. I believe that a streak of bad luck has ended for Ya. Logina, a worker at the Vnukovo Production Association. These individuals, all of whom I know quite well, achieved their goals owing to the fact that they did not deviate from the selected path and are not rising to take the bait thrown out by a talkative well-wisher. In this struggle, they are making use of those resources for social and legal protection that are already available and have been approved. But what about those who are prepared to trust in manna from the heavens?

A thought came to mind: it would be good if a competent individual were to comment upon the sotsprof program and its theoretical aspects. I asked Doctor of Economic Sciences, A. Borodayevskiy, to do just this.

Andrey Dmitriyevich studied thoroughly the sotsprof program.

The program for the sotsprof is an interesting one. However, it is not new in terms of its economic essence: scientific works on the marketability of manpower under socialism have already appeared at the theoretical level. For example, such scientists as Bogomolov, Zaslavskaya and Bunich have clearly stated that sotsprof activists refer to it as their platform. But there is still another question: how can the age-old gap between theory and practical experience be reduced? And practical experience is such that an organization of workers in this modern atmosphere, under the aegis of a new trade union, will inevitably lead them into a political struggle. This happened in Poland with "Solidarity."

In such instances, the assertions by sotsprof leaders which hold that the new trade union "does not intend to engage in political activity in the generally accepted meaning of this term, that is, to fight for authority," appear to be naive.

Beyond any doubt, the creation of an alternative trade union represents one means for the development of a new party. Thus, any individual who pays entrance dues to a sotsprof automatically dooms himself to a political struggle. This must be thoroughly explained to working people and we must ensure that their views are not beclouded by irresponsible promises.

It is immoral to take advantage of the feelings of the working class. This is particularly true in view of the fact that this class, as stated by Doctor Borodayevskiy, is still unfortunately considered to be a passive element of the social structure. Yes, we are moving from democratization to democracy and from glassnost to freedom of speech. But this is more perceptible and more productive in the sphere of the intelligentsia. With regard to workers, they see more bad than good here. Unstable production operations and difficulties with their earnings. Changes in the consumer market are forcing workers to shake their heads. And thus any new organization that suddenly makes an appearance, or which proclaims to protect the worker, must do so with a maximum degree of responsibility.

And what specifically can help our country's workers? In the opinion of Andrey Dmitriyevich, the solution does not involve the creation of numerous parties: in such a case, we would simply become bogged down in election campaigns. There are more direct means. For example, we must combat the wage system. It is unified and yet its unity is impeding production efficiency. And at each enterprise and in each branch, we must achieve realistic salaries, defend the evolution of wages and skilfully include it in our cost accounting system.

Towards this end, it is by no means necessary to overthrow the existing system and become bogged down in a political struggle, while leading the country to final ruin.

Andrey Dmitriyevich also believes that it is possible to amortize to a considerable degree the inflationary impact upon the nation, if we introduce into operations what is referred to in the West as a sliding wage system. It will make it possible to change the price and income scales in a flexible manner. In this instance, a worker will suffer to a lesser degree as inflation heats up. And this means that the population will not approach us for a hand-out and circumstances will not force people to pray for new trade unions although, the truth be told, the old ones can no longer be tolerated.

Doctor Borodayevskiy noted that the sliding scale is being employed extensively in Poland, Yugoslavia and Israel. In addition, he mentioned an entire arsenal of economic means, and here I emphasize that they are purely economic, for extricating ourselves from the crisis which is so costly and which is preventing us from resorting to clubs and informal associations. Actually, there are some who have still not undertaken to employ the economic levers of perestroyka, who prick up their ears during the uproar of a meeting and see no farther than the premature slogans and leaflets.

With regard to those whose many years of wandering among the various levels have become chronic in nature, here the workers attached to republic and union procurator's offices and the AUCCTU must recognize their guilt and undertake extreme measures. As journalists, we are obligated to assist them as rapidly as possible in inspecting the letter departments and in seeking out those who are "chronic offenders." Yes and in the Moscow municipal air terminal, representatives of the mentioned institutes, it is believed, are obligated to carry out a special guest reception.

From the Editorial Board

While this issue was in preparation, the Editorial Board received information on some of the sotsprof leaders. A member of the Coordination Council, S. Khramov, who was born in 1954, never worked either at a plant or a factory. Yes, and at the present time he is not working. He began his political career as one who was in sympathy with a democratic union. Still another sotsprof theoretician who is not working anywhere—L. Volovik, born in 1956, an alumnus of a democratic union.

It has also become known that the Moscow committee for new socialists aspires to the role of a political advanced guard for the sotsprof. And the committee is renowned for the desperate nature of its appeals. For example, it reached the point of stating that strikes are profitable: "Disrupt economic strikes? No!"

It is believed that the goal of the activists of these organizations—a breach of authority. But do they need a steering wheel?

Debate on Cooperatives Continues

Congress of Co-Ops Meets

904F0106A Moscow KOMMERSANT in Russian No 5 Feb 90 p 5

[Article by I.S.: "Extraordinary Congress of Moscow Co-Ops"]

[Text] **On January 20, an extraordinary congress of Moscow co-ops took place in the Moscow Youth Palace. According to the statement of the organizing committee, its immediate cause were decisions passed by the Moscow soviet: the Temporary Procedures for Organizing Cooperative Activity and the Resolution on Regulating Cooperative Activities. According to A. Fedorov, chairman of the board of the Moscow Union of Cooperatives (MSK), it was tantamount to "tightening the noose on the neck of the cooperative movement." Some 250 delegates came to the congress, and an equal number of guests, including leaders of co-op associations from almost all the union republics.**

Most delegates agreed that the only solution in the existing situation is to appeal to judiciary and executive authorities to reverse those decisions which, according to the legal commission of the MSK, contain numerous violations of USSR Law on Cooperatives. (They were noted also in KOMMERSANT comments on the texts of those resolutions.) According to Andrey Fedorov, those who drafted those resolutions did not care about the law, claiming instead that "the people want money-grabbing cooperatives to be reined in." In this respect, the MSK officially stated that "the union does not recognize the

grossly illegal decisions of the session and the ispolkom of the Moscow soviet dated December 15, 1989, and January 4, 1990, and will recognize no future decisions by state and rayon entities implementing, or based on, those decisions." (Quoted from the letter by the MSK to the Moscow soviet ispolkom, the Moscow CPSU gorkom, the Moscow Prosecutor's Office, the Moscow Committee for People's Control and the Provisional Committee for Fighting Crime, dated January 16, 1990.)

Many who spoke at the congress stated that putting limitations on cooperative activities was a real victory for conservative forces. The struggle against those forces could only be waged jointly—otherwise it was doomed to failure. The logical extension of this idea was the call for political unity of cooperators and other free entrepreneurs and for the creation of their own political party. USSR People's Deputy V.A. Tikhonov, president of the USSR Union of United Cooperatives (SOK), said that the process of throttling glasnost and early shoots of democracy is starting in this country. The state, which worked together with the cooperative movement in 1988, is now ready to close it down, since it threatens monopolism on which power is based in the USSR. In his opinion, it is time for cooperators to switch to the strategy of civil disobedience: to defy illegal decisions by local authorities and the absurd tax system. Once they organize politically, cooperators will be able to rally other progressive political forces, such as the Iterregional Group of deputies and some people's fronts.

V. Pisigin, chairman of the Interregional Cooperative Federation, and V. Abushakhmin, member of the Moscow Law Board, said that the decisions of the Moscow soviet were intended to destabilize the situation in Moscow. By curbing legal activities of cooperatives, they encourage the growth of shadow economy in the city, which would necessary trigger the growth of organized crime.

Many guests of the congress from other regions of the country said that such decisions were passed in Moscow much later than in many republics and oblasts, where by the start of this year cooperators had already felt their impact. According to M. Khurin from Kazakhstan, after the Council of Ministers of that republic passed a resolution restricting co-op activities last October, 400 out of 1,200 cooperatives folded.

At the end, the congress passed a draft resolution which included appeals to the supreme soviets of the USSR and the RSFSR and other documents. (When the editing commission of the congress completes work on the text of the resolution, it will be published in KOMMERSANT.)

In view of the general situation which threatens the existence of the cooperative movement as such, the USSR SOK decided to hold an extraordinary conference on February 17, 1990.

Co-Op Union Secretary Comments

904F0106B Moscow KOMMERSANT in Russian No 5 Feb 90 p 5

[Interview with Vadim Gotlib: "It Wasn't a Moscow Union Congress"]

[Text] **In conversation with a KOMMERSANT correspondent, Vadim Adolfovich Gotlib, executive secretary of the Moscow Union of Cooperatives [MSK], chairman of the Lyublino rayon co-op council and head of the repair and construction co-op "Moscow River," commented on the results of the congress.**

[Question] In your opinion, can Moscow cooperators become active now?

[Gotlib] Despite some inertia, Moscow cooperators are now actively organizing, which always happens in the face of danger.

We held rayon conferences all over the city, and I want to stress that the congress was not exclusively an MSK congress. The MSK was only its organizer. By the end of the congress it was clear that the people were thinking constructively enough and were ready to continue to work in cooperatives no matter what. The recent events have forced Moscow cooperators to come to a very simple conclusion: they would not be able to survive without politicizing their movement. This is very important, since the issue of politicizing any movement is a very painful one: most business people have no desire or time to get involved in politics. But when the climate becomes hostile, there are no other means left, except for politics.

In addition, the results of the congress encourage cooperators to become active in elections. This may prove important for the entire city. According to our calculations, the total number of voters supporting our platform is at least 1 million: 420,000 co-op employees, plus their families. This is one tenth of the entire Moscow population. And they are not alone in their support for co-ops. If these people act according to their convictions during elections, it will have a strong impact on the makeup of the deputy corps. It may impact negatively on the future fate of the leaders of the Moscow soviet. The problem is not only that they pursue a policy aimed against co-ops, which we view as being directed against perestroyka. They broke the law, which is absolutely inadmissible for political figures of such rank, and they did so openly and deliberately.

In an attempt to justify his position, Saykin went on record saying that the law is one thing, but that they have the right to obey the demands of the people quite aside from what the law requires. This is where lawlessness begins, albeit based on some vague public opinion.

[Question] What other practical consequences—besides liquidating co-ops—will the Moscow ispolkom decisions have?

[Gotlib] In the existing situation, local ispolkoms will have to decide where they stand. On the one hand, any existing, not reversed decision of the superior organ must be implemented. On the other hand, in all conflict situation, the USSR law takes precedence. Consequently, rayon ispolkoms are obliged to implement the decision of the Moscow soviet, but any co-op that suffers material damage as a result of that decision has the right to go to court.

In addition, local authorities face serious financial losses both due to scaled back cooperative activity and as they compensate co-ops for their losses from the rayon budget on orders from the court. It is not Saykin himself who will be closing down co-ops, the rayon will be as it implements Saykin's decision, and the rayon will be liable. If at the time of its closing a co-op has no money in the bank to pay off its employees, workers losing their jobs when the co-op is liquidated have, according to the KZOT [Cooperative Labor Law], the right for severance pay. That money will also have to be paid by those who closed down the co-op, i.e., the rayon ispolkom. In short, for the city as a whole the total loss may reach into tens of millions of rubles.

I think that Comrade Saykin is very generous with other people's money.

He also said something which outraged me as a private individual: "It will take at least 2 or 3 months to reverse our decision; who knows where I will be by then?" It is a cynical statement, especially coming from a politician of such rank: a Central Committee member and the mayor of the nation's capital.

[Question] What resolutions did the congress approve?

[Gotlib] There were several of them. There was a resolution containing appeals to several state bodies to reverse the decisions of the Moscow soviet, a call on co-ops to fight in court any illegal decision by local authorities, a warning to ispolkoms about everything I have spoken about and an appeal to cooperators and those who support them to let their feelings about this Moscow soviet known during the elections.

The point is that many bureaucrats in the Moscow soviet, including Saykin, Alekseyev and Zharov, are running once again. In addition, the provisional party group of the congress passed a resolution which will be sent to the Politburo, the February Central Committee Plenum, the Committee for Party Control and the city gorkom. The purpose of the document was the demand to bring Saykin, Zharov and other CPSU members to justice not only for passing an illegal decision but also for engaging in anti-party activities. The party had declared its goal to develop co-ops, as had the 19th party conference. We did not vote on a separate appeal to the Supreme Soviet, but the resolution contains appeals to both supreme soviets, to reverse immediately the decision of the Moscow soviet (to the RSFSR Supreme Soviet) and, in the name of 400,000 voters, to overrule all acts passed in violation of the Law on Cooperation (to the USSR Supreme Soviet).

[Question] In your opinion, why did the media effectively ignored the call to establish a political party which was made at the congress?

[Gotlib] The resolution does not contain such a call either, since the congress did not vote on this issue. It was proposed to establish a tie with the recently organized Social-Democratic Association headed by Afanasyev. The issue was raised and now everything depends on how active cooperators themselves will be. If the idea gets a good response, an appropriate congress should be convened. The MSK feels that there is an urgent need to create such a party in this country, to include as members not only cooperators but everyone active in the alternative economy, i.e., all those who share our political views.

There is a great need for such a party of free labor; otherwise, a strange situation arises: they attack us by political means while we appeal to reason. One can appeal, but up to a point, and that point has already been passed. Most active cooperators are ready to create a party. Apparently, it is an objective necessity, since what the Moscow soviet and others have done to us puts us into a no-win situation.

[Question] What do you think are Moscow co-ops' chances for survival?

[Gotlib] I think that our chances are about equal to those of the normalization of the climate in this country. Unless movements which are currently let loose turn, to use Pushkin's words, into a "senseless and implacable revolt"—and unfortunately this can not be ruled out—there is no other way out of economic impasse but alternative economy.

Recently, the party gorkom has been negotiating with us. Its stance differs from that of the Moscow soviet. Yet, it is also possible that it is simply a bureaucratic game. Still, they are objectively engaged in a dialogue with us from the standpoint that there has been enough shouting and it is time to see what can be done to find conceptual grounds for cooperation. They even proposed to hold a research seminar in March to draft the program for developing co-ops in Moscow and incorporating them into the city economy. We are now preparing for this seminar. There is a glimmer of hope that the party apparatus, which is responsible for the progress of economic reform, feels that at the current stage it does not want the cooperative movement to be routed completely.

[Question] Why do they attack co-ops?

[Gotlib] Co-ops began to develop rapidly while the bureaucratic apparatus was temporarily disoriented and at first underestimated the danger they presented. The R20-to-R30 billion co-ops made last year is nothing to

sneer at, and it became a serious threat to economic monopoly of the apparatus and the ministries. There are 4 million workers employed in co-ops all over the country. There are only 4,000 independent farmers, or 1,000 times fewer. This is why they have not come under attack: they are not so great a force. They are merely being held back. This is why there is less noise about them. Yet, we hope that many bureaucrats will cooperate with us simply out of common sense: they must realize that when they bury us they will pull the rug from under their own feet, too.

Poll Results on Co-Op Activities

904F0106C Moscow KOMMERSANT in Russian No 5 Feb 90 p 10

[Unattributed article: "Attitude of the Population to Cooperative and Individual Labor Activities (Based on USSR State Committee for Statistics Data for January 8, 1990)"]

[Text] **A poll was conducted among 101,000 workers, office employees, collective farmers and pensioners in all republics, krays and oblasts of the country, in urban and rural areas.**

Some 15 percent of respondents have a positive attitude to the development of new forms of activity, 29 percent negative, 27 percent are ambivalent and 13 percent indifferent. The rest are unsure about these forms of activity.

Breakdown by union republics shows that their populations view the new forms of activity differently. In the Estonian SSR, the Armenian SSR and the Latvian SSR, for instance, the number of supporters exceeds that of opponents. In these republics, the volume of goods and services sold to the population by the cooperative sector is 1.8-to-3.5 times higher than the average for the country. In the Turkmen SSR, the Moldavian SSR and the Uzbek SSR the number of supporters is much smaller than that of opponents. Practically in all republics, the attitude of city dwellers is more positive than that of the rural population.

The populations of the Armenian SSR and the Estonian SSR have the largest share of consumers of goods and services produced by the cooperative (individual) sector, or over 35 percent; in the Belorussian SSR and the Moldavian SSR the figure is the lowest, or 17 percent. Respondents use cooperative (or individual) services with following frequency: 1-to-2 times 16 percent, 3-to-5 times 6 percent and over 5 times 3 percent; only 1 percent use such services regularly.

The attitude of the population depends also on the level of wages and incomes: among those who earn less than R80 a month there are only 8 percent of co-op supporters, among those who earn R130-R220 there are 15 percent of them, and among those who earn over R250, 20 percent; among those whose per capita household income is below R50 there are 11 percent of supporters, R50-R200, 15 percent and over R200, 20 percent.

The higher the educational level of respondents, the better their attitude: of the college-educated 24 percent support the cooperative movement, of those with high-school technical education 16 percent, of those with general high-school 14 percent and of those with incomplete high-school and elementary education 10 percent.

The following is the share of all respondents giving positive assessment of cooperative activities in the given categories:

1. introduction of new goods and services, 29.3 percent;

2. reduction of goods deficit, 15.7 percent;

3. ability to obtain previously unavailable services, 24.0 percent;

4. more equitable compensation, 17.5 percent;

5. stimulus for the public sector, 12.1 percent;

6. increased employment, 21.1 percent.

Among those who used the cooperative sector, 1 out of 2 bought ready-made clothing or knitwear, 1 out of 33 shoes, 10 percent visited cooperative cafes or cafeterias and 5-6 percent used health services or bought underwear, jewelry or prepared food.

The following is the share of respondents giving negative assessment of cooperative activity in the given categories:

1. increased income inequalities, 28.4 percent;

2. increased shortages in the state retail trade sector, 35.4 percent;

3. more people earning excessive incomes, 56.2 percent;

4. substitution of goods and services previously available from the state with cooperative ones, 29.4 percent;

5. outflow of trained personnel from state enterprises, 24.6 percent;

6. increased criminal activity, 31.2 percent.

Among main shortcomings of cooperative activity, 86 percent named excessively high prices, 48 percent lack of quality control of goods and services, 44 percent low quality, 19 percent poor sanitary norms in public catering, 13 percent poor selection of goods and services and 9 percent poor service.

More than two thirds of those who never used cooperatives explain this by prohibitively high prices, 39 percent by lack of demand for the goods and services co-ops offer, 29 percent by poor quality and selection and 9 percent by lack of needed goods and services.

Over 70 percent think that only state enterprises should engage in public catering and book publishing activities;

65 percent, produce goods for children and some 60 percent, diagnose and treat diseases. In general, the share of those who think that only state enterprises should engage in various activities is higher in the rural than in the urban population.

Typically, those who used cooperatives have a considerably more positive view of the new sector of the economy than the population at large. Those without direct personal experience, who know about cooperative and individual labor activity from indirect sources, are more negative about it.

Only 5 percent of respondents noted that they have exhaustive information about goods and services provided by the cooperative and individual labor sector, while almost half have only some information and 45 percent either have almost no information at all or no interest in it. Among those who have a negative view of the new forms of activity, the level of information about them is even lower.

Half of all respondents can not predict the future of the cooperative movement, 23 percent think it will be shut down, 14 percent foresee difficult and slow growth, 6 percent think that it will remain at its current level and the same share that it will develop rapidly.

Assessment of Activity of Different Types of Cooperatives Based on Frequency of Use (Percentage of All Users Giving Positive Assessment)

	Never	1-2 times	3-5 times	Over 5 times	Regularly
Consumer Services	10.0	18.9	24.3	24.7	30.6
Choice and Quality of Goods/Services	7.7	20.5	28.0	31.9	35.5
Health Care	9.4	16.6	20.2	21.6	23.5
Public Catering	5.9	11.1	14.8	19.6	24.6

Sociologist's Comments

904F0106D Moscow KOMMERSANT in Russian No 5 Feb 90 p 10

[Article by Sergey Shpilko: "KOMMERSANT Commentary"]

[Text] **Despite their outward appearances, statistics have a significant defect. In and of themselves, numbers reflecting various processes and trends do not paint a full picture and require additional commentaries. The editors asked sociologist Sergey Shpilko to comment on the data of the State Committee for Statistics.**

Shpilko, Sergey Pavlovich, aged 33 years, Muscovite, candidate of economic sciences, director of the socio-economic problems lab of the ACCTU and USSR State Committee for Labor All-Union Center for the Study of Public Opinion [VTsIOM]. Studies attitudes to co-ops, private property and land ownership. Was a member of an VTsIOM group doing sociological studies in the USSR for the FRG magazine STERN.

As the results of the USSR State Committee for Statistics poll show, some one third of the country's population has a negative view of cooperative and individual labor activity and over one half of respondents have not made up their mind about it.

There are several factors determining the high share of negative assessments of cooperative activity. (In this respect, the results of the State Committee for Statistics poll corroborate conclusions reached by similar polls conducted by the USSR Academy of Sciences Institute of Sociology and the VTsIOM.)

As the polls show, the negative attitude of the population to cooperatives is based not so much on personal experience of using cooperatives as on information obtained largely from outside sources, such as the media.

It is interesting that in republics where per capita production of goods and services by cooperatives greatly exceeds national average (which was R9.9 rubles in January-June 1989), the number of positive assessments greatly surpasses that of negative ones, which indicates both higher quality of goods and services and better knowledge of them in the population.

A potent factor in informing a negative opinion about cooperatives is the fact that a large portion of the population rejects widening income differentials. However, the public has no reliable information on the level of incomes of cooperators or whether or not they are legitimate. Conclusions are reached mainly based on psychological convictions such as that no one can earn a lot of money honestly. Incidentally, polls conducted by the VTsIOM show that the majority of the population is convinced that cooperators are the ones who benefited most from economic reforms in the years of perestroyka.

In this respect, it is interesting to note that judging by the all-union VTsIOM poll conducted in November 1989, the population has a different attitude to cooperatives on the one hand and to individual labor activity (ITD) on the other: 23 percent of respondents approved of cooperatives, while 57 percent were positive approved of ITD. Yet, experts think that the quality of cooperative goods is generally higher. What is the problem, then? ITD is not so widespread, conspicuous or rife with dramatic confrontations. Moreover, ITD does not get such a close scrutiny from the media, which in the final

analysis played a tangible role in informing a negative opinion about cooperatives.

The view of the population on the future development of cooperatives is interesting, too. Significantly, one half of respondents could not answer what would happen to the cooperative movement in the future and the number of "pessimistic" forecasts exceeded "optimistic" ones. Based on the data supplied by the State Committee for Statistics, these assessments are difficult to explain. Some apparently think that the cooperative movement should be shut down as a disappointing or harmful experiment. Others think that such will be the result of policies directed against cooperatives. In any case, cooperators clearly are not alone in sensing the possibility of cooperatives being if not liquidated, at least nationalized according to old prescriptions.

Fish Industry Minister on Labor, Equipment Crisis

904F0099A Moscow PRAVITELSTVENNYY VESTNIK in Russian No 8(34), Feb 90 pp 2-3

[Article by Minister of Fisheries N. Kotlyar: "Fishing Fleet Caught in a Net of Difficulties"]

[Text] A meeting of the trade union of workers in our branch just took place in Moscow. You could call it an extraordinary session. It was called because of the critical situation that has developed among the nation's fishermen. What is that critical situation? You have probably guessed it yourselves: last year the supply of fish products to the population worsened. The delivery of fish products to shops fell by five percent. Fewer canned fish reached the consumer than planned. In many localities even fish like mackerel, scad, sprat, and a few others that were earlier in low demand are now among the fish in short supply.

The fishermen would like to expand their contribution to increasing food resources, but not everything depends on their desire alone. Over the last two five-year periods, our branch has received 1,350 fewer vessels than was officially its due. And in the present year the shortage of vessels in our fleet will mean a loss in catches of 400 thousand tons. This is why every year the writing-off of seiners, trawlers, floating base, and refrigerator vessels which have served their amortization periods is being delayed. There are already 1,500 such units. You can imagine what working conditions are like on them.

Of course the government's ability to raise hard currency for renovating the fleet is limited. The COMECON nations, which earlier supplied fishing vessels by intergovernmental agreements, have now reduced their deliveries. Our nation's shipbuilding, in connection with the currency conversion, cannot be restructured until the end of the next five-year period. That is why we cannot do without government first aid.

In contrast to last year, in 1990 the branch has encountered more difficulties in providing the fleet with a raw materials base. This has to do with the fact that a number of nations have restricted the granting of licenses for fishing rights off their shores. Others are raising the rates on the use of fisheries.

In a word, fishermen are working under extremely difficult conditions. And so it is no accident that last year a number of anxious telegrams from the vessels' crews reached state, party, and trade union bodies. The telegrams contained requests for improvements in the condition of the fish industry's material base, in the structure and manner of work among management bodies, and in the sailors' pay and living conditions. The special session of the trade union of workers in the fish industry once more reaffirmed that the problems which have built up in the fishing industry over years and decades demand urgent attention.

Let's just take the social questions. Today 130 thousand families of fishermen are waiting in line for an apartment, and 40 percent of all workers in the branch do not have their own living space.

Providing general health facilities to fishermen is also a problem. In recent years 36 general health facilities were built with the fishing industry's means. But in general the provision of health care facilities to workers of the industry is clearly insufficient and only comes to 59 percent of the hospitals, 60 percent of the general outpatient clinics, and 30 percent of sanitoria and preventive clinics needed.

As a rule, there is a shortage of builders in the localities where our enterprises are stationed, and the local soviets are of little help to the fishermen. Only one conclusion can be reached: we must create our own building facilities. We are already completing half of the construction program with our own forces. But there is very little of this going on—we should increase the volume. Some enterprises have been taking this kind of action in the last two years, but many are still passive.

Today, as is known, through USSR Ministry of Fisheries representatives, rest and leisure facilities for fishermen at ports abroad have been acquired or rented in a number of countries. The construction of a hotel in Moscow for crews to rest in during round trips to fisheries is being completed. A collegium of the Ministry, together with a presidium of the trade union central committee, has determined which shipowners are responsible for securing rest and leisure facilities at each port abroad. The enterprises Dal'ryby are working on the problem in Singapore, Vietnam, China and the KNDR [People's Democratic Republic of Korea]. However, the needed resting facilities for the crews as well as the repair and replacement teams have not yet been created. We still have many problems to solve in the area of improving working, living, and resting conditions for fishermen directly on the vessels. It is necessary to fully staff the fleet with doctors and medical personnel, particularly in the Far East and the West.

One of the most urgent matters raised by fishermen is the issue of pay raises for special working conditions. The government passed a decree on this in the middle of last year, establishing that payments will be tied to accumulated capital. Based on a year's computations, that would come to a sum of 322 million rubles. There is only one way: manufacturing and creating additional production. Many do not agree with this and demand the sum be provided from the budget.

It has been decided that beginning in 1990, new principles will be introduced for paying a ship's crew. Pay will be based upon a quota system using minimal standard units for each type of vessel and area where fisheries are located. Wages will be determined according to norms (quotas) set at a percentage of the cost of the goods' production.

A great deal of work has been carried out in the center and in localities on devising suggestions on subsidized pensions and the regulation of laws for granting leave. Our suggestions have found a place in the USSR draft law "On Pensions." The introduction of subsidized pensions is stipulated for ships' crews in the fishing industry as well as for dockers and mechanization experts at seaports who have reached 55 years of age, provided that their length of service was 25 years and half of that was at the given job. Workers who have had several professions on ships will have the right to a subsidized pension after 25 years of service on a ship's crew, no matter what their age.

A significant increase in the length of leave time is stipulated. The minimum length of time for a yearly pass will be 21 calendar days, with an extension of up to 28 days, depending on length of service. In addition, it is stipulated that sailors will receive additional leave time for work of a special nature, such as sailing in polar and Antarctic waters.

It goes without saying that the means are needed to carry out all of these measures. We must earn them ourselves. And there is only one way to do that: we must manufacture more, and the qualitative indices must be higher than the present ones.

The Ministry has a special program for attaining a new qualitative level in the near future. With the help of Finnish firms we have begun to build a factory for the production of assembled refrigerators. And a program for the construction and reconstruction of branch machinebuilding factories and workshops has been approved.

We plan to use the hard currency earned by our enterprises for modernizing the fleet and obtaining equipment, tare-packaging materials, and paint from abroad. I think that with these measures we can raise the quality of output supplied to the national market.

For many years our fishermen have fought for quantitative indices. Thirteen years ago, when coastal governments introduced so-called 200-mile economic and fishing zones, we lost more than 60 percent of our catches in those areas. In past years our branch has been able to even things up and has placed second in the world in general catches and first in catches of fish. The nation consumes 17 kilograms of fish products per capita—that is close to consumption norms. But every consumer knows very well that not everything is determined by this indicator. The fishermen still have much to do in order to fully satisfy the population's demand for sea products.

And the material base, including the fleet, is meanwhile in such a state that the Ministry itself is unable to raise the problem. A comprehensive program for development within the branch is being devised. Work is now underway on this project. Representatives of worker collectives will take part in it. I think that together we can untangle ourselves from the net of difficulties in which the fishing fleet has become entangled.

ROBOTICS

UDC 65.012:621.865.8

Effectiveness of Industrial Robots, Robot Complexes Analyzed

904G0025A Moscow MEKHANIZATSIYA I AVTOMATIZATSIYA PROIZVODSTVA in Russian No 3, Mar 90 pp 26-27

[Article by Candidate of Technical Sciences G.N. Gladyshev under the rubric "The Economics and Organization of Production": "Analyzing the Utilization of IRs and RPSs in Machine Building"]

[Text] Organizational and technological research into production and analysis of its results with the aim of evaluating the state of it and determining the degree of readiness for conversion to the new system is essential to the development and subsequent incorporation of flexible production systems (FPS). Robotized process systems (RPS), which are employed for significant output lot sizes and a limited range of parts, are the basic elements of FPSs in most cases. An analysis of their utilization under specific production conditions is necessary in operating systems consisting of machine tools or presses and the industrial robots (IR) supporting them.

The purpose of analysis is to obtain reliable data describing the state of application of the IRs and RPSs, as well as to determine the economic impact actually achieved from their employment compared to all-purpose equipment, automated devices or robots associated with the use of manual labor.

IRs are utilized at enterprises in the chemical and petroleum industries as part of RPSs supporting metal-cutting machine tools and cold-stamping presses. Basic production output using RPSs includes flanges, bushings, covers and threaded studs, among others. RPSs are also used, aside from basic production, in the production of domestic and household items (door and window hinges, lock plates and pots and pans, among others).

RPSs are used in casting for dispensing raw or molding materials. The use of IRs and RPSs reduces the number of production personnel, as well as raises productivity.

Stand-alone production units may be used, along with elements of FPSs, to solve problems in the robotization of RPSs.

The IRs and RPSs existing at an enterprise, including those in storage or in the state of installation, repair, fine-tuning and operation or those intended for utilization or being used in the performance of various operations, are the objects of analysis.

There can be idle time in the process of RPS operation due to under-utilization or as the result of failures arising in the operation of robots and the machine tools and presses they support or elements of the tools and tooling, among others. The causes of rejects also vary. They include violations of the technological regimen, imprecise positioning of parts in machining and the weakness of working parts, among others.

All of these lead to sharp reductions in the utilization, productivity and efficiency of RPS operation, and they should be ascertained in the course of analysis.

The analysis is performed in the following manner.

The full name and purpose of the RPS, or IR if it was acquired separately from the equipment, is first indicated. The composition of the RPS is indicated in the form of a fraction: the numerator has the model of the IR used as part of the equipment set, and the denominator shows the brand of the machine tool or press the IR supports. The date of acquisition and entry into service are also established.

The state of utilization of the IR and RPS is indicated specifically at the time of analysis: storage in the warehouse; in installation; in set-up (set-up and fine-tuning operations); in overhaul; in operation (the time since it went into operation, and only with the presence of a document of incorporation, is indicated); or, not being utilized (if the IR or RPS is completely out of order), set-up has been performed but the IR or RPS is not being used for organizational reasons in view of a lack of blanks, cutting tooling, control programs etc.

The next stage of this analysis is determining the hypothetical and actual utilization factors of the RPS in two-shift operation. This determination is made according to the following formulas:

$$K_{hu} = \Sigma T_h/F;$$

$$K_{au} = \Sigma T_a/F,$$

where ΣT_h is the total annual labor-intensiveness of the parts affiliated with the given equipment (RPS) for machining or the operations being performed (in hours); ΣT_a is the total annual labor-intensiveness of the parts actually machined on the given RPS or the operations actually performed on it (in hours); and F is the actual annual time allocation for RPS operation in two-shift operation (in hours).

The average shift coefficient of all the robotized equipment at the time the analysis is performed is determined according to the following formula:

$$K_{sh} = \Sigma T_s/\Sigma N_{eq},$$

where ΣT_s is the total number of machine-tool shifts worked per day for each operating unit of robotized equipment (RPS), and ΣN_{eq} is the total amount of robotized equipment in operation after subtraction of RPSs that are undergoing planned repairs.

The operating practices of IRs and RPSs show that the shift coefficient increases from 1.4 to 1.9 in two-shift operation and to 2.9 in three-shift operation.

The productivity of an operative RPS working independently of preceding and subsequent operations in the technological process is determined according to the following formula:

$$P = nQ_o/T(Q_o + \Sigma Q_n),$$

where T is the cycle time for RPS operation (hours); n is the quantity of parts machined in a cycle (units); Q_o is the time of uninterrupted operation over time period Q (hours); ΣQ_n is the idle time over time period Q as defined by the sum (Q_i + Q_{ot}) (hours); Q_{ot} is organizational and technical idle time of the RPS associated with a lack of blanks, electricity, set-up equipment and RPSs being converted to parts of another type; and,Q_i is the intrinsic idle time associated with the replacement and fine-tuning of tooling, failures and breakdowns of RPS devices etc.

The annual economic impact from the incorporation of an RPS is determined through calculation. The results of calculation are compared with the actual data obtained from the operational results of the robotized equipment over a period of no less than a year.

The payback period (in years) for the RPS is determined according to the formula

$$PP = E/S - X,$$

where E is the expenditures for the robotization of production (rubles); S is the annual savings of the wage allocation (in rubles); and, X is the magnitude of the annual operating expenses (rubles).

All of the analysis is performed by specialists from sector scientific-research or industrial-engineering institutes with the participation of representatives of the enterprise being analyzed.

At the conclusion of all the work, a reference consisting of tables of the results of analysis with text should be prepared, and organizational and technical measures developed that could be recommended to improve the operation of the robotized equipment at the given enterprise.

The text portion of the information should contain the following information: the presence of schedules for the operational start-up of new IRs and RPSs at the enterprise along with a long-range plan for the robotization of production processes for coming years and the utilization of computers and computer-aided design (SAPR); the structure and numerical composition of technological-support services for IRs and RPSs; the state of operations in the development of numerical-control programs; and, the operation of the system of material incentives for the workers.

The following organizational and technical measures are recommended for the purpose of raising the efficiency of IR and RPS utilization:

1. Raising the positioning precision and toughness of IR working parts.

2. Ensuring consistency in the dimensional parameters of blanks.

3. Reducing the basic and auxiliary process tooling, measuring and inspection equipment.

4. Reducing the amount blanks movements and replacements of adjusted fits for process operations.

5. Timely diagnostics of the state of cutting tooling and provisions for dimensional fine-tuning and replacement.

6. Increasing the machine-tool utilization factor through reductions in organizational losses and instilling order in production planning.

7. Creating specialized machine-tool sections supported by robots. This makes it possible to improve the support system for IRs and RPSs and raise their efficiency.

8. Converting RPSs from basic-production output to consumer and domestic items in large-series and mass production.

The efficiency of IR and RPS utilization also depends to a considerable extent on the type of production.

If the RPS is utilized in casting production, for example, complex-shaped or heavy castings should be left out of the product mix, since the removal of the castings from the molds is made difficult by the straight-line movement of the robot arm.

The RPS performs the basic process operation in welding production rather than an auxiliary one, and the programming precision of robot arm movements must therefore be increased to raise efficiency. It is advisable to increase the degree of interchangability of the assembly units that could be assembled independently of each other—simplicity of parts design, ease of orientation and degree of standardization are of no less importance as well—when using RPSs in assembly operations.

This list of measures could be altered or supplemented depending on the specific nature and scale of production, as well as the level of sophistication and state of the mechanization and automation equipment and other factors.

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CIVIL AVIATION

Leaders Examine Aviation Performance, Future Goals

904H0141A Moscow VOZDUSHNYY TRANSPORT in Russian 6 Feb 90 p 2

[Report delivered to the Ministry of Civil Aviation Collegium and the Presidium of the Aviation Workers Trade Union Central Committee by B. Panyukov, first deputy minister of civil aviation, as covered by Yu. Ostapenko and V. Tamarin: "Important Advice for the Sector"]

[Text] *This advice was really important, because for 3 days the sector's headquarters leadership, the chiefs of territorial administrations, the chiefs of political departments, plant managers, commanders and chairmen of the labor collective councils of individual aviation detachments worked out the problems facing Aeroflot in the final year of the five-year plan and defined the tasks and forms of interaction between enterprises, associations, and administrations and the ministry.*

The airmen met with leaders of the Ministry of the Aviation Industry and chief aircraft designers. A serious, principled discussion with the developers of airplanes, helicopters, engines, and equipment made it possible to hear an evaluation of their work "firsthand"—from those who operate the equipment, to bring to light complaints about equipment quality, and to determine the prospects for the Ministry of Civil Aviation to receive new aircraft. The discussion turned out to be truly impartial: the chronic failure to deliver equipment and the lack of engines and spare parts are placing Ministry of Civil Aviation enterprises in an exceptionally difficult position with respect to the passengers and clients, especially during the peak seasons.

The debates were no less lively during the scientific and practical conference, where Deputy Minister V. Kurilo promulgated the long-term outline for developing the sector (and its structure) for the future five-year plan. The trend toward independence and a reduction of centralized management is becoming a fact, and in examining the ministry's proposals in accordance with the basic outline, the administrations received many corrections and additions.

The expanded session of the Ministry of Civil Aviation Collegium and the Presidium of the the Aviation Workers Trade Union Central Committee reviewed the results of the sector's work last year and outlined the tasks for 1990. First Deputy Minister of Civil Aviation B. Panyukov delivered a report.

Last year airmen succeeded in rising to the occasion and on the whole, fulfilled the tasks that had been set for them, B. Panyukov stated.

The state order for passenger turnover was fulfilled by 104.5 percent and the order for volume of paid services was fulfilled by 110.2 percent. The plan to commission 245,000 square meters of housing was fulfilled. Some 575.2 million rubles in above-plan profit were received. We transported 131.7 million passengers and 3.3 milion tons of freight and mail. The average wage rose by 33.7 percent over the five-year plan, reaching 357 rubles, with an increase in labor productivity of 35.4 percent.

However, certain problems associated with wages have become more intensified. We have not been able to eliminate wage leveling and to increase responsibility for work.

Priority in developing service has been given to the remote regions, where aircraft are the basic form of transportation. Forty new routes were opened, and many flights were shifted to larger-capacity aircraft. The unmet demand in the country as a whole increased up to 20 million persons.

The scope of flights on international routes was expanded in 1989; 4.7 million passengers and 94,000 tons of freight were carried. The sector shifted to currency cost recovery.

But no one can be satisfied with the data on reducing the number of complaints from 100,000 passengers.

There were certain positive results in providing for flight safety over the past year. The relative indicator of airmen's culpability for accidents per 100,000 hours of flight time was somewhat improved over 1988.

The most unsatisfactory flight safety records were in the Yakutsk Administration (Comrade Dergilev) with 11 accidents, in the Belorussian and Urals Administrations (Comrades Fedorov and Beketov) with 6 accidents, in the Volga Administration (Comrade Komonov) with 13 accidents, and in the UGATs [Central Regions Administration of Civil Aviation] (Comrade Yarovoy) with 10 accidents.

The ministry is moving forward toward new quality in managing the sector as an organ of state administration. Under these conditions, the day-to-day organizational work to ensure flight safety lies with the aviation enterprises.

New political approaches and methods have been undertaken to reduce moral and psychological tension at aviation enterprises. This has helped to normalize the situation and to resolve numerous conflicts without particular losses, such as stabilizing the production process in the collectives of the Moscow AUVD [Automated Air Traffic Control] Center and the East Siberian, Magadan, and Tyumen Administrations.

In 1989, scientific research and experimental design work performed by the sector's scientific research organizations was conducted in accordance with economic contracts with the ministry and enterprises in the sector. The proportion of direct contracts with enterprises accounted for 36 percent, for a sum of over 54 million rubles; previously this proportion was no more than 2 percent.

Drafting of the General Plan for the Sector's Social and Economic Development up to the Year 2005, its basic directions for development in the 13th Five-Year Plan, and the conception for improvement of the sector's economic mechanism and management are among the most important accomplishments.

The problem of ensuring that aircraft are in good working order was aggravated last year. Normative serviceability was not sustained for the Il-86, the Il-62, the Tu-134, and the An-24.

An average of over 100 mainline aircraft remained idle every day in 1989 because of the lack of engines and spare parts and for modification work.

Perestroyka of personnel work was continued in 1989 on the basis of democratization and glasnost. The elections of administration, plant, and organization managers were basically completed.

Over the past 2 years, 15 new chiefs of administrations and seven plant managers were elected and assigned. One-third of the command and management personnel of enterprises were replenished.

At the same time, analysis of the elections shows that competitive commissions did not operate in a sufficiently principled manner at certain enterprises, elements of group selfishness were noted, and other shortcomings were permitted in preparing the elections as well.

The draft of the Law of the USSR on the Socialist Enterprise is now being reviewed. The assignment of managerial personnel is being provided for with subsequent approval of nominations in the collectives.

The year that has begun completes this five-year plan and prepares us to start the new one.

In passenger turnover, we have to fulfill 235 billion pkm [passenger-kilometers] with an increase of 3.5 percent over last year. The output of nonfood consumer goods has been planned for a sum of over 16 million rubles; state purchase of ferrous metal scrap has been planned for a total of 25,000 tons, and nonferrous metal scrap has been planned at 4.8 tons.

In calculations for the year's plan, the Gosplan approved the state order for delivery of 97 percent of the aviation kerosene produced.

The refusal of oil refineries to conclude contracts for fuel delivery threatens to disrupt the plans for cargo transport and PANKh [use of aircraft in the national economy] operations, especially the intraregional transport of brigades on shifts. Steps are being taken by the Gossnab and the Ministry of the Petroleum Refining and Petrochemical Industry together with the Gosplan to assign the administrations to oil refineries.

In order to maintain the plan's social orientation, the ministry has increased the volume of housing construction by 10 percent; 77.7 million rubles are being channeled into housing construction to commission 232,800 square meters of housing space. It is planned to add 700 seats in preschool institutions and to commission a central hospital in Moscow and a sanatorium in the Crimea.

Out of 20 construction sites that are excessively expensive, four are planned for commissioning, including an ATB [aircraft maintenance base] with a hangar in Arkhangelsk, an air terminal for Minsk-2, and a runway and hangar in Ufa.

There is one more serious problem. After acquiring the status of a state enterprise, some of them are seeking to get out of the administration. And finally, in "realizing independence" through insubordination and prohibitive activity: they impose bans on refueling,refuse to receive aircraft, and turn their backs on flights for other administrations when aircraft are inoperative.

We are now preparing to shape a model of the economic mechanism for the transition period. Functions of the ministry staff are being reassigned. Questions of restructuring planning, organizing the state order, and managing scientific and technical progress are being worked out. The work of enterprises will be evaluated on the basis of the extent to which the demand for transportation is met. Under an agreement with the Goskomtsen [State Committee on Prices], proposals are being worked out to develop a flexible system of rates for passenger flights. A system of licensing for air routes and aircraft operations is being introduced. The legal and economic bases for cost accounting relationships with the Ministry of the Aviation Industry and its enterprises are being worked out.

Then the speaker dwelled on the key problems.

First. Under the conditions of enterprises' extended economic independence, we must combine state interests, and this is primarily the interests of the passenger, and the cost accounting interests of the enterprises. With the shortage of resources in the transition stage of the 13th Five-Year Plan, we must retain the regulating functions of the center in deliveries of aircraft and aviation fuel and the distribution of work volume.

Second. We must prepare for the introduction of reciprocal accounting between enterprises at the beginning of 1991.

Third. Normalization of enterprises' financial condition. Beginning in 1991, a unified tax system for enterprises (a draft law is now under public discussion) and new investment policy principles will be introduced. Together with the price reform, these steps can radically change the sector's financial condition.

Fourth. The wage system requires improvement. In 1990 employees in the nonproduction sphere are to be shifted

to new wage conditions, utilizing the funds earned by the labor collectives. Enterprise managers must speed up the effort to identify and procure them.

At a number of enterprises, especially plants, serious problems have arisen because of the taxation of funds for wages. Unfortunately, the ministry's solicitation for extension of preferential taxation to repair plants has not been resolved positively yet. For this reason, we must look for an opportunity to extend financial assistance to aircraft repair plants Nos 400 and 404, which have been forced to transfer practically the entire increase in the wage fund to the budget.

Fifth. In order to meet the demand for international flights and better quality of service, we must be more precise in forecasting their development, identify the unmet demand by flight directions, and work out a program to improve service by taking foreign experience into account.

We must improve the program for flights by citizens of the USSR to Western countries not only from Moscow, but the country's international airports as well, and begin to carry it out. We must expand participation by territorial administrations and production associations in foreign economic activity by developing the network of international airports in the USSR and the establishment of direct ties by these administrations.

We must perfect the mechanism for mutual accounting by aviation enterprises engaged in international flights and establish a legal basis for their participation in foreign economic activity. In addition, it is planned to prepare subunits in the sector for operations with leased foreign aircraft.

We also have to provide for the activity of joint ventures with the participation of foreign firms and begin renovating Sheremetyevo-1 and Domodedovo Airports and building air terminal complexes for international flights (Vnukovo, Simferopol, Sochi, and Minsk).

Sixth. The problem of granting enterprises the right to leave an association or territorial administration has arisen. This solution has been adopted by collectives of the Kamchatka, Ufa, Rostov, and other enterprises. Unfortunately, the legal aspects have not been entirely worked out. They also concern the questions of property, territorial economic relationships, and material and technical supply.

The ministry considers it necessary to refrain from hasty decisions.

This path was chosen in establishing the "Lithuanian Airlines." It envisages the transfer of local airports to republic authorities and operations based on contracts both with the ministry and the Lithuanian SSR Council of Ministers. At a given stage it will obtain extensive expansion of leased property, while state ownership of capital goods is retained, and the status of a state enterprise.

Seventh. Limits to the functions of the ministry as an organ of state management and organs of the basic unit have been incorporated in shaping the structure of the central organization.

The main tasks of the ministry:

State regulation of flight safety (drafting of requirements for new aviation equipment; standards, regulations and norms regulating flying activity; and certification of airfields, airports, aviation facilities and specialists); drafting of programs to ensure flight safety; and inspection of this activity.

State interests in enterprises' commercial and economic activity.

Forecasting the sector's development and defining the priority directions.

Determining the strategy for scientific and technical development and the priority directions for scientific research. Shaping state policy in foreign economic activity and interaction with international civil aviation organizations. Ensuring that the sector is provided with highly skilled managers and specialists.

A draft of the new Aviation Code of the USSR is now being prepared. It will be fundamentally revised with respect to the new conditions, taking the international rules which regulate the sector's activity into account.

A council is being established for the sector for the purpose of democratizing management. We believe that the council can become an instrument to harmonize the interests of all levels of management and all categories and vocations of aviation employees in order to resolve important sectorial problems.

Comrades A. Gridin, V. Kolchanov, I. Mashkivskiy, O. Chernov, V. Kovalenko, V. Skrypnik, V. Sladkov, and others addressed the joint session of the Ministry of Civil Aviation Collegium and the Presidium of the Aviation Workers Trade Union Central Committee.

Roundtable Discusses Controversial International Commercial Administration

904H0141B Moscow VOZDUSHNYY TRANSPORT in Russian 6 Feb 90 p 3

[Roundtable discussion by V. Samorukov, chief of the International Commercial Administration of the Ministry of Civil Aviation; A. Brylov, head of the Joint Ventures and Contracts Directorate of the MKU [International Commercial Administration]; and V. Kachnov, deputy chief of the MKU and chief of Aeroflot's Central International Ticket Agency, with questions by I. Grigoryev: "The MKU: Time to Sum Up"]

[Text] *Perhaps no subunit in the civil aviation system evokes as much controversy as the International Commercial Administration. Our readers are asking many questions as well. We hope that the answers to some of them*

will be provided by this VOZDUSHNYY TRANSPORT roundtable discussion with managers of the MKU.

[Grigoryev] Vladimir Dmitriyevich, if you have no objection, let us begin the discussion with a question about the results of Aeroflot's operations on international routes in 1989.

[Samorukov] Last year Aeroflot carried 4.68 million passengers, 7.3 tons of mail, and 94 tons of cargo on international routes. At the same time, passenger turnover totaled 17.7 billion passenger-kilometers and cargo volume accounted for 2.12 billion ton-kilometers. Compared with the preceding year, passenger turnover increased by 11 percent, the ton-kilometers increased by 9 percent, passenger flights increased by 10 percent, and cargo flights by 1 percent. Some 71.7 percent of all seats were occupied. Receipts from the flights were increased by 25 percent over 1988—this is the highest increase indicator in its history, incidentally.

[Grigoryev] "Foreign exchange fever" has gripped all spheres of our life now. And we are very well aware that under current conditions hard currency is not a luxury by any means, but a vital necessity. What principle exists for distributing this money in the Aeroflot system?

[Samorukov] We should note first of all that the results for 1989 with respect to currency and finances may be considered satisfactory. On the whole, Aeroflot fulfilled the plan for this indicator.

With the sector's shift to self-financing, 15 percent of the receipts in hard currency are deducted for the state budget, and the remainder go to the sector. Part of this money is assigned to the Ministry of Civil Aviation's centralized fund for developing basic types of activity—providing international routes with navigation equipment, building airports, training personnel, and other sectorial expenditures.

Another part of the currency is allocated to the aviation enterprises. There is an efficient system provided for in the economic contract concluded by an administration and the MKU. The basic principle is that the one that has earned it firsthand receives most of the currency. In accordance with the results for the year, we are now assigning funds for the Far East, Ukrainian, and Leningrad Administrations and others. This complicated work is being performed by the International Accounts Center, which calculates the expenditures and incomes for Aeroflot as a whole and for individual enterprises. The appropriate deductions are made by taking this into account.

The MKU receives 7 percent for its mediation services. Thus, after all the deductions, an aviation enterprise is left with 50 to 60 percent of the currency, depending on the type of work performed, which goes into its account and which the administration can utilize at its own discretion.

[Grigoryev] Our newspaper has reported in detail on the conflicts between the MKU and the International Air Services Central Administration ("What Is the Basis of the Conflict?", VOZDUSHNYY TRANSPORT, 11 Nov 1989). How are relationships between your administrations taking shape in the current stage?

[Samorukov] The TsUMVS [International Air Services Central Administration] has formed its own commercial service; it is now being organized, and we are working out an economic agreement with them, which has not been concluded yet, for the current year. We already have experience in interaction with the TsUMVS, and we are now defining the basic principles for long-term cooperation more precisely, taking into account the fact that they have formed their own commercial service there. At the same time, we are proceeding from the assumption that the MKU and the TsUMVS should have equal obligations as partners with each other, and we believe that economic methods and commercial relationships should predominate in the system of agreements. And we are now working on this.

[Brylov] At the same time, the functions of the MKU remain as before—coordination of foreign economic activity. But the formation of the TsUMVS commercial service has compelled us to draft an agreement once again, and to approach it in a new way. We have had to determine which part of the work will be carried out by our coordination and which part they will carry out independently. The foreign representatives of Aeroflot, the TsMA [Central International Ticket Agency], and the International Accounts Center are part of the MKU; for this reason, we will be performing this work to provide for TsUMVS activity for the appropriate fee. The newly formed commercial service of the TsUMVS will assume responsibility for the solution of other problems. This involves an increase in the commercial workload, the search for clients, additional charter flights, and direct contracts with foreign shippers and tourist firms.

[Grigoryev] The editorial staff's mail contains many questions about the sale of tickets on foreign airlines. Can a Soviet citizen fly on a JAL airliner, for example?

[Samorukov] He can, but only if he has the foreign currency. Last year we introduced several new rules. One of them is that employees of enterprises with access to the foreign market who wish to take advantage of flights on foreign airlines should pay for their tickets in foreign currency. This stems from the fact that we transferred passengers with Aeroflot tickets to flights on foreign airlines for the sum of roughly 100 million dollars in 1989. This relates particularly to routes to the United States, Israel, Canada, and Australia. We were simply not in a position by ourselves to carry all those who wished to go, and we were forced to transfer our passengers with tickets, which naturally were obtained with rubles, to flights by our partners. Aeroflot pays for it, as you see, and not in rubles, but freely convertible currency.

A very difficult situation has been created. For example, the number of flights on the Moscow-New York route has been restricted for us by the American side. We

introduced a direct nonstop route in joint operation with Pan American, where the basic passenger flow was directed. The influx was unprecedented, and it was clear that it was not possible to meet the demand.

The USSR Ministry of Finance has authorized a number of Soviet organizations to establish a fixed limit on currency payments. At 100,000 foreign exchange rubles, let us say. If expenditures exceed this sum, the organizations will have to look for foreign exchange funds themselves or reduce the number of foreign trips accordingly.

Citizens' trips abroad by invitation is a question of deep concern. We have introduced the following rule: all persons who wish to avail themselves of Aeroflot flights will fly to a specific point by paying in rubles. But if they have to fly with a foreign airline in continuing their trip, they will have to pay for the ticket in foreign currency—either at the cost of the one who invites them or by purchasing the currency at the appropriate rate of exchange.

All the current currency regulations have been worked out up to 1991. Later on the principles of currency cost recovery will be changed, perhaps, and the ruble will become partially convertible. In any case, we will be working out the new conditions for payment together with the Ministry of Finance. It is possible that we may propose combined rates: 30 percent of a ticket's cost to be paid in foreign currency, and 70 percent in rubles, let us say. But there should be an appropriate provision for foreign currency in our system of financial regulation for this.

There is one more innovation: for the first time in Aeroflot's foreign economic activity, representatives of foreign airlines will be given the right to sell their own flights firsthand in their own offices in the USSR for foreign currency.

[Grigoryev] And if a foreigner wants to fly on an Aeroflot flight?

[Samorukov] Only foreign citizens accredited to the USSR—embassy officials, representatives of the various firms which have ruble accounts in the banks and who receive their salaries in rubles—may obtain tickets for rubles. We suggest that other categories of foreigners obtain tickets for Aeroflot flights with foreign currency.

Unfortunately, we have run into a negative situation associated with the introduction of a special rate of exchange for foreign currencies. Many foreigners are doing this: they exchange 100 dollars for 1,500 rubles, let us say, and they take this sum to the Aeroflot office and purchase a ticket which costs them 10 times less than the amount they had to pay before.

[Brylov] Some readers are indignant: why, they ask, do we now have to pay for a ticket in foreign currency?.. The point is that the "boom" in trips abroad by Soviet citizens which began in mid-1988, which was related to the liberalization of exit authorization, the organization of joint ventures, and the expansion of foreign trade activity, put us in a difficult position. I am referring to the foreign exchange situation. For example, a flight over foreign territory, a landing at a foreign airport, passenger service, refueling—everything must be paid for in foreign currency. Sometimes foreign currency expenses for a trip account for 40 percent of the total. When there was not such a tremendous demand by Soviet citizens to go abroad, we struck a balance somehow to earn foreign currency. But now, in many directions which previously were considered profitable with respect to foreign currency, 92 to 95 percent of the passengers are our fellow countrymen, who have obtained their tickets for rubles. For this reason, it is not simple at all to find the foreign currency to pay off our foreign partners.

[Grigoryev] As before, there is a great deal of criticism of the crowding at counters of Aeroflot's International Ticket Agency, which has become the talk of the town.

[Samorukov] I will say frankly that such an unprecedented flow of passengers headed abroad has taken us by surprise. The problem is that the frequency of flights and those agreements we have had with our partners—service to the United States and Canada, and the absence of an agreement with Israel on air service—led to the point that we were not in a position to meet even 50 percent of the demand. We calculated recently that the unmet demand for flights on international routes, taking into account the market conditions that are taking shape this year, will total about 1.5 million persons. I would even say that this is a very modest figure. This is because we do not have a system of international routes that is developed sufficiently. Here is the problem: we cannot increase flights unilaterally, you understand; this must be coordinated with our partner. But it is to the latter's advantage to dictate his own conditions, naturally. For example, we have had an agreement with the Americans for seven flights, and we have not been able to increase the frequency of the flights. And they tell us: if you cannot, transfer your remaining passengers who purchased tickets for rubles to Pan American flights and pay us for them in currency. And we were compelled to pay nearly 20 million dollars out of Aeroflot's pocket. Our other partners are also dealing with us in roughly the same way. We have now come to an agreement with the Americans to significantly increase the number of flights between Moscow and New York beginning in the summer. But even with this we will not cover the demand for flights, which is continuously increasing. Aeroflot is to carry 5 million passengers on international routes this year, by the way.

[Kachnov] The main problem which visitors to branches of the Central International Ticket Agency run into is the lack of accommodations for ticket sales. Four new branches will be opened in Moscow by summer, and tickets there will be sold by specific directions. Now there are practically none of the lines we could see during the summer, by the way. To a large extent this is because we have shifted to ticket salesin accordance with a new rule—in order of real priority. Let us take the direction of heaviest traffic—to New York. Previously those wishing to obtain a ticket jostled each other at the TsMA branch on theFrunze Embankment. Now we assign a specific quota of seats—15 to 50 tickets—for Leningrad, Kiev, Minsk, Tallinn, Yerevan and other cities, which makes it possible to buy a ticket at one's place of

residence. We sell 45 tickets for New York every day in Moscow for 2 months before departure.

It must be said that the emphasis placed on expanding the area covered by flights from the airports of exit in the USSR—Tashkent, Minsk, Lvov, Leningrad, Vilnius, and Alma-Ata—has made it possible not only to provide more comfortable conditions for the passengers, who now do not need to travel to Moscow for a ticket, but to relieve Sheremetyevo-2 Airport of transit passengers.

[Samorukov] These problems are being encountered not only by Aeroflot, but the maritime fleet and railroad transport as well, incidentally. We are also discussing this in the Transport, Communications, and Information Science Commission of the USSR Supreme Soviet. We believe that now, in connection with the sharp increase in the number of persons traveling abroad, these matters should not be regulated on a statewide scale. The Ministry of Finance has unloaded all the responsibilities on the Ministry of Civil Aviation, and particularly on our administration—here is your currency plan, they say, and your limits, and you make the flights that you consider necessary. Assign them as you please. But we have repeatedly asked that a coordinating commission on transportation be formed to distribute the passengers to other means of transportation—by sea, rail, and highway.

You are aware that many citizens of German nationality are leaving Kazakhstan for the FRG now. It is good that we arranged with our West German partners for them to pay for these trips in freely convertible currency. Aeroflot and Lufthansa are taking the emigrants to the FRG by regular and charter flights. But they could have been sent by train as well, after all. But the United States does not want to pay for immigrants from the USSR, believing that the Soviet side should pay. And they aren't even allowing ships to come to their ports. There is a problem here and the Supreme Soviet and the Ministry of Foreign Affairs should become involved in resolving it by working with the appropriate countries in this direction.

[Grigoryev] Thank you for the discussion!

Gosplan Official on Aviation Performance

904H0140A Moscow VOZDUSHNYY TRANSPORT in Russian 8 Feb 90 p 1

[Interview with Professor B. Kozin, director of the Complex Transport Problems Institute under the USSR Gosplan and doctor of technical sciences, and V. Sabolin, head of a sector in this institute and candidate of economic sciences, by VOZDUSHNYY TRANSPORT Moscow correspondent V. Dubovoy: "The USSR Gosplan: Let Us Not Mark Time"]

[Text]

[Dubovoy] I would like to hear your assessment of the current level of air transport in the country and the quality of service to sectors of the national economy and the public.

[Kozin, Sabolin] Ensuring that air transport service is of high quality is an extraordinarily complex task. The poor quality of passenger service, especially on international flights, is offending the country's honor and the prestige of Aeroflot—the world's largest airline—is suffering in the process.

[Dubovoy] Could you illustrate this view with statistics?

[Kozin, Sabolin] There is considerable unmet demand for air transport service today (according to rough estimates, it adds up to about 20 million persons oper year, or 36 to 40 billion passenger-kilometers. As a result, the sector has receipts of 780 to 800 million rubles less from passenger flights each year), and the difficulties in acquiring tickets remain.

Many of the problems in air transport have been accumulating for years. Construction of a number of facilities for production and in the social area has been under way for decades. This is the third 5-year period, as an example, that the Minsk-2 Airport, the boiler house at Vnukovo Airport, and a hangar for painting aircraft at Civil Aviation Plant No 400 have been under construction. The plans to complete runway paving and to build air terminals, inflight food kitchens, hotels, hangars, cargo warehouses, aircraft maintenance bases, and so forth remain essentially unfulfilled from five-year plan to five-year plan. Some 13 years ago the "Aeroproyekt" [State Planning and Surveying and Scientific Research Institute] made a proposal on the advisability of building three city air terminals in Moscow at the "Domodedovskaya," "Yugo-Zapadnaya," and "Vykhino" terminal stations of the metro with hotel complexes for the Domodedovo, Vnukovo and Bykovo Airports. Implementation of this proposal would make it possible to relieve the existing air terminal on Leningradskiy Prospekt, adapting it only to service for passengers departing from Sheremetyevo Airport.

The construction of such air miniterminals will be relatively inexpensive, but it will make it possible to significantly reduce the time that passengers spend in getting to the airports and at the same time it will reduce the demand for buses and drivers for the trips.

Our design bureaus have developed highly economical aircraft (the Il-96, Tu-204, Tu-334, Il-114, and others), but the process of bringing the aircraft fleet up to date is proceeding extremely slowly at present. A combined program for developing civil aviation's ground material and technical base has been drafted, but it is also "slipping" because of the shortage of resources.

[Dubovoy] How do you assess air transport's place in the country's Unified Transportation System?

[Kozin, Sabolin] It is gratifying that in spite of the problems which we have already mentioned, we have managed to overcome the steady decline in the rate of air transport passenger turnover, all the same. While it amounted to 3.25 percent in the 11th Five-Year Plan, it reached 5 percent in 4 years of the 12th Five-Year Plan,

which is a substantial accomplishment. According to preliminary data, about 132 million passengers were flown by Aeroflot and passenger turnover of 229 billion kilometers was fulfilled in 1989. In volume of passenger turnover on the longest routes, the sector now is in second place after the railroads.

According to our calculations, by the end of the 13th Five-Year Plan air transport will come close to the railroads in passenger turnover volume over long distances, and it will advance to first place in the middle of the 14th Five-Year Plan. The potential opportunities exist for this.

Analysis of the actual distribution of passenger turnover in air and rail transport by the radius of service shows that an unjustifiably high volume of passenger turnover is produced by rail transport (78 billion passenger-kilometers) for distances over 200 kilometers, which is unquestionably Aeroflot's sphere of activity.

[Dubovoy] What can be done to attract passengers to air transport?

[Kozin, Sabolin] While aircraft are providing up to 70, 80, and even 90 percent of all the passenger transportation over long routes for the major cities (where there are mainline airports), this role is being played by the railroads between the small settlements which do not have large airports, even if the populated areas are thousands of kilometers apart.

The point is that the railroad system has about 11,000 passenger stations which provide transportation for passengers over long routes, while the number of airports is several times less. To some extent, a"switchover" of some of the long-distance passengers from rail to air transportation could be promoted by widespread development of combined service involving several forms of transportation. We must ensure that every major mainline airport has an extensive zone of gravitation so that reliably functioning access routes (rail, motor vehicle, waterway) provide for steady and rapid transportation to the mainline airport. Then every such airport will be providing for interregional passenger traffic, not the traffic between populated areas. But combined service involving several forms of transportation is practically undeveloped in our country at present.

Civil aviation also has considerable potential in the area of cargo transport, but it continues to be be just a potential to a significant extent. Over the past 5 years, air transport freight turnover has been practically "marking time," although this is a topic for another discussion.

[Dubovoy] But perhaps the conversion will now make it possible to impart greater dynamism to air cargo service?

[Kozin, Sabolin] In 1988 and 1989, military air transport pilots took part in delivering fruits, vegetables, and other important and urgently needed cargoes to different parts of the country. All this is very good! But at the same time, it seems to us, we ought to evaluate the possibility and advisability from national economic positions (not to the detriment of our principle of defense sufficiency, naturally) of utilizing certain large military airports for civil aircraft operations. This would be of substantial help in expanding the country's air services.

Aeroflot Awaits Airbuses, Il-96

904H0140B Moscow VOZDUSHNYY TRANSPORT in Russian 8 Feb 90 p 1

[Interview with V. Samorukov, chief of the International Commercial Administration of the Ministry of Civil Aviation, and A. Brylov, head of the Joint Ventures and Contracts Directorate, by I. Grigoryev: "The Airbuses Will Arrive in 1991, But When Will We Have the Il-96?"]

[Text] **The final contract under which the West European "Airbus Industrie" consortium will deliver five A310-300 Airbuses to Aeroflot in 1991 was signed recently in Toulouse.**

On the eve of this event, our correspondent conducted a brief interview at the International Commercial Administration.

[Grigoryev] Aeroflot is acquiring the foreign currency which it really needs wherever it can, but it is losing a considerable part of this same foreign exchange because of its obsolete fleet of aircraft, which are significantly inferior to similar foreign models. Doesn't this seem to you a rather paradoxical situation? When the memorandum of mutual understanding was signed with Airbus Industrie last fall, it was hoped that this situation would be changed, but to the best of my knowledge, the Ministry of the Aviation Industry has a viewpoint that is completely opposite...

[Samorukov] I will say more: the Ministry of the Aviation Industry has exerted every effort to prevent Aeroflot from leasing at least five Airbus A310-300's, which are needed to bring our obsolescent fleet up to date. It is no secret that the foreign passengers who provide us with our basic foreign currency receipts prefer a flight in the widebodied aircraft of Western airlines to a fatiguing flight in an Il-62.

As far as the Il-96 is concerned, our specialists believe that it should be expected to appear on Aeroflot routes no earlier than 1993. The aircraft apparently exists, but it has no engine and there are problems with the flight control and navigation equipment. We see the solution to the situation in cooperation between our aircraft industry and Western firms. They have already begun this work, by the way, but it is proceeding very slowly.

In addition, these five Airbuses will make it possible to release 12 Il-62's for operation in heavy traffic areas; their high economy and fuel efficiency will provide us with foreign exchange to pay for leasing the Airbuses and their maintenance.

[Brylov] When the Il-96 test flight was shown on television at the end of last year, a group of USSR people's deputies had misgivings: where do we obtain such vast sums of

money to purchase the aircraft, and is all this worth undertaking in general if the "96" will not be flying the airways today or tomorrow. The government has taken the final solution of this matter under its control. But the point is that Aeroflot will not have to pay imposing sums in currency right away for this transaction. Moreover, a leasing arrangement assumes not only cost recovery but the acquisition of considerable profit later on. Aeroflot's Western partners are meeting it halfway by giving it most favored nation treatment. No problems have arisen with COCOM [Coordinating Committee for Export Control], either. As far as the position of the Ministry of the Aviation Industry is concerned, they cannot deliver the first Il-96 airliners to us before 1993, after all. And we must not forget that by that time Aeroflot will need considerably more aircraft than our aviation industry will be able to provide. Leasing West European Airbuses on exceptionally preferential terms not only will help Aeroflot to improve its service on international routes, but it will provide the opportunity to acquire very valuable experience in operating the latest world-class aircraft.

I was talking recently with a Canadian businessman who had arrived at Sheremetyevo-2 for the first time. Together we looked silently at "the iron row" of aircraft standing idle at the airport. Yes, he said, I am finally convinced now that Aeroflot is not only the largest airline, but the most powerful as well. Not one of the world's leading airlines can allow itself such luxury—they would be bankrupt immediately. I explain that these aircraft have no engines. But he does not understand: this is ridiculous, he said, let me call Rolls-Royce now and in a month they will deliver engines to you. You will pay for them in 6 months and earn money yourselves... What can be added to this instructive dialogue?

So the contract has been signed. This can be perceived as disdain for domestic aviation equipment, of course. This is precisely what the Ministry of the Aviation Industry thinks, as we see; they believe that it would be more sensible to invest foreign currency in developing the Soviet aircraft industry. But after all, leasing Airbuses is not a tribute to fashion, but a step that we were compelled to take. And foreign currency still must be earned. And who is to blame because international-class aircraft are being turned out in the West now? It is to be hoped that we will be able to restore our reputation as a great aviation power once again...

MOTOR VEHICLES, HIGHWAYS

Yelabuga Motor Vehicle Plant Highlighted

904H0172A Moscow ZA RULEM in Russian No 2, Feb 90 pp 1-2

[Report by A. Solopov, ZA RULEM correspondent for the Volga-Kama region: "Perestroyka: Work and Problems on Different Shores of the Kama"]

[Text] Yelabuga, Tatar ASSR—If one takes the new road from Kazan to the East, which links the capital of the Tatar ASSR with its second largest city, Naberezhnyye Chelny, in about 200 kilometers the monotony of the steppe landscape is broken by the huge gates standing in an empty field. And although these gates appeared at the dawn of perestroyka in 1985, their "architectural conception" is from another era. I recall that a huge banner was hanging at that time on one of Kazan's central streets: "Let us give the first heavy truck to the Motherland in 1974!" The year 1974 passed by and they took down the banner. The first KamAZ [truck made by Kama Motor Vehicle Plant] was put together only in 1976, and that was on our knees, as they say, from parts manufactured by other enterprises in the sector for the most part. Was anyone ashamed because of the inability to calculate the resources, because of the presumptuousness and irresponsible promises?

Before 10 years had passed, the gates were erected in the empty field with a sign that could be read with the naked eye a kilometer away: "Kama Tractor Plant." In the summer of 1988, these words were changed to "Yelabuga Motor Vehicle Plant."

There is no doubt that the motives for this decision are well-known by readers who impatiently swallowed up any information on the new plant. The figures were particularly exciting to everyone: "Some 300,000 vehicles should be turned out in 1991, 600,000 in 1993, and 900,000 vehicles every year beginning in 1995" (IZVESTIYA, 10 August 1988).

The journal wrote at that time about the problems associated with implementing such intensive plans (ZA RULEM No 11, 1988). More than a year has passsed since then. And the first of the many questions I am taking to Yelabuga is: will the YelAZ series vehicle appear in 1991? (This material was prepared in November 1989—ZA RULEM editor)

In order to see the production prospects, we need to understand the situation at the construction site. My own impressions of it were supplemented by information provided by N. Mishchenko, the deputy manager for construction. Nikolay Ivanovich, who has been on this site since the first day, began building another tractor plant, and he has had experience with the KamAZ. The Kama and Yelabuga plants are giants of the same scale. They are also close together in territory: they are divided only by the Kama River and 60 kilometers. But the approaches and pace of operations differ sharply, and alas, not in favor of the YelAZ.

Only in the second half of 1989 did the energy to move the construction forward begin to be accumulated. When the tractor epic that had been started rapidly came to a halt, this immediately had an effect on the personnel. Over a brief period 25,000 persons had come to the construction site and were discharged soon afterward. But how could they be retained if there were protracted periods of idleness because of poor supply in the first half of 1989? Generally speaking, they began receiving most of the resources in October and November. The pipe arrived quite recently, and they are assembling structures without roofs...

The army of construction workers should be settled in a civilized manner; it had been planned to commission 270,000 square meters of housing in 1990 alone! It was decided in Yelabuga to manage without the temporary settlements, and at first all these "square meters" would serve as dormitories and be turned into apartments in a year or two as people are resettled. By 1995 there should be 2.5 million square meters of housing in multistory buildings alone. And the space was set aside for 1,100 cottages—a general plan and plans for the dwellings exist and loans are being issued.

The collective of construction workers must be increased immediately. About 9,000 persons are working at the site today, but 40,000 are required for fulfillment of the 1990 plan. The plan is no trifling matter: 280 million rubles must be used for industrial facilities, 98 million for housing and social-cultural amenities, and 25 million for the natural agricultural zone.

The general contractor for the YelAZ is the powerful "KamGESenergostroy" of the Ministry of Power and Electrification. But capacities of the Ministry of Construction in the Northern and Western Regions, the Ministry of Construction in the Southern Regions, and the Ministry of Water Resources Construction already have to be involved.

Yes, if the YelAZ and the KamAZ (both the plant and the city) are compared, these are similar projects. But the pace set by the plan for Yelabuga is almost twice as high, and the true picture is just the opposite. The KamAZ "was built by the entire country," but the fate of the YalAZ, it appears, has been entrusted entirely to the Ministry of Automative and Agricultural Machine Building. So should it be made responsible for the current state of affairs? We would not be so categorical. After all, in the atmosphere of general optimism engendered by the decree on construction of the YelAZ, no one would have the heart, as they say, to question the practicality of the periods of time that were set by—let us call things by their right names—a traditional, volitional procedure. Because of this same tradition, many have argued: even if they are unrealistic, they are strict to make up for it, and they will drive the work on, and we will cope with it by 1995. In any case, everything that has been seen and heard at the construction site compels a journalist and eyewitness to state with full responsibility: there will be no motor vehicles in 1991.

However, A. Maltsev, the deputy general director for economics of the "YelAZ" Association, did not try to dispel my impression, stating that the IZVESTIYA correspondent simply incorrectly interpreted the words of the chief of a main administration in the Ministry of the Automotive Industry at that time. This refers to 1993, not 1991, he said, and it doesn't mean turning out commodity production, but only commissioning the capacities of the first stage.

I am aware that this report is disappointing many ZA RULEM readers and discouraging some completely. But a truthful, sober assessment is better than empty promises. However, if the work continues even further at this pace, the vehicle will not make its appearance in 1995, either. At a minimum it is necessary to step up the pace threefold, increase the collective, and give the green light to orders from the new vehicle plant. Meanwhile, even the documentation needed for 1990 was barely completed for its beginning. Even though a motor vehicle plant was entered in the plan for a tractor plant, the differences are still substantial. The delay in changing the plant's specialization was also caused by the fact that the future production facility had to be more specifically defined. The tremendous demand required mass production, which in turn required a high technology design. The specialists believe that the compact, inexpensive "Oka-1" (for more details, see "The YelAZ: An Engineering Assignment Has Been Issued," ZA RULEM No 11, 1989) meets these requirements completely.

Consumers have doubts: do we need to make hundreds of thousands of minicars, will there be a demand for them, and wouldn't it be better to make a sturdier vehicle? Since the influx of such questions has not subsided even after publication of the article "The YelAZ: An Engineering Assignment Has been Issued," let us stress once again: even the vehicles in the first stage of the YelAZ will be substantially superior to the "Oka" in capacity and other features. As far as the second stage, whose fate is now being decided, is concerned, it is planned to manufacture a vehicle superior to the current "Tabriya" in roominess and comfort (this concerns the second half of the 1990's, after all). Incidentally, with the commissioning of the first stage, 300,000 vehicles will make up less than 20 percent of the total production of passenger cars in the country.

Persons whom I had occasion to meet at the site of the future complex were concerned most of all about the debt for the forthcoming tasks. But many problems have to be surmounted on the path from the first stage to establishment of the second one, including the problems of financing. There are persons who suggest that it be resolved by an untraditional method—by establishing a public joint stock company. Only the principles for organizing it exist at present. But generally speaking, the subject deserves a separate and thorough discussion.

Finally, there is one more aspect where there are polarized points of view. While the VAZ [Volga Motor Vehicle Plant] and the KamAZ were built practically in an equal location, the new plant is being built in immediate proximity to the pearl of the Russian province—the ancient merchant town of Yelabuga.

The "cities of the future," as they called Tolyatti and Chelny, turned out in reality to be gigantic dormitories with an undeveloped infrastructure. But after all, a person's life consists of more than work, sleep, and trips to stores and the movies. The YelAZ workers will be where they can rest their soul—a charming little town whose picturesque surroundings inspired the artist Shishkin and many other cultural figures. But at the

same time, won't the new city overwhelm the old Yelabuga by pressing its housing blocks toward the Kama?

The ecological factor is also playing a substantial role. The Trans-Kama industrial region includes the half-million Naberezhnyye Chelny; chemical complexes in Nizhnekamsk and Mendeleyevsk; the KAMA GES, which has inundated a vast area with its reservoir; the Zainsk GRES; the Tatar AES, which is still under construction; and now the YelAZ. Can nature withstand such an onslaught from industry, which has been attacking it for the past 30 years? There were earthquakes in the Yelabuga-Chelny region in April and November 1989. They were not strong, but even these events are extraordinary for seismically calm areas. They maintain that the earth is reacting this way to development of the oilfields. Isn't nature beginning to take its vengeance on us?

Leaving Yelabuga, I once again glanced at the portal erected in the empty space (I really have not seen one like it, either in Tolyatti or Chelny!). Perhaps it can be called a symbol of the situation today.

A little old town, as if putting its head on its shoulder, waiting for a decision on its fate. A gigantic construction project, which has barely begun to expand in its fifth year. Enthusiasts working against wear and tear so that the country has one more mass-production motor vehicle. Bold innovators who have undertaken to implement an unusual idea.

What lies ahead?

From the editorial staff: An article on the agreement with the Fiat concern, involving the YelAZ second stage, will be published in the next issue.

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Non-Chernozem Road Construction Performance Reviewed

904H0153A Moscow AVTOMOBILNYYE DOROGI in Russian No 2, Feb 90 pp 1-2

[Article: "The Non-Chernozem Roads Need Additional Efforts"]

[Text] The second year of the State Program for Highway Construction in the RSFSR Non-Chernozem Zone has been completed.

The immensity and complexity of the task set of constructing 170,000-200,000 kilometers of highways in the RSFSR Non-Chernozem zone in 1988-1995 can today be seen even more clearly. Subdivisions of road construction workers have been forming for two years. Stone material bases are being constructed, asphalt- and cement-concrete plants are being furnished, and housing is being constructed for workers coming from other regions of the country to build the Non-Chernozem highways.

Scientific organizations, particularly Soyuzdorniya, are taking an active part in developments directed toward seeking out and using local stone materials and new technical approaches to road construction in the Non-Chernozem region. Albums of standard designs for highways, taking into consideration the newest scientific-technical designs and ensuring high-quality construction, have been drawn up by Soyuzdorproyekt in cooperation with other planning and scientific organizations and have been approved in accordance with the established procedure.

The State is assigning all the participants in the construction a large number of road-building machines, trucks, asphalt- and cement-concrete units and other equipment. Suffice to say that in the two years the organizations of Glavnechernozemmeliovodkhoz alone have received about 100 sets of units to prepare the asphalt-concrete, and the Main Coordination-Technological Administration of the USSR Ministry of Transport Construction has obtained trucks with a total tonnage of about 12,000 tons.

In the last 30 years, highway construction workers have not obtained this quantity of technical resources in extremely short periods. All the ministries and departments to whom the Party and the government entrusted construction of highways in the RSFSR Non-Chernozem zone have got down to business.

All the same, despite the large amount of work done, there is absolutely no reason to be reassured.

In 1989, only about 16,000 kilometers of highways were put into operation in the RSFSR Non-Chernozem zone, including roads for general use, where the purchaser is the RSFSR Ministry of Highways—5807 kilometers—and of intrafarm roads, where the purchaser appears as Gosagroprom of the RSFSR Non-Chernozem zone—10,349 kilometers. About 3 billion rubles of capital investments were utilized in 1989. This amount, with respect to putting into operation and utilizing capital investments, is less than 10 percent of the total volume of highway construction in the RSFSR Non-Chernozem zone specified for 1988-1995.

To this one must add the fact that not all the highways put into operation have asphalt-concrete or cement-concrete, i.e., improved pavement. On roads in general use in 1988-1989, about 2000 kilometers were paved with sand-gravel or bottoming. The picture is even more grievous on the intrafarm roads built. Here the contractor Glavnechernozemmeliovodstroy alone, of the 2000 kilometers put into operation, introduced almost two-thirds of the roads without asphalt-concrete (black) pavement.

Practical experience shows that even when closing these roads to transport traffic in spring and fall (on intrafarm roads this is virtually impossible in general), their service life will be 1-3 years and then the roads will be in bad shape again.

The purchaser, mainly Gosagroprom of the RSFSR Non-Chernozem zone, came to an agreement on specially worked out regional norms for highways in the Non-Chernozem zone, but has not assigned the necessary capital investments to pursue the alleged reduction in cost of the roads through high quality and durability. This sort of practice deserves serious discussion.

The work volume for highway construction will be rising sharply in the next five-year plan. In order to fulfill the State Program for Highway Construction in the period established, 25,000-30,000 kilometers will have to be put into operation every year. The road construction organizations, particularly those newly formed and relocated in the RSFSR Non-Chernozem zone, are not yet ready for this, despite the work done. The capacities of the existing production bases (loading-unloading alleys, operating asphalt- and cement-concrete plants, stone-crushing units) are inadequate, and the problems of the social sphere (housing, preschool institutions, clubs, etc.) have not yet been solved so as to receive the large additional number of workers.

Because of this, 1990 should be regarded mainly as the concluding year for increasing the capacities of the construction and industrial organizations for road construction of the RSFSR Non-Chernozem zone. Sluggishness in solving this problem will seriously complicate the fulfillment of the State Program.

The purchasers, however (RSFSR Ministry of Highways and, in particular, Gosagroprom of the RSFSR Non-Chernozem zone), in citing the shortage of capital investments, do not allot enough of them for construction of production bases and projects for the social sphere, even though, it would seem, they should first of all worry about the construction workers and help them to increase capacities. Moreover, up to now (12 Jan 90) the RSFSR Ministry of Highway Construction and the Gosagroprom of the RSFSR Non-Chernozem zone have allotted some contracting organizations insufficient contracting work quotas for protocol-orders at the sites. This does not ensure putting into operation the number of kilometers agreed upon with them and specified by the State Program.

The behavior of the RSFSR Ministry of Automotive Transport is completely incomprehensible. It does not fully take over from the USSR Ministry of Transport Construction the transport of goods for highway construction. In Smolensk, Kirov, Leningrad and Perm oblasts alone, 6.8 million tons of construction goods have not been taken over for transport.

Because of the fact that a considerable increase in construction volumes has been specified by the State Program, a preferential tax assessment of the wage fund must be established for organizations engaged in highway construction in the RSFSR Non-Chernozem zone. This will serve as an additional stimulus for increasing the amount of construction work fulfilled, basically completing the development of the necessary capacities for construction organizations, accelerating the solution to problems of building facilities for the social sphere in 1990 and increasing the exactingness for the quality of the work fulfilled, and will be a pledge for solving the extremely difficult task of building highways on the territory of the RSFSR Non-Chernozem zone in 1991-1995.

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Azerbaijan Road Development Examined

904H0153B Moscow AVTOMOBILNYYE DOROGI in Russian No 2, Feb 90 p 5

[Article by K.B. Tagiyev, professor, doctor of Economic Sciences: "The Roads of Azerbaijan: Development, Tasks and Problems"]

[Text] In 70 years, Soviet Azerbaijan has created a powerful complex, an important unit of which is motor vehicle transport. It has gained predominant importance in fulfilling local transport and is steadily increasing freight turnover in intercity service. At present, motor vehicle transport has over a four-fifths share of the volume of all freight transport and over 90 percent of the passenger transport, and this trend is steadily growing.

Highways are an integral and inherent part of the transport complex. Therefore, the growing role of motor vehicle transport and vehicularization predetermines the further development and improvement of the highway network. The development of the economy and provision for transport needs depend on road service, the existence of a ramified network of highways and their transport-operations level, and consequently, vehicularization should be accompanied by an expansion of the network of new highways and improvement in the state and technical parameters of the existing ones.

Due to the development of the highway network, zones of the republic that are important from the economic standpoint have been included in the sphere of transport service.

Extent of roads at the end of the year, 1000 km:

	1940	1960	1980	1985	1988
overall	11.0	16.8	23.9	24.2	25.7
including hard-paved roads	3.0	7.9	18.3	22.4	24.4
of them, with improved type of pavement	0.06	3.2	7.7	9.3	10.1

At present the extent of the highway network in the Azerbaijan SSR, including departmental, is 31,000 km, and of them 28,000 km are hard-paved, i.e., the density of the network is equal to 350 km per 1000 km^2 of territory. In 1945-1985 the extent of hard-paved roads increased by a factor of over 8.3. At the same time, with the construction of new roads, their transport-operating level and architectural design improved considerably, and the width of the roadway was increased on a number of roads.

Large, critical tasks face the republic's roadworkers with respect to further highway development, tasks of tremendous, not only economic, but also social importance. Particular attention should be paid to developing the network of local roads, ensuring a stable transport link between rural population centers, kolkhozes and sovkhozes both with each other and with the main highways. Serious attention is now being given to their priority development, and this is in conformance with principle.

Transport service is becoming important in carrying out the decisions of the March (1989) CPSU Central Committee Plenum "On the Agrarian Policy of the CPSU under Present-Day Conditions," which specified the intercoordinated and balanced development of urban and rural industry and agriculture, the transformation of the village, a rise in its economy and a rise in the material and cultural level of the population.

In the development of roads in general use, which take on a considerable portion of the interrayon and local motor vehicle transport, the lowland part of the network has grown at inadequate rates. A considerable portion of the freight, particularly that of the agrarian sector, is still transported along dirt roads. At the same time, the cost of transport has risen by 30-50 percent. This has an adverse effect on the development of agriculture and on social conditions.

The total extent of hard-paved intrafarm roads is about 2000 km. Of the 1426 central farmsteads of the kolkhozes and sovkhozes, only 21.5 percent have hard-paved roads. Many kolkhozes, sovkhozes and individual population centers have no entry to the road network in general use, and in many cases are connected with rayon centers and each other mainly by dirt roads. As it is, the negligible intrafarm road construction is being carried out one-sidedly. This primarily applies to accesses to farms, cotton drying areas and the public services and amenities of population centers. In addition, after they are turned over for operation they are left virtually unrepaired and unserviced and, since they are on the balance sheets of the kolkhozes and sovkhozes, most of them become unmanaged, since the agricultural enterprises do not have the necessary material resources, equipment, or specialists. As a result, the roads become unserviceable prematurely and the expenditures to restore them sometimes exceed the cost of new construction.

The Avtodor Association of AzSSR Gosstroy (formerly the Ministry of Highway Construction), in focusing particular attention on roads of all-union and republic importance, does not show proper concern for developing the local network of highways, their technical state and maintenance and improvement of the configuration of the road network. Cases of failure to adhere to the established norms of technology and work rules and deviations from the planned designs and existing norms occur in the construction of rural roads, reducing traffic safety.

To solve the problem of accelerated construction of highways in the rural area, particularly in mountainous and foothill regions, the republic's Gosagroprom created Azeragrodorstroy, a special planning-construction association.

The association's main task is to put into operation, promptly and with high quality, roads linking the central farmsteads of kolkhozes and sovkhozes to each other and to various centers of the republic.

Since the beginning of 1989, the Azeragrodorstroy PSO has completely converted to the leasing form of farming, which specifies measures to improve production relations and thoroughly update production.

Carrying out the new agrarian policy and solving the large-scale problems of the agrarian sector, the social sphere of the village, widescale development of subsidiary production and industry to expand the spheres of application of work in the rural locality in accordance with preliminary evaluation necessitates republic construction of intrafarm and local hard-paved roads with a total extent of 32,000 km, including 11,300 km with top priority. The task is not an easy one.

If one takes into consideration, however, the fact that road facilities are a profitable sphere for applying capital investments and that the economic effect of resources invested in developing the highway network is 3-4 rubles per ruble of expenditure, the effectiveness of this measure becomes obvious.

All this should ensure the comprehensive development of the road network of the republic as a whole and of its individual regions, since under the conditions of republic cost accounting, good, efficiently functioning transport is necessary.

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RAIL SYSTEMS

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Railroad Organizational Structure Viewed

904H0180A Moscow ZHELEZHNODOROZHNYY TRANSPORT in Russian No 2, Feb 90 pp 15-19; No 3, Mar 90 pp 6-10

[Article by A.D. Chernyugov, chief engineer of the Transport Main Administration of the Ministry of Railways, V.A. Kudryavtsev, professor, doctor of Technical Sciences, G.M. Groshev, candidate of Technical Sciences, and A.S. Kvitsinskiy, candidate of Economic

Sciences: "The Organizational Structure of the Railroads: What Should It Be Like?"]

[No 2, Feb 90 pp 15-19]

[Text] **Improving the administrative structure of the basic activity of railroad transport—the transport process—is one of the most important tasks of restructuring traffic in the sector, and is closely linked with radical modernization of the "steel mainlines".**

The authors of the article being published—well-known specialists in the sphere of organizing and managing the transport process—reflect on what the organizational structure of the railroads should be like.

In railroad transport, perfecting the operational and administrative-economic management of the transport process is acknowledged to be one of the most important directions in improving operations and in further intensifying the transport process. This requires a critical evaluation of the dispatcher system presently existing on the road network, of the organizational structure of transport management and of its restructuring and automation.

The Shortcomings of the Existing Dispatcher System

The existing four-unit system of operational management of the transport process was formed in the 1920's-1930's, with steam traction and short operating sections for locomotives, inadequate signaling and communications devices, manual information processing from all the units of the management system, and a relatively low filling of the throughput of the sections and the processing capacity of the stations. It has remained virtually unchanged since then. Accordingly, a four-unit structure was formed and has been in effect for more than 40 years now: MPS [Ministry of Railways]-railroad-division-sectorial line enterprise.

The historically formed boundaries of the railroad subdivisions were established in relation to large stations, in consideration of the possibilities for steam locomotive traction to handle train operations. In the time that has passed since then, however, there have been radical changes in the nature of the economic ties between the regions of the country, railroad transport has been reequipped, and transport volume and the intensity with which means of transport have been used have grown immeasurably. Because of the electrification of the railroads and the introduction of diesel traction, the lengthening of the locomotive operating sections, as well as the partitioning of the polygons of individual roads in accordance with the administrative territorial division of the country, on the railroad routes between the classifying stations, junction points have turned up which do no work on servicing trains. This now runs counter to actual transport technology. Having lost technological significance, they have become an additional barrier on the path of train movement, since their position has ceased to coincide with the technological junctions of the transport process, which are located at the sites of origin, termination and mass processing of train- and car-flows, i.e., at major classifying, section and freight stations. Eliminating these unfeasible junctions will accelerate train-traffic flows and expand the possibilities of efficient train operation management.

The existing structures of the dispatcher and administrative-economic system do not ensure unified directing of the freight flow from points of mass origin to points of termination and between main car processing stations, nor efficient use of locomotives and brigades within the limits of the polygons and extended service sections. The operating sections for the locomotives, in making the transition to advanced types of traction, increased from 80-100 km to 600-1000 km and more, and at the same time their boundaries often go beyond the limits, not only of the division, but even of the road, which makes efficient work planning difficult. The extent of the dispatcher sections, as before, is basically about 100-150 km.

There has been no solution to the problem of clear-cut demarcation of functions between divisions and the road administration services, economic rights and economic responsibility between the sectorial services, and road divisions and their structural units since the divisions were created. The management systems and functions of the dispatcher staff are not clearly enough determined and distributed by levels. The organizing role of the dispatcher is weak at the upper levels of the system.

The remoteness and separateness of the dispatcher collectives, which ensure control of the routes and junctions and their dispersion through various divisions, do not permit prediction of the transport process and adequately substantiated reliable information, and lead to uncoordinated actions, and consequently, to an increase in operating expenditures.

In a number of cases, the goals of efficient management do not coincide on the divisions and the road administrations, so that the local interests of the divisions by no means always coincide with the general interests of the road and network. A large number of administrative operations are duplicated at the division and the road levels. Operations orders and reports are passed slowly. Road dispatchers do not provide precautionary regulation of train flows, of the work of the locomotives and locomotive brigades, nor promptly predict the possibility of work difficulties arising. This is connected with "knowing" a train position or a reduced schedule, as a rule, with a lag of 3-4 hours and with the formation of road circles, in most cases along divisions, but not in the direction of the train flows to which the locomotive operation sections are related. The reliability and depth of the information used for operations planning and traffic management is inadequate.

Intensive saturation of the railroads with computer equipment and the creation of ASUZhT [automated railroad transport control system] subsystems have had virtually no noticeable effect on dispatcher control

methods, the structure of the dispatcher system and distribution of the functions between its levels and data base organization and support of the process of operations control. Despite the presence in the computer's memory of large volumes of varied data on the transport process, they are little suitable for practical use by the dispatcher staff. The reasons for this are the organizational shortcomings, of the technical outfitting, software and hardware, and also the inadequate recording of the content of the informational activity of the operations workers. They obtain most of the data by conversations and calculations made "by hand", which requires a great expenditure of time to record, formalize, monitor and evaluate the information arriving.

Until recently, no proper attention was paid to expanding the complex and improving the technical devices of traffic control under the existing conditions. As a result, in an ever-increasing number of dispatcher circles, the conditions were created for overloading the train dispatchers, which lowered the quality of the routine planning and regulation of train throughput along the sections. As the result of this, on a number of roads and divisions substantial shortcomings appeared in the organization of dispatcher direction of train traffic: no clear-cut interaction of all the services involved in operations work was ensured, and the train traffic schedule was disrupted. Often there were train delays at road and division junctions.

Dispatcher direction today is not integrally coordinated with the tasks of economic management, and the administrative-economic management often fails to correspond to the requirements of efficient dispatcher direction.

All of this leads to losses of throughput and processing ability, nonfulfillment of the established amounts of traffic and the norms for car transfer, disruption of the schedule and regulatory discipline, a slow-down in car and locomotive turnover and poorer use of locomotive brigades.

As a result of overloading the dispatcher staff with manual information processing, expenditures not directly related to the process of solving control problems amount to 60 percent of the work time and considerably raise the level of "information lag" in the multilevel system of dispatcher control. The more intensive the train traffic and the more structural units there are in the dispatcher control system, the greater these losses.

Already, with average amounts of traffic, the information load of many operations workers is approaching the maximum permissible level. At the same time, the probability of a prompt solution of the control problems is not over 70-80%, and some of the problems are solved in untimely fashion and erroneously.

Lowering the quality of routine dispatcher planning and of regulating the procedure for train throughput along the sections due to the overload of dispatcher work, leads to a reduction in section speed. The traffic schedule for freight trains, with respect to passage, is 90% fulfilled, and that is only on some roads. The gap between the norm and the actual fulfillment of the section rate on the network is 5.5-6 km/hr. The gap between the section and technical rates is not being reduced, and is about 10 km/hr. Increasing the section rate by 1 km/hr on a network-wide scale will make it possible to release about 17,000 cars and 100 locomotives a year for additional transport, and will ensure a 24 million ruble a year reduction in operating expenses.

Delays in train movemement and the attendant disruption of the work pattern of the locomotive brigades inflict great losses in operations work. As a result, the locomotive brigades spend a considerable part of their work time unproductively.

At major stations, over one-third of the time for locating cars is taken up by interoperational intervals, while the objectively justified value of these intervals, stemming from irregular traffic and the nonconcurrence of the completion of the technological operations is about 20%. Up to 40% of the train delays and more on approaches to stations is caused by lack of coordination of the actions of the division and station dispatchers and shortcomings in their information support. On the whole for the network, losses due to overestimating the idle times of cars at stations and due to train delays on the approaches to them constitute several million dollars a year.

Therefore, the problem of radical reorganization of dispatcher control of train operations, in order to achieve a substantial rise in its efficiency and improvement in the operations activity of railroad transport as a whole, has now become an urgent one.

Priority Measures for Restructuring and Automating Dispatcher Control

Major measures are being carried out on the nation's railroads to increase the throughput and traffic capacity and to introduce new equipment, intensive industrial processes and scientific developments, aimed at ensuring prompt transport of all freight and passengers and at increasing the economic efficiency of the operations. Intensive work is being done for improvement, organizational-functional restructuring and automation of dispatcher control of the transport process.

Traffic control is being disseminated (on the level of the MPS, the railroads and divisions) to all sectors of the railroad industry that directly ensure the transport process: tracks, STsB [signalization, centralization and blocking], communications and computer equipment, car, locomotive, power and electrification.

The dispatcher shift personnel of these services are called upon to ensure routine monitoring of the state of the technical devices, taking efficient measures to eliminate malfunctions that arise, and also coordinating repair-reconditioning and preventive work, coordinating their activity with the dispatchers carrying out operations transport control, being operationally subordinate

to them. In particular, this expansion of traffic control is to be implemented in the process of creating and putting into operation automated dispatcher control centers (ADTsU) in the ministry and on the railroads.

The structure of the dispatcher staff of the network and road levels is being reorganized for the transition to a unified automated operations control of the work of the lines, directed toward tracking car flows and using locomotives on extended service sections, concentrating control and reducing the number of control levels. Areas of control for regional routes and major railroad junctions are being assigned on the network polygon in accordance with technological principles. Basic network routes have been assigned on the network level on technological principles.

At the level of the railroads, this restructuring of the dispatcher staff is being carried out primarily on the Donetsk road, where, in accordance with technological principles, the polygon, which included seven divisions, was divided into three areas of concentrated operations control. At the same time, the dispatcher staff of the combined two divisions included in control area I, as early as 1986, was housed in one of the rooms of the Unified Road Control Center. Its transition to automated work has been in progress since 1987, using the "System of Dispatcher Control Concentration" (SKDU), created by the collectives, which include the Giprotranssignalsvyaz Institute (GTSS), BelIIZhT [Belorussian Institute of Railroad Transport Engineers], LIIZhT [Leningrad Institute of Railroad Transport Engineers] and the Donetsk road. Work is now being done for control area I, with an automated control system being introduced.

On the Central Asian Road, the dispatcher staff is being concentrated, with the mainline divided into two consolidated areas with automated control. On the basis of technological principles, it was decided to split operations control on the Belorussian Road, which has six divisions, into three regions. Analogous developments are being made on the October, Northern, South Urals, North Caucasus and a number of other roads.

At present, automated control systems (ASU) of an information-reference type system are intensively being worked out, developed and improved. This work is aimed at automating the data base organization and support of the dispatcher staff of the stations, divisions and road administrations of the transport process, as well as of operations accounting and work analysis.

Automated work stations (ARM) for workers in mass occupations involved in control and data base organization and support of the transport process are being developed on a broad front: operators of station technological centers for processing train information and transport documents, freight office operators, duty attendants for locomotive and car depots, station duty attendants, and station and shunting dispatchers.

Prototypes of automated operations control work systems are being developed for regional routes and large junctions: KSAUDP—comprehensive train traffic automated control system (Moscow Road), SKDU—dispatcher control concentration system (Donetsk Road), ASKPP ("Estafeta")—automated train position control system (Donetsk Road), SATURN—automated control system for trains operated by a foreign firm (October Road).

Work has been in progress since 1984 on developing automated dispatcher control centers (ADTsU) for the MPS and the railroads. The first section of the MPS ADTsU was put into operation in 1987. The dispatcher staff, including the chief dispatcher of the MPS, the main car distributor, the main locomotive dispatcher and the inspectors—dispatchers for network routes—is located in a single operations room. The ARM are positioned in three rows in front of the display board, for collective use—the luminous graphic panel for the railroad network. Each ARM is equipped with displays, hooked up to a specialized computer complex and means of communication. The MPS ADTsU, through an intermachine exchange with the MPS GVTs [main computer center] and the VTs [computer center] of the railroads, receives information on the course of the transport process on the road network, and then depicts it on the graphic panel for the network and to the ARM of the dispatcher staff, in the form of systems reports, either on the initiative of the system or at the request of the dispatchers.

Some 46 road ADTsU are to be developed on the road network. Moreover, on the Donetsk, Northern, South Urals, Belorussian, Central Asian and October roads, they are already being designed or constructed.

On the Donetsk Road, where the prototype of the road ADTsU is being set up, in the operations room of control area I, introduced as far back as 1986, the work stations of eight train dispatchers, two car distributors and two locomotive dispatchers with an operator are positioned in front of the graphic panel display for collective use. The center is being set up as a two-level complex of four interrelated automated systems, three of which provide automated dispatcher direction of the individual control areas, and the fourth, upper level—dispatcher direction of the road as a whole. In this case, it is proposed that the operations room controlling area III be located, not in Donetsk, but in Voroshilovgrad.

On the Central Asian road, the Tashkent road dispatcher center has been put into operation. Traffic control on the polygon of four divisions—Tashkent (former), Fergansk, Bukhara and Dushanbe—has been concentrated in it. An analogous dispatcher center is being created in Chardzhou to direct traffic on the Ashkhabad and Chardzhou divisions.

On the October Road, an automated dispatcher control system is being developed, with the ADTsU located in Leningrad, Moscow, Petrozavodsk and Pskov. In the first section, work is being done to set up ADTsU on the

road level and ADTsU to direct the Leningrad railroad junction and the Moscow-Kalinin section.

In designing the ADTsU on the Northern and South Urals roads, the first stage specifies automation of the data base organization and support for the road dispatchers, each of which is located in a separate work facility, through installing displays and teletypes, hooked up to the ASOUP, at their work places.

Considering the particular importance, complexity, responsibility and high capital-intensiveness of work on developing a network of 46 interconnected ADTsU on the regional level, it is expedient to work out a special sectorial target program, which would specify coordinating work on designing, constructing, providing communications channels, outfitting, developing software and putting into operation ADTsU, allowing for the future transition of the sector into a two-unit control structure.

To raise the quality and efficiency of dispatcher control, it was resolved to work out and put into effect a methodology for professional selection of personnel for the position of train dispatchers from among the specialists having experience in the work of station duty attendant, to organize the instruction of train dispatchers in special cost accounting courses based on educational institutions attached to the railroads, to develop a trainer that simulates train traffic control on the sections, with centralized traffic control and dispatcher control to instruct train dispatchers, and to create instruction materials and handbooks to improve dispatcher skills.

Assigning, on technological principles, objects for operations control. The boundaries of railroad routes and major junctions as objects of concentrated dispatcher control of operations work should be established in accordance with technological principles: unified operations control of line work should be organized in the direction of tracking car flows and using locomotives on extended operating sections.

When assigning an individual major junction or regional route as an independent object of control and establishing its boundaries, the following must be taken into consideration: location of points of mass origin and termination of freight and passenger flows, points of mass processing of car flows, the boundaries of using various forms of traction and types of current (on electrified lines) and extended sections of operation for freight and passenger traffic locomotives, the position of the technical devices (locomotive, electric train and car depots, etc.), the polygons for operating closed ring routes and other trains serving in local operation, as well as the boundaries for suburban traffic in the area of large cities, the operating sections of the locomotive brigades, the guaranteed sections of car service PTO [technical inspection points] and the network routes, technologically conditioned.

In addition, it is necessary to take into consideration the boundaries of the country's administrative-territorial division, of existing roads and their divisions, dispatcher groups, junctions and stations, and also the volume of transport work and number of sectorial subdivisions—depot, track distance, etc. Therefore, the number of dispatcher sections (and this means, other indicators as well) in each individual case cannot be regulated in advance and should be determined in the process of establishing the boundaries of a specific regional route (junction), allowing for its specific nature. These consolidated objects of operations control should be equal with respect to extent, for polygons with two to four existing road divisions (2000-4000 km), and have an optimal number of dispatcher sections or one close to it, with respect to conditions of controllability when automating dispatcher direction. The boundaries of dispatcher sections within the consolidated objects of operations control should also be established on the basis of technological factors and in consideration of the fact that automation will make it possible to reduce the load on train dispatchers by at least 30-40 percent.

From the standpoint of dividing the responsibility and functions of dispatcher personnel when determining boundaries and working out a control system for a regional route (junction), it is necessary to consider limiting the permissible load for the dispatcher in fulfilling his functional duties (with respect to physical and psychological possibilities), the norm for the optimum number of workers located under the direct jurisdiction of one person in a man-machine system of operations control (7 persons), the optimal extent of the operating sections for locomotives and the resolving potentials of the traffic control hardware, with respect to the number of objects being controlled and monitored.

There is now an urgent need for the forces of the scientists of VNIIZhT [All-Union Scientific Research Institute of Railroad Transport], VNIIzheldoravtomatizatsiya and the VUZes, with the participation of railroad specialists in unified methodology for the entire network, to work out the problems of assigning, in accordance with technological principles, consolidated areas of unified operations control and to attach them to the ADTsU network on the regional level. A thoroughly substantiated solution to this problem is particularly important to intensify the transport process through a transition to unified, efficient automated control of the work of the lines according to the running routes of the car flows and extended sections of locomotive operation and concentrating and reducing the number of control levels.

These are only some of the problems involved in improving the organizational structure of the railroads on a new technical and technological basis. It is important to find the optimum solution to the problems of choosing the boundaries of the polygons of control and a transition to a two-unit structure, developing and introducing new principles of administrative-economic management, etc. This will be the subject of the next article.

[No 3, Mar 90 pp 6-10]

[Text] **The preceding article discussed the shortcomings in the existing dispatcher system, priority measures for restructuring and automating dispatcher direction and the factors determining the assignment of objects for operations management in accordance with technological principles. Improving the organizational structure of the railroads under today's conditions also requires optimizing the selection of the boundaries of polygons of management, using new principles of administrative-economic management and solving a number of other problems, and ensuring the effectiveness of the measures carried out to introduce the new management structure.**

Polygon Boundaries and the Transition to a Two-Unit Management Structure

An analysis of the experience accumulated in dividing the polygons of the railroads into consolidated areas of centralized automated dispatcher control shows that the existing organizational structure of the railroads and their divisions will lead to a disruption in the unity of the boundaries of operations management of the transport process, on the one hand, and of the administrative-economic—on the other. For example, on the October Road, each of the regional routes, assigned in accordance with technological principles, and the Leningrad railroad junction include 10-13 each of the existing dispatcher groups included in two to three adjacent divisions. At the same time, the technologically substantiated boundaries between the consolidated areas of operations management do not coincide with the boundaries of the divisions and administrative-territorial division of the country. The dispatcher sections of the existing divisions are as a rule included in not one, but two or three consolidated management areas, assigned in accordance with technological principles.

The main requirements for the development of ADTsU should be ensuring optimal conditions for efficient transport organization and acceleration of scientific-technical progress in the management of the transport process and development of its material-technical base, and reinforcing, on this basis, full cost accounting and self-financing of railroad transport. Developing these ADTsU will yield the greatest effect only if automated dispatcher direction of the transport process is combined with the general administrative, economic and technical (sectorial) management on the polygon of each center. This will contribute to efficient automation of dispatcher direction, through the development of ADTsU. For example, to ensure the unquestionably necessary unity of the boundaries of the operations, administrative and economic management, scientists of the LIIZhT and specialists of the October Road propose that, instead of the 11 divisions formerly existing on this road (10 presently), 5 consolidated production-territorial complexes be created (each within the technologically substantiated boundaries of the corresponding consolidated area of operations management), endowed with the full rights of a production association (PO). In time the number of these associations on the road polygon can be reduced to four (with the optimal level of control automation).

When determining the optimal boundaries of the new railroad PO, along with the technological factors enumerated, a number of economic requirements must be taken into consideration. The best conditions for implementing full cost accounting and self-financing should be created in the new railroad transport subdivisions. In particular, the principle of the correspondence of the operating expenditures of the PO and their structural units to the sources of financing must be adhered to. For this purpose, for example, the minimum possible run of rolling stock beyond the limits of the PO of its registry must be ensured, in consideration of the need for optimal use of locomotives and other technical devices.

Each new PO should contain all the necessary production subdivisions—locomotive depots, etc. The boundaries of their work sections should be made in accordance with the boundaries of the production subdivisions. Adherence to these requirements will in some cases lead to expanding the polygon of the PO, and in other cases—to a revision of the present operational boundaries of the production subdivisions (track sections, signalization and communications, power supply, etc.), a redistribution of technical service points for cars, etc.

Optimizing the boundaries of an association on the basis of the requirements of ADTsU and its functioning as a unified economic subdivision may in some cases necessitate a radical break in the present boundaries of road divisions. For example, it is advisable to include, in the PO of the Leningrad railroad junction, some of the subdivisions included in the present three divisions of the road, while the rest of them should be transferred to three other PO. It is expedient to establish classifying or other large car flow processing stations as juncture points between the polygons of the railroad associations and the ADTsU. They themselves are already natural junctures and will not cause additional idle time for the rolling stock when it is transferred from one PO to another.

On the basis of this, it is expedient, at the first stage, to make a slight change in the present boundaries of the railroads. For example, the Leningrad-Savelovo-Moscow route, which runs parallel to the Leningrad-Bologoye-Moscow mainline, is presently shared between the October and Moscow roads. No car flows are processed at the junction station of Savelovo. To ensure unified dispatcher direction of the train-flow throughput on the interconnected parallel runs, it is expedient to transfer the Savelovo-Moscow section to the October Road. For the same reason, the parallel routes, Sverdlovsk-Nazyvayevskaya-Omsk and Sverdlovsk-Kurgan-Omsk should be included in a single railroad, etc.

There are inter-road and interdivision junctions on the network which are not technological. It is expedient to transfer them to technological junction points. For

example, on the Moscow-Riga route, the juncture between the October and Moscow roads passes by the Shakhovskaya station, at which no car flows are processed, but the boundary between Moscow and Kalinin oblasts runs close by. It is advisable to abolish this junction, transferring the Shakhovskaya-Moscow section to the October Road.

It is obvious that the boundaries of the polygon of a single PO and its ADTsU must not be optimized in isolation from the other production associations. There must be joint optimization of the boundaries of interconnected polygons and ADTsU.

The boundaries of the present railroads and their divisions have as a rule been established in accordance with the administrative-territorial division of the country. This often leads to additional transport costs. The boundaries of the new railroad PO should be formed regardless, not only of the historically formed boundaries of railroads and their divisions, but also of the administrative-territorial division. After all, even the Decree of the Council of People's Commissars of the RSFSR, signed by V.I. Lenin in March 1918, established that railroads, even though they pass through a specific territory, are essentially extraterritorial, for they serve the needs of the entire country.

The topicality of Lenin's principle of the extraterritoriality of the railroads has intensified now, when the problems of organizing regional full cost accounting and self-financing of the republics, krays and oblasts are being solved. The boundaries of the new railroad PO will become optimal only when they are oriented, not toward regionalistic and nationalistic tendencies, but toward full utilization of the technical, operational and economic advantages of ADTsU and the unity of car flow control. Railroad fixed capital is not the property of any administrative-territorial unit. It is created by the labor of the entire Soviet population and therefore should be used for public interests. After all, if the movement of the train flow on the tracks between stations processing cars is controlled, not by one, but by various centers, there is an inevitable delay in the transport process at the juncture points, and a possibility of failure to adhere to the unity of the technical policy on a given route and, as a result, of additional expenditures.

Optimizing the boundaries of railroad production facilities in accordance with technological principles is in accordance with the USSR Law on the State Enterprise, from which it follows that the production association, regardless of the territorial location of its structural units and independent enterprises, functions as a unified production-economic complex, ensures integral combination of the interests of sectorial and territorial development and carries out its activity on the basis of a unified plan and balance. The solution to the problems of optimizing the composition of PO is favored by dividing the functions of management between party, Soviet and economic organs, which is carried out in accordance with the resolutions of the 19th All-Union CPSU Conference.

As new railroad production associations are created and their ADTsU are introduced, the possibility of putting these subdivisions under the direct jurisdiction of the MPS appears. It is expedient to consolidate the small roads. The basic part of the present railroads can be transformed into a new type of PO through abolishing their divisions. The largest roads, possibly, will have to be subdivided into two or more new railroad PO.

In the future, when all 46 new production associations with ADTsU have been set up, railroad transport can make a complete transition to a two-unit management structure: railroad PO-MPS. In this way, the present railroads and their divisions will be transformed into new railroad PO. The system of dispatcher control will become a three-level one: MPS-railroad PO-structural unit. It would perhaps be expedient, at the first stage, to subdivide production associations with a wide area into two or three areas of dispatcher control (without their being detached administratively and economically). In this case, however, the areas should be regarded as branches of the ADTsU. The real possibility of transition to a two-unit structure is confirmed by the experiment of 1933-1945, when management was carried out in accordance with the system: MPS-railroad, to the services of which the line subdivisions are directly subordinate.

Developing ADTsU is a relatively long-term process, since it requires large capital investments. Even at the present stage, however, it is expedient within the railroads to assign new PO technologically substantiated boundaries in the form of consolidated road divisions, in consideration of the functioning of future ADTsU. This will make it possible, under already existing conditions, to obtain a true economic effect from reducing administrative-management expenditures, from reducing the number of junction points and from making the transition to managing the work of the lines according to car flows.

On the other hand, the organization and activity of the new PO within the technologically substantiated bounds of ADTsU functioning will contribute to accelerating the creation of automated centers. Therefore, in the transitional period, the sphere of the three-unit structure can be gradually narrowed, in proportion to the creation of new railroad production associations with ADTsU and to their subordination directly to the MPS, so that the structure of railroad transport management will ultimately be converted into a two-unit structure. In the period of transition, before ADTsU is put into operation, the dispatcher staff of the regional areas of management can remain at the sites.

New Principles of Administrative-Economic Management

Consolidating line subdivisions of the railroads and their divisions will make it possible to release about 13,000-14,000 workers on the management staff. When solving this

problem, it is expedient at this time to proceed from the concept of new railroad production associations with ADTsU, which, in our opinion, should consist not of individual depots, sections and other enterprises, but also of major cost accounting sectorial services—locomotive, track, etc.

At present, the line subdivisions of each sector of the railroad industry are operating independently of each other, and are administratively and economically subordinate to the road division, but functionally (with respect to technical direction)—to the corresponding road service. This dichotomy on various levels of technical and administrative-economic management of the sectorial subdivisions causes a breakdown in the technical policy and material-technical supply in each sector of the industry, due to the financial resources necessary to implement them, and, as a consequence—to discrepancies in technical direction and cost accounting.

In order to increase management efficiency, it was proposed that road divisions be abolished, that their structural units be made directly subordinate to the sectorial services of the roads and that these services be converted to cost accounting. These proposals are based on the stability of the existing roads and their services. Putting them into effect will unquestionably reinforce sectorial supervision and will ensure the unity of economic and technical management. It is also obvious that at the same time there will be a weakening of the coordination of the operations activity and technical development of various sectorial subdivisions along specific lines and at railroad junctions. The task of this coordination will in this case be entrusted to the road management, which cannot solve it successfully. Suffice to recall that it was really precisely for this reason that road divisions were created in their time. Therefore, converting the sectorial services to cost accounting seems unjustified.

Unity can be achieved, not only in operations and administrative-economic, but also in technical management of the sectorial subdivisions, if cost accounting sectorial systems are created within the proposed railroad production associations, by transferring their management directly to the production subdivisions. For example, if, let us say, five locomotive depots are included in the new railroad subdivision, they can be combined into a single cost accounting locomotive system. The largest of these depots can be the head one. Its administration will take on the functions of directing all five depots, as well as the present functions of the locomotive department of the division and service of the locomotive system for the road. The remaining four depots will function as shops for the sectorial system under conditions of intraproduction cost accounting.

The cost accounting locomotive system of the PO should include, in addition, wrecking and fire trains, fuel and petroleum product bases, as well as rest houses for the locomotive brigades and turn-around engine houses, not attached to the main depots. Finally, there must be quantitative and qualitative reinforcement of the main depot administration, but on the other hand, the administrative staff of both the remaining depots and the staff of the locomotive departments and services of the road will be reduced to a considerable extent. Similarly, it is expedient to consolidate track sections, power supply, signalization and communications, civilian structures, etc., into cost accounting sectorial systems.

Since the proposed railroad production associations will on the average be half the number of the existing railroads, and the number of structural units will be greatly reduced due to their consolidation, the unity of sectorial and territorial management of individual subdivisions, coordination of their activity and development on specific polygons will be ensured in these PO with ADTsU.

The proposed cost accounting sectorial systems will differ in principal from cost accounting services, in that they will make it possible to abolish the managerial superstructure—the actual sectorial services—except for the transport services. The administration of the head sectorial line subdivisions will be the managerial organ. The practicability and efficiency of this solution is being confirmed in practice. For example, at the Ashkhabad Division of the Central Asian Road, according to the laws of its structural unit, a combined track system enterprise—OPPKh—was created, which included six permanent-way districts, two PMS [track-laying station] and a section of forest protection stands. Only 2500 persons are working here. The administrative-managerial staff has been reduced by 40 percent. The number of line workers lacking has increased. As a result, the volumes of capital and routine repair of the track have increased, the restrictions on traffic speed and extent of "unsatisfactory" sections have been reduced, and the average point evaluation of the state of the track has improved.

The new railroad production associations should also include, in the by-laws of their structural units, directives for the service of passengers, which, in addition, enable them to take on the function of a passenger service. Large stations performing passenger and freight operations may be assigned terminals, under the jurisdiction of those directives.

Enterprises of a new type—junction associations—have been set up at the Makhachkala and Tikhoretskaya stations of the North Caucasus Road, and the Tolyatti station on the Kuybyshev Road, as an experiment. The staff of these stations, in addition to their workers, includes track workers, car workers, etc. The experience accumulated so far, however, makes it impossible as yet to draw any definite conclusions on the efficiency of this type of organization: better organization of the operations activity of the workers of the various services at the junction is ensured, and the number of them is reduced, but serious problems arise with respect to material-technical supply and technical direction of the various

systems. Another problem is efficiently managing such a large number of junction associations and the adjacent sections and line stations.

Centralized direction of the sectorial systems within the bounds of the proposed railroad production associations is advisable. Bearing in mind, however, the very close operations tie of the work of the stations and the car PTO, as well as the relative simplicity of their equipment and technology, in our opinion, it is expedient for the PTO, including the sections of cars, uncoupled and coupled, in for routine repair, as well as the washing-steaming stations, to be transferred to the railroad stations which they serve. The car depots from which the PTO will be assigned, will concentrate their efforts on depot repair of the cars.

The organizational structure of railroad transport should be such that the economic responsibility for managerial decisions should fully correspond to the rights of each level of management, and such that the railroad PO bear only the costs depending on them. Without this, full cost accounting is unthinkable. Unfortunately, at present this principle is not always adhered to.

There is a very close technological connection between the production sections of the permanent-way districts of loading-unloading operations and the stations at which they operate. Therefore, it is expedient to place these production sections directly under the jurisdiction of the stations, abolishing the permanent-way districts named as structural units. The repair shops for the loading-unloading machinery and mechanisms may be part of the largest freight stations, and they should, on contractual principles, repair the loading-unloading mechanisms for the other stations of the railroad production association.

The numerous line non-cost-accounting stations, at which a large number of workers are employed and the car idle time is high, can play an important role in increasing transport efficiency. It is advisable to combine them into a cost accounting system of line stations on an independent balance, and according to the laws of the structural unit of the PO. The Central Asian road, where the Tashkent management for freight transport and passenger service has been in operation since 1 January 1989, has experience in this type of organization. It includes all the stations of the former Tashkent Division, including the Tashkent passenger station, which has become an independent cost accounting structural unit of the railroad. This management is directly under the jurisdiction of the road transport service.

The proposed cost accounting system for line stations should be endowed with the rights and responsibility to organize work with trains, cars and locomotives, to serve passengers, provide freight loading and unloading, interact with the freight consignors, consignees and local organs of authority, introduce new equipment and technology, and organize and stimulate work on the line stations.

Only the functional services of traffic safety, economics, accounting and finance and certain others should remain in the administrations of the proposed railroad PO, as well as the transport service, to which it is advisable to transfer the department of the present container transport service and commercial operations. The remaining sectorial services should be abolished, in connection with the creation of sectorial cost accounting systems.

On the basis of the road technical department, it is expedient to set up a scientific-technical service, charging it with working out the problems of introducing new equipment and technology and comprehensive reequipment and restructuring of the sectorial services on individual polygons of the production associations. It is advisable to have, under the head economist, a scientific-research group, working out proposals to improve organization and wages, and a system of full cost accounting and self-financing both for the PO and for its structural units.

Along with the basic functions, the transport service for the new railroad PO should also take on the data base organization and support of ASOUP, ASUSS, ASUZhS and other automated systems to be included in the ADTsU system. The independent cost accounting stations and line stations should also be operationally subordinate to the transport service.

The dispatcher staff of the consolidated sectorial structural units—stations, locomotive and other subdivisions—should be subordinate to the tasks of dispatcher direction as a whole on the polygon of the railroad PO. Hence it follows that the economic independence of the sectorial systems of the new associations is limited to the tasks of dispatcher direction. The sectorial railroad subdivisions will not perform transport work, but will fulfill only the technical work necessary for this. They will obtain the revenues from transport, not from the consumers of the transport product—the passengers and freight consignors—but as a distribution of the railroad revenues, and in the future—revenues of the new railroad PO. Hence the need, on the part of the higher organ, to regulate the revenues of the railroad sectorial subdivisions. Subordinating the sectorial systems to the tasks of providing the transport process with ADTsU inevitably narrows the sphere of their economic independence.

Finally, the completeness of the technical development of the various sectorial systems must be ensured on each railroad polygon. This requires the creation of a centralized fund for the development of production, science and technology and centralized disposition of it. By virtue of what has been said, the proposed cost accounting sectorial systems should endow the structural units of the railroad production association with a legal status. Giving them the status of an enterprise, which permits a greater degree of economic independence, could throw the transport conveyer into confusion. At the same time, the funds for material incentive and social development, and also for production development and new equipment, should reach the sectorial

systems in full measure through the corresponding economic norms, in the measure necessary to update the technical devices.

To put in order the economic and production relations, the activity of the sectorial systems should be organized on a strictly contractual basis. Economic contracts are necessary between the interacting cost accounting sectorial systems, between each of them and the management of the railroad production association, and also the mutually related PO. These economic contracts should specify the mutual obligations and financial sanctions for their fulfillment, as well as various incentive measures.

Without waiting for the development of ADTsU and the new railroad production associations, it is expedient to enter into general consolidation right now, on the basis of the principles set forth and the advanced experience of the subdivisions of the road divisions in the cost accounting sectorial systems. In this case, a real economic effect will be obtained, not only through reducing the administrative-managerial expenditures, but also through intensifying the maneuverability of using the work force, material resources and technical devices of the individual subdivisions, raising the engineering level of management through concentrating the most highly skilled personnel in the head sectorial subdivisions and increasing the possibilities of technical and technological improvement of production. In the future the cost accounting sectorial systems of road divisions can be completely consolidated as the divisions are consolidated and new production associations and their ADTsU are created.

The Effectiveness of Concentrating Leadership and Reorganizing the Managerial Structure

The main purposes of creating an ADTsU of the consolidated areas are: improving the operations direction of the transport process in management areas through optimizing the process of regulating, centralizing and concentrating dispatcher direction, automating the work of dispatchers and the control processes on the basis of modern technical devices and computers, increasing the efficiency of using means of transport and the throughput and traffic capacity of the sections and the processing capacity of the stations, and achieving high economic indicators and the highest labor productivity for the most complete satisfaction of the need of the national economy and the population for transport.

The components of the operational and economic efficiency of concentrating and automating dispatcher control on regional routes and at the largest junctions and control areas may be considered to be improving the technical-economic indicators for the utilization of means of transport—increasing the section speed of train traffic, reducing the idle times of local and transit cars (including at junction points), the idle times and single runs of locomotives, the empty runs of cars and the lateness of passenger trains, and raising the level of fulfillment of the traffic schedule and the plan for train formation and the quality of the daily-shift and routine planning of operations work on the basis of more accurate prediction of the train position at objects of control. Also related to this are improving the regulation of train throughput through automating their throughput planning on computers, increasing the relative proportion of precautionary regulation on the basis of advanced prediction of possible difficulties in operations work and carrying out measures to prevent them, and accelerating information processing and putting into effect control actions with minimal "information lag."

Important components of efficiency are ensuring established work conditions for the locomotive and train brigades, raising the level of train traffic safety and labor productivity and reducing the number of dispatcher personnel, releasing station duty attendants and cutting back the managerial staff and administrative-managerial expenditures through consolidating management areas at ADTsU.

Theoretical calculations show that reducing unproductive expenditures in train operations through improving dispatcher control when introducing automated traffic control systems on a regional route over 600-700 km long consists of calculating, per one freight train a day, passed through along the route being discussed: 4.6 car-hours, 0.11 train-hours, 0.12 locomotive-hours for a single run, 0.18 brigade-hours of the locomotive brigades (not counting preparation-completion time), 0.08 train stops, 1 train-km and 0.01 locomotive-km of a single run. The total reduction in yearly operating expenditures in the train operation of freight traffic alone, calculated per 600-700 km, is 0.5-0.7 million rubles, or approximately 800-1000 rubles per kilometer.

Through automating dispatcher control, at least a 30-40% growth in the labor productivity of the dispatcher staff will be achieved, and a corresponding reduction in staff and saving of the wage fund. In addition, creating the proposed production associations in the optimal boundaries of ADTsU and consolidated sectorial systems included in these associations will make it possible to reduce the administrative-managerial staff considerably and to ensure complete unity of the operations, administrative, economic, technical (sectorial) and territorial management and material-technical supply, which in itself gives an additional economic effect.

For example, calculations of the technical-economic efficiency of concentrating, automating and reorganizing management on the consolidated polygon of the Leningrad railroad junction, assigned in accordance with technological principles, showed that the yearly economic effect here is over 3 million rubles, including a reduction in operating expenditures of approximately 1.5 million rubles, and of them, over 0.5 million rubles is the saving in administrative-managerial expenditures. Additional operations expenditures entailed in the functioning of the system, as well as expenditures for its design and

construction, were taken into consideration when determining the yearly economic effect from introducing ADTsU.

An analysis of the problem made it possible to formulate the main stages of the proposed reorganization of the system of dispatcher control and administrative-economic management of the railroads. First of all, in the near future the entire railroad network will have to determine the optimum boundaries of the consolidated areas of dispatcher control (regional routes and the larger railroad junctions), established on the basis of the technological principles discussed and oriented toward natural technological junctures of the transport process. The affiliation of the boundary sections of the present railroads and their divisions, the system of traction service and the PTO of the cars should be corrected in accordance with these same technological principles.

To create automated dispatcher direction systems for consolidated management areas at technologically substantiated boundaries, it is expedient to work out and implement a special sectorial scientific-technical target program, specifying coordination of work on designing, constructing and providing communications channels, outfitting with computers and other equipment, developing software and putting regional ADTsU into operation. Instead of the present railroads and their divisions, new production associations should be created in stages, within technologically substantiated boundaries, and be equipped with ADTsU. For this purpose it is advisable, in the very near future, to consolidate the road divisions, and in some cases the railroads as well. As new railroad production associations are created, they will come under the direct jurisdiction of the MPS.

In the near future it will be desirable to consolidate the sectorial structural units of the road divisions through merging the enterprises of each sector of the system and conferring the functions of their management on a specially reinforced administration of the main sectorial system of the enterprise. Therefore, cost accounting sectorial systems (including a cost accounting system of line stations) should gradually be created, which as structural units will be part of the new railroad production associations. The effect of ADTsU will be distributed to these sectorial systems.

Assigning, in accordance with technological principles, extraterritorial consolidated areas with unified management of the transport process and developing automated dispatcher control systems for these objects are in accordance with a course toward improving the management of the economic system and contribute to realizing the new railroad transport management structure. As a result of fulfilling all these measures, unity will ultimately be achieved for all sides in the management of the transport process—operations, administrative, economic, technical (sectorial) and territorial management and material-equipment supply.

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Chief Interviewed on Railway Economic Programs

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[Interview with Viktor Fedorovich Pryadko, chief of the Central Accounting and Finances Main Administration of the Ministry of Railways and member of the ministry's collegium, by M. Kosolapova: "Our Expenditures and the Results"]

[Text] **As already reported in GUDOK, a number of railroad managers and chairmen of dorprofsozhy [railroad committees of the railroad transport workers trade union], did not agree with the Ministry of Railways after receiving the scheduled figures for the current year's plan from the ministry. Asserting the rights of labor collectives, they adopted reduced plans. The editorial staff has been bombarded with telegrams asking us to defend the interests of railroad workers from the dictates of the department and to help to retain funds to implement social programs.**

In responding to these questions, the ministry's financial specialists have provided detailed information on profit distribution in the newspaper. Railroad workers are now paying the expenses of their educational and public health institutions out of their own pockets. Until this year these were financed from the state budget. Paying for new freight cars and containers has become a heavy burden for the ministry. The funds for them were allocated by the state before as well. Are transport workers still being blamed somehow for the doubling of prices for diesel fuel? But that is still not everything. The sector, which has not received a kopeck from the increased tariffs, must increase the deductions for social insurance in accordance with the Law on Citizens' Pensions.

It cannot be stated unequivocally how all this will be reflected in railroad workers' welfare. Economic incentive funds have been reduced by 252 million rubles. On many railroads, the rise in expenses, no matter how they are managed, has exceeded the rise in incomes. And how bitter it is to acknowledge that we cannot count on an improvement in the standard of living for the sector's workers.

A call was made to the ministry in this situation. The editorial staff asked Viktor Fedorovich Pryadko, the chief of a main administration and member of the Ministry of Railways collegium, to comment on what has taken place.

[Pryadko] Parasitical attitudes have predominated in our society for many years. "Give" was considered a legitimate demand at all levels of the state hierarchy. The transition to new methods of economic operation requires a sharp change in consciousness. Our welfare now depends on how much we earn by working honestly.

But not everyone has accepted this everywhere. Some persons, in calculating the gain from the change in rates, have obtained a round number, forgetting in the process that our wealth has not increased from the rise in the wholesale price. Under the country's existing multibillion deficit, if sectors of the national economy are

allocated one sum or another, this means redistribution of our common "pie." Someone will get more at the cost of others.

Seeing that they cannot take advantage of the revenues from the tariffs, they have lowered the scheduled figures on certain railroads. I explain this only one way—an attempt to establish a reserve of funds for themselves to cover expenses above the limit. Essentially to enhance their financial prosperity not by better work, but at the cost of other railroads.

[Kosolapova] What are the consequences of reducing the profit?

[Pryadko] If the plan is intensive but realistic, the collective will calculate how it is to be realized. That is, such a plan induces them to work purposefully, with greater efficiency. With the reduced, free and easy version, there will be neither zeal nor fervor.

But there are other negative consequences of such a solution as well. Those who reduce the profit in the plan are reducing the economic incentive funds accordingly and incorporating the shortage of sources for financing capital investments and other expenses in the plan. As an example, the Donetsk, Odessa, Southwestern and Moscow Railroads have planned a reduction of profit against the scheduled figures of 12, 16, 19 and 30 million rubles, respectively, under comparable conditions. By setting the plan lower, the railroads wanted to retain their funds. But it does not happen this way.

[Kosolapova] Viktor Fedorovich, isn't there a contradiction here? On the one hand, you speak of improving the conditions for yourselves, but on the other hand you say that they are incorporating a shortage of funds in the plan.

[Pryadko] There is no contradiction. The instinct of parasitism comes into action here. By planning a shortage of funds, a railroad will have grounds to ask a higher organization to allocate additional sums. Which is what actually takes place.

[Kosolapova] Were there such differences before?

[Pryadko] Before the shift to the new methods of economic operation, the profit plan was approved for the ministry by a higher authority, the ministry approved it for the railroads, and so on. Today this right has been given to the enterprises themselves. And in drafting their plans, some of them are acting primarily on their own interests, often overlooking the state's interests. In adopting a reduced plan, a collective is counting on an easy victory in the All-Union competition to receive a bonus.

[Kosolapova] Evidently there is no mechanism to induce them to increase incomes?

[Pryadko] Suggestions on this are being reviewed. Instead of profit under conditions of competition we can include another indicator: the relationship between the profit acquired to the profit for the same period in the preceding year.

[Kosolapova] So incentives to increase incomes are already being examined. But how are railroad workers to be protected from their losses? It is common knowledge that about a half billion rubles last year were "eaten up" by transportation disruptions to a large extent. They took place in different regions of the country and were caused by interethnic conflicts and strikes. It turns out that no matter how much you work, something happens somewhere and everything comes to nothing. What is to be done here?

[Pryadko] Social protection for railroad workers from consequences of this sort were not thought out, unfortunately. The Ministry of Railways is preparing its own proposals in this regard for the USSR Council of Ministers. Essentially they entail the establishment of an insurance fund to compensate for the losses of economic incentive funds. If these losses do not depend on labor collectives' activity, of course.

[Kosolapova] You must admit that the economic mechanism in transport still requires adjustment, and we cannot consider it completed. It is apparent that everything is not clear even to the railroads' financial specialists, otherwise there would not be any differences. Wouldn't it be better to give the railroads the status of state organizations?

[Pryadko] And that may take place. In any event, the proposals made by L. I. Abalkin, deputy chairman of the USSR Council of Ministers, deserve serious attention. They were published at the All-Union Scientific-Practical Conference on the Problems of Radical Economic Reform held last November, In particular, railroad transport enterprises were named among the state enterprises functioning with primarily administrative methods of management. Their employees are in the state's service. When their duties are performed appropriately, they are guaranteed a level of wages and social services that is quite high.

We may assume at the same time that cost accounting is not provided for in the form in which it now exists in transport. But this does not mean that it is not needed. In my view, it is simply essential as a means of stimulating improvement in the quality of transport and passenger service and in the use of rolling stock and other technical facilities.

[Kosolapova] And lastly, the January results are inauspicious. The transport plan was not fulfilled. What do you suggest as a way out of this situation?

[Pryadko] Events in the Caucasus had an important influence on the January results. Some 35 million rubles in economic incentive funds were lost! But to say that the sector's employees did everything possible to carry out what had been planned would be to act against our

conscience. And when we speak about the railroads' economic activity, we must look for a way of earning funds.

We must look for transport volume, develop efficient subsidiary and auxiliary activity properly, increase services for the people and enterprises, and expand consumer goods production. In a word, we must make use of everything possible to obtain a little more income and profit. Businesslike efficiency and enterprise and an economic approach to all work are particularly necessary for people today. And a sense of being a proprietor will help in being zealous and thrifty in everything, especially under conditions of a critical deficit.

Security Chief on Train-Related Deaths, Injuries

904H0138B Moscow GUDOK in Russian 8 Feb 90 p 2

[Article by M. Belan, chief of the Armed Security Administration of the Ministry of Railways: "The Moloch: Thousands of Persons Are Being Killed Under the Wheels of Trains"]

[Text] I will begin this difficult discussion with a very sad and painful statistic. In the past year alone, 6,959 persons were hit by rolling stock and 3,999 of them were killed. Every day the country loses more than 10 persons. And most of them are young and able-bodied. Each year about 500 children are traumatized by the most severe consequences.

Many citizens often do what they like when they are on the railroad. In looking for a shortcut and trying to save a minute or two, they cross the tracks at an unauthorized point. Some of them escape with injuries, but others pay with their lives. Quite a few more who risk jumping from the train while it is under way are imjured and die. Those who are fond of riding on the car steps are sometimes knocked off by platform barriers. The daring fellows who attempt to run across the tracks under the very "nose" of a train when the crossing gates are closed are still not extinct.

But after all, the government has made persons answerable for violating the rules established in railroad transport.

Those guilty of unauthorized rides in freight trains, boarding and getting off a train while it is in motion, riding on car steps, and crossing railroad tracks at unauthorized points are fined.

Unauthorized stopping of a train with the emergency brake or by other means when it is unnecessary, if this brought about disruption of normal train traffic, is punished by imprisonment for up to 2 years, orcorrectional work for the same period of time, or by a fine of up to 300 rubles. For the same actions, if they result in accidents involving people, wrecks, or damage to rolling stock, the guilty persons are punished by up to 8 years' imprisonment.

It is common knowledge that the railroad is an area of increased danger. These are not empty words, not an attempt to frighten anyone. This is a reality which cannot be disregarded. And 4,000 wasted lives each year are crying this out! Wasted because of unconcern, sloppiness, and a flagrant disregard for the most elementary safety requirements.

You read the reports on the investigations of such accidents on the tracks and you are dumbfounded. Seven young persons from the Mezhdurechensk Mining Tekhnikum 16 or 17 years old decided to test their courage. They were foolish, obviously. None of the older persons—not the parents or teachers—were able to impress on the teenagers that such experiments on the railroad come to a bad end. So these seven teenagers lay on the roadbed between the rails one night and waited for a train to fly past... Not one of them survived. This happened last August on the section from Kazynet to Biskamzha on the Krasnoyarsk Railroad.

Persons also fall under the wheels at stations and on track between stations. Some 3,846 persons became victims from walking in unauthorized areas at stations, and 3,111 were injured on the tracks between stations.

Stations can be fenced off somehow, and our security guards and railroad employees are there who can warn of the danger and in the end hold persons responsible for walking in unauthorized areas. Many stations have footbridges, tunnels, special pedestrian decking, and warning signs. And all this has an effect far from all the time, unfortunately. And on the sections between stations? Don't you put a guard at every telegraph pole to prevent outsiders from entering an area of increased danger?

I will cite a typical case. A little boy and girl from the Slavyanka settlement school in the Ussuriysk region, were walking on the tracks in the section between Banburovo and Ryazanovka. When they saw a train approaching, they crossed over to the track next to it, paying no attention to the warning signals given by another train coming from the opposite direction. And they fell under the wheels.

Sometimes people ask in such cases: can't the engineer really brake and stop the train? Let us try to explain with a pencil in our hands, as they say.

A modern freight train weighs 3,000 or 4,000 tons, and often much more. And it travels at up to 80 kilometers per hour. Even with the very best brakes it is hard to stop in less distance than a kilometer. A passenger train weighs less, but its speed may be much higher.

Now let us figure it out. A pedestrian walks at 4 or 5 kilometers per hour, roughly 1.3 meters per second. But a train speeding along at 80 kilometers per hour covers over 22 meters in that same second. And if the pedestrian is 100 meters from the locomotive, it will hit him in less than 5 seconds. This is a normal train. An express train may cover over 200 meters in these few seconds. One need only lose his bearings, linger a little, or take a

false step, and disaster is inevitable. This is the kind of risk that persons who stroll along the railroad tracks are subjecting themselves to!

Experience shows that you cannot radically change the situation just by fines, warning signs, and discussions with rule violators. Although we also have to continue doing this, and more persistently and resolutely than before.

The managers of railroads, divisions, stations, and armed security subunits, together with local soviets and managers of enterprises adjacent to railroads, have to analyze the situation thoroughly and map out what needs to be done, and when, to prevent outsiders from entering the area of increased danger. Footbridges and tunnels, decking, and footpaths can be built in convenient places and barriers can be erected here, and so forth. It is important to do everything so that there is as much convenience as possible for people; otherwise the efforts and money will be spent for nothing.

And most importantly, I think, we must educate children from the very first grades in school, as well as adults, to have respect for rules of conduct in an area of increased danger. And it is easy to remember the basic rules.

The tracks must be crossed only at points that have been established, using footbridges, tunnels and crossings. At stations where there are no tunnels and bridges, the tracks must be crossed on pedestrian decking, as well as in places where there are special signs: "Track Crossing." In this case, you must be convinced first of all that there is no moving train, locomotive, or car.

In approaching a crossing, it is necessary to carefully look and listen for sound and light warnings and observe the placement of the crossing gate.

Persons must board and get off the cars only after the train comes to a full stop, and it must be on the platform side.

As you see, the rules are extremely simple. They can be taught almost from kindergarten. It is important that people develop the stereotype: errors can be costly in areas of increased danger. And it would be good to make use not only of diagrams and posters but films and tapes for this. The shocking information affects the adults most of all when they see the graphic evidence of what violations of the rules lead to. The local soviets of people's deputies should help to organize this instruction in educational institutions and at enterprises. Who if not they should demonstrate their concern first of all for the health and lives of their electorate and their children.

The ancient Phoenicians had a god of the sun, fire and water—Moloch. They brought him human sacrifices for his pleasure. We cannot reconcile ourselves to the fact that at the end of the 20th century thousands of persons are being killed under train wheels to please the "demons" which patronize irresponsibility, sloppiness, and a devil-may-care attitude toward laws and rules.

Rail Ministry Economic Programs, Problems Detailed

904H0146A Moscow GUDOK in Russian 10 Feb 90 pp 1-2

[Replies from the USSR Ministry of Finance to letters sent to GUDOK: "A Financial Fog"; commentary by GUDOK Department of Economics, Science and Technology]

[Text] **Working at the limit of its potentials, railroad transport has now found itself in an extremely complicated position. Strikes, interethnic conflicts and natural calamities have led to a reduction in transport, loss of revenues and consequently, a loss of economic incentive funds as well. Many work collectives do not have the capital to carry out the program for social development, particularly for housing construction, remuneration for the work results for the past year, etc.**

Despite the repeated explanations on the pages of the newspaper of the situation that has been formed by MPS [Ministry of Railways] financiers, the editors continue to receive letters and telegrams, the authors of which, on behalf of their collectives, state that the people's faith in the fairness of the positions of the new economic mechanism have been undermined and that work conflicts are becoming imminent.

That is why the editors appealed to Petr Sergeyevich Kushnarev, chief of the Transport and Communications Financing Department of the USSR Ministry of Finance, with some questions.

They immediately announced to us that, they said, their relations with GUDOK were special (?), and that therefore, instead of an interview, they suggested that we send in questions, to which written responses would be given. We are publishing them practically unabridged.

[Question] As we know, railroad transport has lost about 500 million rubles of revenue as the result of strikes and other conflicts, and they are short 400 million rubles of profit. How, from your point of view, can the social protection of the railroad workers be ensured under these conditions?

[Answer] The results of the development of the country's national economy in 1989 attest to the complex economic situation. The budget deficit was 92 billion rubles. Tension increased on the consumer market. Under these conditions, the rates of the rise in income of the population considerably outstripped the growth rates of expenditures for goods and services. Even though the assignment for profit was on the whole overfulfilled by 4 percent, a considerable part of this increase was obtained through unjustified overstating of prices. Every fifth industrial enterprise and construction organization failed to fulfill the profit plan. The well-known events in the Baltic countries, Moldavia, Uzbekistan, the Transcaucasus and in the coal regions of the country did considerable damage to the economy. Direct losses

resulting from the strikes alone totaled 0.8 billion rubles. Naturally, the losses affected the reduction in the profits and economic incentive funds of enterprises in many sectors of the economy.

Last year the country's railroads had a shortfall of about 500 million rubles of profit, because of which the economic incentive funds were reduced by almost 400 million rubles. All this was reflected in the workers' wages and other expenditures for social needs.

Railroad workers know that the loss of funds was caused not only by strikes and interethnic conflicts. Shortcomings in the operational activity of the roads and transport enterprises also had an effect. Nonproductive expenditures and losses alone reduced last year's profit by over 300 million rubles, and the economic incentive funds—by 240 million.

It is clear, however, that the losses that were not the fault of railroad transport, including those due to strikes of the consignors and consignees of the freight, should be compensated by the guilty party. It would seem that this economic responsibility should be specified in the Law "On USSR Railroad Transport." Introducing responsibility will contribute to the development of cost accounting relations and will create social protection for the railroad workers.

[Question] On 3 December 1989, in the replies of N.I. Ryzhkov, chairman of the USSR Council of Ministers, to GUDOK's questions, it was said that raising the tariffs would make it possible to find funds for the development of transport. As the draft of the plan showed, however, railroad workers will not receive even a kopeck from these funds. What is more, education and medicine are financed by production. How do you explain all this to the rank-and-file railroad workers?

[Answer] On 1 January of this year the USSR Council of Ministers introduced increased tariffs for freight transport, including a 35 percent rise for railroad transport. As a result, railroad revenues are increasing by 5.4 billion rubles, which are left completely for the sector. From this source, 1.7 billion rubles have been directed toward acquiring rolling stock and completing construction of nearly finished projects, almost 1 billion rubles—toward compensating for additional expenditures involved in the rise in wholesale prices for the diesel fuel consumed and tariffs for freight transport for internal needs, and 0.3 billion rubles—for centralized capital investments.

Simultaneously, educational institutions, public health, higher educational institutions and a number of others began to be financed through the sector's profit. Some 1.5 billion rubles have been directed toward their maintenance. It should be noted that in preceding years funds were allotted for them from the budget.

Raising the tariffs made it possible to direct 847.3 million rubles toward improving the social conditions of the railroad and subway workers. These expenditures will be covered, not through the economic incentive funds, but through budget funds.

Until now, because of the low tariffs for transport, systematic increase in prices for the transport products and rolling stock needed, and for a number of other reasons, the MPS expenditures exceeded profit by approximately 1.7 billion rubles. The difference was covered through the union budget. This year the increase in revenues over expenditures (according to the financial plan) is 2 billion rubles.

In summing up the results of the profit distribution, it cannot be said that the railroad workers are receiving not a kopeck from the rise in freight tariffs. Once more we repeat that the funds are left completely to the sector.

Many people ask: why have the social-cultural institutions, including education and medical, begun to be financed through the profit of the sector, whereas before they were allotted funds from the budget?

We inform the readers of the newspaper that the growth of profit caused by raising the tariffs for freight transport has created the actual conditions for this financing. There is nothing in this that is inconsistent with the existing conditions of the economic mechanism. On the contrary, one of its principles is that all expenditures be covered through sectorial funds.

For these institutions, apparently, it is not so important from which sources they receive the funds for maintenance, as whether continuous financing will be ensured. We feel that this is primarily the concern of the financiers of the roads and central staff of the MPS. This concern is also shared by the Transport and Communications Financing Department of our ministry. In taking into consideration the change in the sources and procedure for financing, we have granted the MPS, in the first quarter, an interest-free loan in the amount of the monthly need—120 million rubles. We feel that the stable work of the roads and the great attention paid to these institutions on the part of the MPS will make it possible to provide them promptly with the necessary funds.

It should be noted that with the transition to full cost accounting and self-financing, analogous institutions in the Ministry of the Maritime Fleet, the Ministry of Construction of Petroleum and Gas Industry Enterprises and the ministries of Metallurgy and Civil Aviation are being financed through profits.

[Question] The reduction of the economic incentive funds in transport has been the result of these decisions and the unstable situation in the country. In particular, the material incentive fund has been cut by 46.3 percent. It is not only the real incomes of the people that have become smaller. All this, in addition, spoils the program for housing construction, and the social benefits for the railroad workers, introduced last year, have had to be

rescinded. How is the program "Zhilye-2000" being carried out? Where can you get the funds for the social benefits?

[Answer] In accordance with the USSR Law on the State Enterprise, the production and social activity of the collectives and wages are being implemented through the funds earned by them. The cost accounting income of the collective is being created for this from the profit, in accordance with the established norms.

The material incentive fund—884 million rubles—was determined for the volume of freight shipments established by Gosplan for 1990. It remained almost on a level with last year.

An analysis of the course of formulating financial plans for the roads shows that they have adopted a transport plan 61 million tons (1.5 percent) lower than Gosplan's. Because of this, the profit was reduced by 500 million rubles, and the economic incentive fund—by 400 million rubles, including the material incentive fund—by 117 million rubles (17.6 percent) and the fund for social development—by 152 million rubles (20 percent).

Therefore, the reduction in the funds occurred not because of lowering the economic norms, but because of the cutback in transport volumes. After all, every fourth road has taken on a transport volume lower than the MPS control figures.

In addition, the reduction in the economic incentive funds is related to the fact that last August the USSR Supreme Soviet, in order to improve pension security and social service for the population, adopted a resolution on increasing the withholdings for social insurance. (At the same time, they did not change the economic norms). As a result, the collectives of the railroad transport enterprises should turn over part of their earned funds—253 million rubles—to increase the pensions for individual categories of the population.

What is the way out of the situation that has been created? In the first place, work on increasing the transport volume must be continued. Under the present conditions, the initiative to conclude contracts for transport should issue mainly from the railroad transport enterprises. Additional transport volume will make it possible in the course of the year to produce additional withholdings for the economic incentive fund.

In the second place, the fines which the railroads receive for unsatisfactory use of rolling stock are a substantial reserve to increase withholdings for the social development fund, through which housing construction is implemented and benefits are given to the workers, as well as for the fund for development of production, science and technology.

Of course, the fines paid by enterprises for poor use of transport do not increase the state revenues and do not form a newly created value. They occur, however, in railroad transport too. They constitute over 500 million rubles yearly.

[Question] Railroad transport is called the primary factor in the economy. Does it not seem to you that the present restrictions on its financing (in the developed countries of the West, up to 10-12 percent of the budget is allotted for this purpose, but in our country not even 3 percent is collected for this) essentially tightens the noose around our country's economy?

[Answer] Obviously, it would be incorrect to make a mechanical comparison of the investment of funds in railroad transport in our country and in the developed countries of the West. In the first place, because of the different extent of the lines, operating conditions and other types of transport are not identically developed. In the second place, the principles of forming the budget are different.

Our railroad transport, as the basis of the country's transport system, should be developed so as to ensure complete and high-quality satisfaction of the transport needs of the population and the national economy. It should be developed both through the growth of the road network and through improving the quality of transport and particularly passenger service.

This year's investment of funds in railroad transport is 14 billion rubles. They remained at the level of past years, even though there had been a reduction for many sectors of the national economy. This caused a complication in the country's economic position, and a budget deficit.

The central economic departments are now working out basic proposals for the draft of a program to modernize and reequip railroads for 1991-2000, which will specify development of both its production and its social sphere. This program, in our opinion, should be implemented within the bounds of the State's financial resources.

The USSR Ministry of Finance is attentively analyzing the work of railroad transport and its financial state, and is giving financial assistance.

A Necessary Commentary:

We will not take it upon ourselves to judge whether these answers satisfy our readers. In any case, the information presented is, as they say, first hand. It is clear, however, that the individual statements, to put it mildly, look like an attempt to confuse the issue.

Indeed, in the last few years, the profit obtained by the sector was not enough to solve the most urgent problems of transport development. The volumes of capital investments were reduced and the solution to social problems was delayed. The economic incentive funds, calculated per railroad worker, are even now one-third less than the

average for industry. Under these conditions it would be simply impossible to manage without allocations from the budget.

This is precisely why certain hopes were placed on raising the tariffs. They collapsed, though. The representative of the Ministry of Finance obviously acted against his conscience in stating that the funds obtained were left to the MPS. They are being directed toward financing expenditures that were formerly made through the State budget—acquiring freight cars and containers, constructing very important objects and maintaining educational and public health institutions.

It is not hard to understand the dissatisfaction of the railroad workers, who in many ways counted on the rise in tariffs, and as a result found out that their profit was now to be given over to maintaining schools, tekhnikums, VUZes, hospitals and polyclinics, even though all the rest of our country's citizens have the right to free education and medical treatment.

It was said in the replies that transport was allotted an additional 847.3 million rubles. Yes, it was allotted. But then why put things as if this was actually connected with the rise in tariffs?! This resolution was adopted by the USSR Supreme Soviet and the government, in order to aid transport in staffing the leading occupations and having funds to pay for night and overtime work.

The statement concerning the continuity of financing educational and public health institutions also looks very debatable. Who can guarantee the stable work of the Azerbaijan, Transcaucasus, North Caucasus and a number of other roads right now? What if, according to the results of this quarter, six months of transport will again be deprived of part of its revenues?

The data presented in the reply on the loss of profit and funds due to the 61 million ton reduction in the plan for freight dispatch does not correspond to the statistics of the MPS, according to which they decreased by two thirds. On the other hand, the total investments in transport from the State budget (14 billion rubles) is greatly overstated. It is clear from the interview with MPS financiers, which we have already published, that the railroad workers will obtain only a little over 1 billion from the budget. (They themselves invest about 3 billion, in the form of payment for fixed capital and profit withholdings). The rest of the capital investments are financed through the profits of the sector itself. Incidentally, it is this that has become the main reason for the centralized MPS fund having to be tripled, and for the stormy protest of the collectives of many transport enterprises.

The reaction is very well-founded. Under the conditions of cost accounting and self-financing, the work collectives do not agree to work for themselves at a loss, especially since other sectors, having obtained the right to establish contractual prices for their own output, produced above the State order, raise the question of increasing the selling prices for many types of material resources. For example, the Ministry of the Timber Industry intend to double the prices for ties. In order to satisfy their demands, an additional 300 million rubles would have to be found. From where? From the road profits again?

All this once again attests to the fact that there is no guarantee of social protection for the railroad workers under the present conditions.

Computer Center Chief on Automation Plans, Problems

904H0144A Moscow GUDOK in Russian 20 Feb 90 pp 1-2

[Interview with Granit Savvich Ivannikov, chief of the GVTs MPS, by L. Malash: "If I Were the Boss, I Would..."]

[Text] **If I lived in Sokolnicheskiy Rayon, at the elections to the Mossovet, out of the 15 candidates for the position of deputy, I would vote for Granit Savvich Ivannikov, chief of the GVTs [Main Computer Center] of the Ministry of Railways. First of all, because he is one of those whom we call reformers. These are precisely the people that we are short of today. Therefore, I formulated my first interview this way:**

[Malash] What will you do in the Mossovet, if you become a deputy?

[Ivannikov] I will go there mainly as a specialist. After all, many "railroad" problems, very critical for the capital, are not being solved, precisely because the Mossovet cannot present them to the Moscow road and the MPS [Ministry of Railways] in a qualified manner.

Let us take ecology. The first sore point is the electromechanical plant for the subway, and the second—the car holding yard of the Moscow-passenger-Kazanskaya station. I am absolutely certain that in a year or two this holding yard can be cleared away, and only the Nikolayevka, where order must also be established, will be left here.

[Malash] Cleared away? But to where?

[Ivannikov] The Moscow-classifying yard-Ryazan station lost its importance as a classifying yard long ago. The car flow there has been reduced by 40 percent since 1964, and therefore there is every possibility of turning it into a holding yard to prepare passenger cars.

[Malash] Local service is the topic of the day. Do you have your own version of solving this problem?

[Ivannikov] I think that the position of the Mossovet on this should be particularly strict with respect to the MPS and the road. We simply traumatize the people with our constant failure to adhere to the schedule and devil-may-care attitude toward electrical equipment. Right now the schedule is a pencil, window-dressing, even though the Moscow Railroad chief always reports that he

has 99.1 percent of the local trains proceeding on schedule. That is not true. On the average per day, the maximum is 75 percent, and at peak hours—45-50! There is no strict discipline in this matter, no responsibility for the schedule. As far as the rolling stock is concerned, it is decrepit, not because of long service, but because they can release from the depot, with no formality, an unequipped, cold, unlighted consist—and that is all right. I. Paristyy, armed with the know-how of lengthened consists, did not worry about preparing the repair base, he pulled it down.

[Malash] Perhaps, though, there are not enough spare parts for repair....

[Ivannikov] That is an excuse. It is not by chance that at one of the collegiums of the MPS, G. Korenko, deputy minister, was literally forced by his conscience to call up the depot chiefs. "Look," he said, "at what you are doing: you copy requisitions for materials year after year. You have an extraordinary overstock!" Now we at the GVTs have decided to create an automated system of tracking the things that are white elephants. Please, submit your data: I have such-and-such, but I need such-and-such. We will put it on a commercial basis, though.

[Malash] That is, you enter into the role of mediator?

[Ivannikov] Precisely. You can put in an order for what you want, free of charge. If, however, we have found what you need at a different enterprise and have got the two of you together, we have a two-percent revenue from this deal. This is the way it is done throughout the civilized world, and we must make use of the opportunities that we have. In this way, the famous centralization is destroyed and direct relations are developed.

[Malash] Why are you forced to earn money on the side, when after all, the MPS pays you?

[Ivannikov] When we went to cost accounting, we spent 5.7 million rubles for information service. Last year, we gave 5.3 million, and in 1990—4.8 million already. I agree with this arrangement: year in, year out we should reduce the ministry's expenditures. If you want to earn a profit—work with the city.

[Malash] At last we are all beginning to realize that information is the fundamental of fundamentals, that computerizing production is not simply a matter of beautiful words but a vital need, and that we are living in the stone age of information equipment as compared with the developed countries. What are our technical potentials today?

[Ivannikov] We need 200,000 personal computers to create an ASU [automated control system] for the MPS, or an ASUZhT [automated railroad transport control system]. We receive only 1000 a year. True, this year, we will probably obtain 4000. So how many years will it take us to solve our problem? We take what they give us and we rely on the government resolution which promised that in 1986 the computer output would be doubled, and in 1990 would be increased ten-fold. But it was not doubled and did not increase ten-fold.

[Malash] How will you get out of this blind-alley situation?

[Ivannikov] We are seeking the possibility of acquiring foreign equipment.

[Malash] Do you have your own currency?

[Ivannikov] Not so far, but we are hoping that we will. The Italian Olivetti firm has now installed a message switching center in our building. We hope that it will help us to track the movement of goods, and freight and to inform the clients. For example, ZIL comes to us and is ready to pay for information on its deliveries....

[Malash] What would you work on, if they let you do everything that you want to?

[Ivannikov] What we are doing right now, but with incredible efforts and the danger of seriously getting it in the neck. We are engaged in barter deals.

[Malash] Ah, is that what the sensational Tekhnika cooperative ran up against....

[Ivannikov] Yes, but we are trying not to repeat this mistake. Nevertheless, there is an unhealthy fuss about barter deals. We sent 10,000 tons of fodder additive to China and received 100 personal computers in return. We turned over 30 of them to the Tselina road, 10—to the PKTB [planning design bureau] of the ASUZhT, 10 to the MPS and kept the rest for ourselves. That is, we closed the hottest deal. This year we hope to obtain for the network another 400 computers from Singapore through the All-Union Novoeksport Foreign Trade Association.

[Malash] But do you have the right to such deals?

[Ivannikov] We make the deals through a joint Soviet-Swiss venture, which fronts a foreign firm. We do not have the right to a direct commercial contact, even though we have a certificate that permits us export-import operations. We concluded three contracts with the Olivetti firm on this basis. Servicing the cash registers at the McDonald's restaurants is worth approximately 5000 dollars. The repair of all the equipment that Olivetti supplies to Moscow—about 40,000 a year. We are organizing a technical center at the GVTs to repair the firm's equipment. We have opened an account in the Foreign Economic Bank. When we earn 100,000 dollars, it goes into this account and we can take 10,000 for ourselves....

[Malash] Pardon me, but this is a meager sum!

[Ivannikov] That is why at this stage barter operations are advantageous for us. Sometimes, though, completely fantastic things happen in our country: we ourselves do not use a product, and we will not give it to others. I just

spoke of the fodder additive. It is tricalcium phosphate, which the Sumy Chemical Industrial Plant produces. We bought a flow line and began to produce this growth stimulator. It should contain 0.15 percent fluorine—no more—but we obtained about 2 percent. We gave it to someone to try, and 70,000 head of cattle were poisoned. The fluorine has to be reduced, and the plant cannot do it.

Then we decided to sell this product as fertilizer. Who will take it, though, when it costs 156 rubles a ton?! Here the plant is operating, and producing tricalcium phosphate, and there is nothing to do with it. The Chinese say: "Give it to us!" We reply: "There is a decree of the Council of Ministers that mineral fertilizers cannot be sold." But, I beg your pardon, this is not fertilizer, but fodder additive! Fine. They permitted us to deal with China. But with Singapore, with Europe? The Sumy plant has now been shut down, and in February will no longer be operating. The product lies around like a dead weight.

[Malash] Indeed, it is a paradoxical situation. It seems to me that the famous affair with the "cooperative" tanks also influenced the fuss about the barter deals. Now, like ripples on the water, there are more and more new reports of illegal trade operations through a mediator. It is like throwing out the baby with the bathwater.... We say, however: tons, piece, and how much does a personal computer from the KNR cost?

[Ivannikov] As the result of the deal they cost us 10,000 rubles each. I once ordered 20 computers at Tekhnika, at 50,000 rubles each. Is there a difference?

[Malash] Granit Savvich, have you not thought about leasing?

[Ivannikov] I am officially simply afraid to talk about this, because my home ministry will not tolerate such "sedition." The possibility is not ruled out, however, that I will try to meet with P. Bunich as with the chairman of the USSR Lessor's Union. We have the right to enter and go into lease relationships, and then into collective use as an enterprise.

[Malash] Now, however, to approach the Law on Railroad Transport. In its draft, leasing is very restricted.

[Ivannikov] Yes, the law is directed toward rigid centralization of management. While that is so, you can engage in coordinating actions, and all mutual relations should be economic: monetary settlements between roads, divisions and enterprises. When the MPS talks about management functions, it essentially has in mind only pumping itself up. The fact that you must not touch the railroad, that it is something incredibly special, is bluff. In reality, this is only the power of the order.

[Malash] Equipment is equipment, but we are talking about people. Do you have enough good specialists?

[Ivannikov] More than that, we can reduce the staff and release people-particularly operators. We are taking good programmers and electronic experts. Yes, I would take workers with construction specialties—we have developed work on repairing the IVTs [information computer center], so it is better to have our own forces.

[Malash] No "dissipation of brain power" is observed?

[Ivannikov] Unfortunately, yes. Last year some of the leading specialists went off to the cooperatives. It is hard to combat the cooperatives, of course, but I have in front of me the "Statute on the Procedure for Stimulating the Work of Developers". The idea is to pay according to the estimate of the actual work introduced. This means that whoever does a good job is paid well. Another increase in wages from cutting staff....

[Malash] The Belorussian method?

[Ivannikov] No, not at all! That is a deception. We have introduced no new equipment and automation, we merely spoke about it, and we have cut back the people in order to raise the labor productivity percentage. We are actually reducing the manual work, though, and are replacing the machines with more efficient ones.

Unfortunately, our interview had to be cut short—from time to time GVTs associates would glance in at the door of the office and look expressively at their watches. Ivannikov explained: "We will get together every Tuesday at 1630 hours and work out the management situation at Japanese enterprises. We have a brochure about this. We are thinking about using the Japanese experience for ourselves...."

Laser Applications in Rail Ministry Studied

904H0133A Moscow GUDOK in Russian 4 Feb 90 p 2]

[Article by N. Davydov: "An Auction of Laser Technology"]

[Text] **"Increasing the operating period of piston group parts of diesel locomotives is an extremely important problem for us. According to preliminary data, D100 bushings for diesels, hardened by a laser beam, serve almost twice as long as series bushings. We must therefore create, as quickly as possible, engineering centers to introduce laser technology...."**

(From a speech made by G. Shabalin, chief of the PKTB [planning and design technological bureau] for Locomotives, at a meeting discussing the perspectives for using laser equipment and technology in the Ministry of Railways system).

The Institute of Electric Welding imeni Ye.O. Paton (IES) needs no introduction. Much of its work and technology is widely known, not only in our country, but also abroad. In the last few years, new technological processes in laser hardening of various parts made of iron and steel, as well as precision laser overlaying of metal surfaces, have been developed and widely used in industry.

The intersectorial scientific-complex, "Technological Laser" of the USSR Academy of Sciences (MNTK "TL"), is perhaps less well known. This production association, well equipped with imported equipment has, however, already set up series output of laser units for widescale use in various spheres of the national economy. Complexes consisting of laser units and nonstandard equipment, as well as multi-purpose laser machining centers, are also being developed here.

There are very few people who know of the existence of the Astrofizika Scientific Production Association. In connection with the conversion, this organization also suggests that all interested enterprises and ministries utilize their achievements based on the use of laser equipment.

The reader probably suspects that the Ministry of Railways is also interested in using laser equipment and technology at its enterprises. Someone, perhaps, has even heard about the experiments made in the last few years on machining with a laser beam in order to harden the surfaces of bushings, cylinder sleeves and other parts of diesel locomotives. According to preliminary data, this makes it possible to prolong their service life considerably. Naturally, the between-repair run and reliability of the work of diesel locomotives should be increased, and operating costs reduced.

These favorable prospects also gave rise to the meeting recently organized on the initiative of the Main Administration for Repair of Rolling Stock and Production of Spare Parts (TsTVR), in which representatives of the IES, MNTK "TL," VNIIZhT [All-Union Scientific Research Institute of Railroad Transport], a number of main administrations of the MPS [Ministry of Railways], the Poltava Diesel Locomotive Repair and the Lyublinskiy Casting-Machinery plants participated. The main purpose was to outline the spheres of use of laser equipment in the MPS system. The meeting essentially turned into an auction of laser technology. True, its developers submitted specific commercial proposals for discussion, but the railroad workers proved unready for this.

In order to make the situation clearer, let us explain that in their time, the pioneers in using a laser beam to harden the surfaces of D100 bushings were VNIIZhT specialists. They began to study them, particularly at the Lyublinskiy Plant, in 1983-1984. They began, as is the custom, with great enthusiasm, but then their ardor waned. In any case, the organizations listed above have now left the head institute of the MPS far behind. Its material base is negligible, and indeed, its practical yield from using laser technology is scanty. On the other hand, VNIIZhT worked out a plan for introducing laser technology into the MPS, which, however, is completely unsupported materially. The MPS has so far not allotted a single kopeck from the capital of the centralized fund for the development of production, science and technology.

Just who then, you ask, is interested in introducing the laser? Strange as it may seem, the Scientific-Technical Main Administration still holds the position of an outside observer. The Locomotive Main Administration as well. Actually, today, except for the TsTVR, no one has anything to do with the practical plan. According to the economic contract concluded between it and the IES, about a thousand 14D40 bushings for the M62 diesel locomotive and about 3000 D100 bushings have already been laser-hardened in the institute's laboratory. A laser-technology complex is now being created in Kiev, especially for the MPS. It will cost about 600,000 rubles. About another 370,000 are needed to equip, on its basis, a base laser section at the Poltava Diesel Locomotive Repair Plant.

"Unfortunately, we do not have such funds at our disposal right now," said V. Rybakov, chief of the Technical Administration of the TsTVR, after the meeting. "Therefore, we will conclude a contract with the IES only for hardening certain types of valves and pistons. We want to sign another with the MNTK 'TL' to use the laser to cut out spacers from paronite. After all, our plants process up to 5000 tons of this material yearly, we manufacture millions of spacers, and all the existing cutting methods are inefficient. Together, this will be 200,000-250,000 rubles. We cannot count on any more. Our fund for the development of production, science and technology is actually only one-tenth of the general ministry fund...."

How can one forget the speech given at the conference by A. Grechin, representative of the MNTK "TL", head of the laboratories. When speaking about the association's relations with the MPS, he did not hold back quite caustic, but, obviously justified reproaches. They said that all the conferences held so far had followed the same scenario. "You invited us, listened to our proposals on the practical application of laser technology, and in the end informed us: Unfortunately there are no funds, you are free for the time being." Will not the same thing, they say, happen this time too?

The pessimism of the guests was essentially justified. What is there for us in the two contracts which the TsTVR has the power to conclude, when it was proposed to make the transition from experiments to widescale introduction of ecologically clean laser technology. Moreover, several variants were proposed. Beginning with help in creating a pilot section with supply of the necessary equipment, a variant with facility leasing and work done on hardening the surfaces of parts for payment and right up to handing over a laser free of charge for constant use, but then the profit from its operation is cut in half. It was promised that a unit of the MNTK "TL" be dispatched in the near future. The guarantee is a year. After that—service maintenance for separate payment.

As we can see, the guests and hosts came to this conference with various intentions and potentials. The former

have long been prepared to cooperate with the MPS, and the latter had to be satisfied with working out the usual recommendations.

MARITIME AND RIVER FLEETS

Maritime Transport Management Problems Aired

904H0155A Moscow MORSKOY FLOT in Russian No 2, Feb 90 pp 2-3

[Article by G. Gerasimchuk, USSR deputy minister of the Maritime Fleet: "Maritime Transport: Management Problems"]

[Text] Maritime transport, since it is an integral part of the USSR transport system, is an important connecting link in the interaction of practically all the country's national economic complexes. The development of the country's economic system in many ways depends on its stable functioning. In the last analysis, maritime transport must fully satisfy, with high quality and efficiency, the transport needs of the national economy and the population. This is possible only with improved organization of the transport process, interaction of the maritime shipping companies with industrial enterprises, and Soviet foreign trade, based on introducing advanced transport technology and accelerated updating of the fixed capital, and above all, of the fleet.

In the three years of the work of the maritime transport enterprises under the new conditions of economic activity, including about two years within the framework of the USSR Law "On the State Enterprise (Association)", fulfillment of virtually all the assignments set by the five-year plan for 1987-1989 has been ensured. About 60 million additional tons of cargo have been transported in all types of navigation, and about 300 million rubles of net currency receipts and 800 million rubles of profit above the plan have been obtained. The average yearly growth rates of the economic indicators considerably exceeded those specified by the five-year plan. All this has expanded the possibility of the sector's enterprises' solving the production and social problems.

At the same time, in the last two years, the work of the enterprises under the new conditions of economic activity, along with the positive trends, has also displayed negative ones, which have begun to slow down fulfillment of the basic task of transport.

The disbalance revealed in the rights and responsibilities of the managing directors, outlined by the USSR Law "On the State Enterprise (Association)", is having an adverse effect on management efficiency at all levels. For example, according to the contents of its Article 7, the council of the work collective makes decisions obligatory for administration, but at the same time the full responsibility for the results of the work, as specified in Article 6, is entrusted to the first director. This engenders nervousness in work, and in some cases, incorrect decision-making.

Unfortunately, some enterprise directors, and not only in maritime transport, interpret the basic premises of this law one-sidedly, clearly clarifying for themselves only the rights granted them, but completely forgetting about the obligations specified by Article 1. It says that "...the main task of the enterprises is utmost satisfaction of the public demands of the national economy" and that "...the demands of the consumer are obligatory for the enterprises, and their full and prompt satisfaction is the highest meaning and norm of activity for each work collective"!

Despite such clear-cut specifications, the management of Minmorflot [Ministry of the Maritime Fleet] and its subdivisions must often encounter cases when some shipping company directors refuse to conclude contracts and take on the transport of individual "unprofitable" (from their standpoint) consignments of cargo for both foreign trade and coastal trading. In these situations, the ministry, which has so far been fully responsible for providing the national economy with transport, must efficiently intervene in these matters. As a rule, they are solved in favor of the cargo owners without hurting the financial interests of the shipping company. It is possible that these are the costs of the transitional period (one would like to hope so).

Nevertheless, shortcomings also took shape during the long years of the system of the directive organs issuing additional assignments to transport individual, sometimes very sizable, cargo consignments. It often happens this way: on the basis of contracts a plan is formed, arranged according to the routes of the fleet transport, and work proceeds according to plan in the shipping companies to fulfill the obligations of the parties (cargo owner and ship owner), when suddenly an order is issued from the government organs, "The USSR Minmorflot, before ... is to ensure the transport of ... tons of cargo". This document contains no provisos or terms for paying for the losses of the ship owners involved in removing the fleet from the assigned, sometimes contractual routes. This is not the best way to influence the relations of the ship owners with the ministry: after all, it is the very one that delivers the additional assignment to the shipping company.

In our opinion, these assignments, and they will always exist (no specific practice ever fits into the framework of the plan), should be regarded as a State order and appropriate incentive be given. For example, such transport must be carried out in accordance with contractual tariffs, which would make it possible to cover the costs of the work collective involved with removing the ship from the specific route assigned at the beginning of the year. Another variant is possible: specify, in such cases, a State subsidy, so that the ministry can place this additional order on a competitive basis—whichever shipping company pledges to fulfill it in the optimum periods, with the best quality work—is handed the order. Only in this way can command methods of transport process management and elements of centralized regulation be done away with once and for all.

The main task, which the ministry is now solving, is to increase the efficiency of fixed productive capital utilization and the quality of transport product on the basis of updating its most active part—the fleet.

The point is that the chronic short delivery of the fleet versus the demands of the 10th-11th five-year plans and particularly the present one, has led to its intensive aging. The average age of the ships has reached 15 years (as against the 12.4 years of the average world level), and moreover the proportion of ships older than 20 years is 25.8 percent. The situation is complicated by the fact that many states have put into national legislation a ban against any ships older than 15 years calling in their ports.

According to this principle, the relative proportion of cargo transport of Soviet foreign trade by the domestic fleet is dropping yearly, and is only 56.8 percent. To ensure the transport of cargo bought and sold under the conditions of delivery by the Soviet party, hundreds of millions of rubles a year are spent in freely convertible currency (SKV) to charter foreign tonnage.

In the 13th Five-Year Plan, there is to be a write-off of technically worn-out fleet, with a deadweight of 6.8 million tons, that has worked through the normative operating period. A study, made in conjunction with USSR Gosplan, of a shipbuilding program using shipyards of the USSR Ministry of the Shipbuilding Industry, the CEMA member countries and the SFRYu [Socialist Federal Republic of Yugoslavia], shows that the demand of the maritime shipping companies for fleet supply in the next five-year plan will be only 30 percent satisfied. The situation of building a fleet for Arctic transport, passenger ships, chemical carriers, all-purpose ships and timber carriers and average-tonnage tankers arouses particular alarm.

Unless cardinal measures are taken to put this situation right, the reduction in the tonnage of the maritime transport fleet in the 13th Five-Year Plan will lead to a reduction of up to 40 percent in its share of foreign trade cargo, a yearly loss of foreign currency receipts amounting to hundreds of millions of rubles (from curtailing the export of transport services) and the country's increased expenditures in freely convertible currency to charter foreign tonnage (about a billion rubles). In addition, the reduction in the fleet has already led to major complications in relocating the highly qualified seamen released in this situation, for whose training considerable sums were spent.

The solution to the problem of updating the Minmorflot fleet is seen in the sector's transition to currency self-financing, which will make it possible to acquire ships on the foreign market. The ministry has come out with these proposals to the USSR Council of Ministers and is continuing work on solving this problem.

When speaking at the USSR Congress of People's Deputies, M.S. Gorbachev directed attention to the need to carry out economic reform in stages, to accelerate the development and implementation of a number of interrelated stages directed toward a consistent change in the planning methods, financial levers, taxes, prices, wage conditions and all the other units of the economic mechanism.

In connection with this we must, on the basis of a careful analysis of the experience of the activity of the sector's enterprises under the new conditions of economic activity, work out the concept of the economic mechanism of maritime transport management in the 13th Five-Year Plan and introduce its individual elements, without waiting for the beginning of the new five-year plan. This is the principal feature of the coming work of the economic subdivisions of the ministry and the shipping companies.

In the opinion of the participants in the first meeting of the sector's council, which was held in July 1989, the chiefs of the shipping companies and the transport ministry should retain centralization of the transport management process in combination with the independence of the enterprises in problems of economic-financial activity. Combining these two principles is the main task facing us.

Problems of improving transport process management in the sector are being widely discussed today by the maritime community at all levels. They were also the subject of discussions at meetings of the Association of Soviet Ship Owners (ASSOS) in July 1988 at Arkhangelsk and in April 1989 at Klaypeda.

In their speeches, the participants at the conferences and the shipping company directors emphasized that the consistent transition to primarily economic methods of maritime transport management, taking into consideration the broad spectrum of the rights delegated from the ministry to the shipping companies (enterprises) mainly conforms to the interests of the national economy and does not fetter the initiatives of the directors at the sites, and therefore in the next few years there is no need for a considerable change in the management system.

In consideration of the fact that the work of the maritime fleet is mainly (92 percent of the total transport volume) carried out under the conditions of stiff competition from international shipping, the ministry must follow a unified commercial-legal and chartering policy on the foreign market.

A number of phenomena destabilizing the country's economic system, such as the scarcity of many resources and goods, the drop in the purchasing power of the ruble and the intensified dictates of the producer objectively lead to the maintaining, inevitable under these conditions, for the next 6-7 years, of centralization in the sphere of transport process management, along with a further expansion of economic methods of management on the basis of using norms, differentiated tax rates and the centralized funds of the ministry.

The latter should retain the affirmation of the regionalization and specialization of the work of the shipping companies in consideration of the structure of their fleet and the national economic interests that have formed, control over the full development by the shipping companies of the cargo presented for transport, coordination of the interrelations with related types of transport, formation of the foreign economic, transport, investment and personnel policy, and also control over the safety of maritime navigation and environmental protection.

Under these conditions, the shipping companies should remain the only production-economic complexes of maritime transport, including ports, ship repair yards and other enterprises, ensuring the work of the fleet and the transport process within the framework of the area of their transport responsibility. At the same time, in accordance with the decision of the work collectives of the port and industrial enterprises, the status of State enterprises can be retained, or included in the shipping company as structural units.

As the economic reforms in the country intensify, formations of market relations, widescale development of direct relations between the enterprises and accumulation of experience in territorial cost accounting will create the conditions for further consolidation of the organs of State management, including maritime transport. Now, in the transitional period, the role of the center should be focused on coordinating the actions of the shipping companies while adhering to sensible centralization of the transport process management and forming the economic independence of the sector's enterprises.

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Automated Navigational Aid System Tested

904H0155B Moscow MORSKOY FLOT in Russian No 2, Feb 90 p 24

[Article by L. Alekseyev, scientific associate of TsNIIMF [Central Scientific Research Institute of the Maritime Fleet], and V. Nosykhin, chief navigation officer of the Ministry of the Maritime Fleet: "An Automated Instructions to Mariners System"]

[Text] The TsNII of the Maritime Fleet has tested an automated instructions to mariners system (ASIM), designed to transmit to ships materials to correct maritime navigational charts by means of printing telegraphy devices. The system operates upon request in a conversational mode between the ship operator and the computer. Ships with a satellite radio station or data transmitting equipment can use the system's services. In the latter case, communication with the ASIM can be implemented by short wave through radio centers equipped with automatic telegraph switchboards to link shore communications channels with ship radio channels. In addition to ships at sea, ASIM users can be shore organizations with access to ASIM through an AT-50 network and along direct telegraph channels. The skeleton scheme for transmission of navigational information looks like this. On shore there is an automated instructions to mariners system, which is a bank of data on all the changes in the navigational situation. This system is connected by telex with shore subscribers, which may be both sources of information and receivers. The ASIM is connected by telex with the Center for Maritime Satellite Communication (TsMSS). Ships with satellite radio equipment are connected with the TsMSS and ASIM through the satellite and can transmit and receive information to correct charts and navigation devices.

The ASIM data bank consists of two storage blocks: instructions to mariners to correct charts and navigation warnings, NAVAREA and NAVIP (2d and 5th divisions of the weekly issue of IM [INSTRUCTIONS TO MARINERS] GUNiO MO). Both blocks are corrected weekly on Fridays, the eve of putting out the regular issue of IM. In time the second block will include all the radio transmissions of NAVAREA and NAVIP and will be corrected daily.

In accordance with the selected program of the request, users can obtain the following information from the bank:

—texts of the INSTRUCTIONS TO MARINERS according to the IM issues listed in the request and their year of publication;

—texts of the INSTRUCTIONS TO MARINERS from the issue and year of publication of IM given in the request up to and including the latest IM available in the bank for the indicated chart numbers;

—texts of the INSTRUCTIONS TO MARINERS from the date given in the request up to and including the latest instructions available in the bank for the chart numbers indicated;

—NAVAREA or NAVIP texts for the indicated issue of the VSNP according to the assigned numbers of the corresponding navigational warnings;

—NAVAREA and NAVIP texts with the assigned dates up to and including the latest navigational warning available in the bank for the indicated numbers of the VSNP subregions;

—NAVAREA and NAVIP texts from the assigned date up to and including the latest available navigational warning in the bank for the indicated chart numbers;

—the numbers of all the NAVAREA and NAVIP for the indicated VSNP subregion or region for the date of the request.

A sample dialog between the ship operator and the computer, illustrating the work of the system, is given below:

USSR ASIM 1989-9-8 11:38:46 GIVE THE NAME OF THE SHIP AND SHIPPING COMPANY MS NOVOLVOVSK BMP INDICATE CODE AND KM: IM2 9662/87 INDICATE CHART NUMBERS: 22709, 22710,

25772, 42201 9671/87 CHARTS: 22709 CANCEL: T(K) AT LIGHT BUOY 37-59.7- 75-01,Ch-9875/87 CHARTS: 22710 (1,2) CANCEL: 1, FLASHING BUOY 35-08.6-75-23.2-ENTER: 2.BUOY 2, KNCh,KR 35-08.Ch-75-23.Ch-9877/87 CHARTS: 25772 CANCEL: BUOY 31-54-30- 80-51-12-NOTE.IM 6932/85(1A) ON CHART 42201 NO CORRECTION INDICATE CODE OR KM: KM ASIM. 1989-9-8 11:42:4

In this example, the code IM2 calls up the program, sorting and issuing to the communications channel all the instructions to mariners from No 9662 for 1987, applicable for correction of charts 22709, 22710 and 25772.

Next year the ASIM data bank will be loaded with instructions containing the correction for the books and catalog (3d and 4th divisions of the weekly issue of IM GUNiO MO).

Experimental operation of the system began in the fourth quarter of this year [1989] on the basis of the IVTs [information computer center] of the TsNIIMF.

A detailed description of ASIM will be published in the next few issues of NAVIGATION SAFETY (Mortekhinformreklama All-Union Association).

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Ships of the Future Discussed

904H0155C Moscow MORSKOY FLOT in Russian No 2, Feb 90 pp 29-30

[Article by Ye. Novoseltsev, candidate in Technical Sciences (DNIIMF): "The Ship of the Future and the Perestroyka of the Sector"]

[Text] The problem of developing ships of the future in our country is considerably simplified by the already well-known foreign experience. The best examples of world shipbuilding—highly automated, completely mechanized ships with a reduced crew—are the standard for our shipbuilding today. Building these ships on the basis of domestic industry, while important, is not, however, the chief task. It will be more complicated to restructure our sector, which is not ready today to take on and operate the ships of the future, utilizing their advantages efficiently. For example, the Far East Shipping Company obtained new all-purpose, Japanese-built ships of the Nikolay Malakhov type on bareboat charter. The first thing that the shipping company did was to increase the size of the crew from 13 to 24 persons, providing an additional module in the superstructure for this purpose. No special problems arise in repairing the new ships in the foreseeable future—they are simply sent overseas for this, since the automated equipment and mechanisms of the ships do not basically lend themselves to repair at our SRZ [ship repair yards].

Perestroyka in the sector should above all deal with its control system, which is necessary to ensure intensive and productive use of the tonnage. This is possible only through computerizing the entire control system, which will permit efficient placement of the fleet on routes according to the optimal scheme, obtaining and transmitting all the necessary information on cargoes, planning port operations, etc.

Widescale introduction of ASU [automated control system] for intraship needs should proceed at the same time as the computerization of all the shore services, to form a unified closed system. Moreover, services and organizations, such as the SMTO [material-technical support service], Transflot, SRZ, port, etc., should be attached to it. A system of communications channels (satellites, radio, etc.) must be developed for reliable and online transmission of information between the participants in the transport process and the support services. The Morflot ASU system should be connected to the corresponding systems of related types of transport, primarily railroad, where the problem of introducing ASU is no less critical. All of this is presently at the timid formation stage, primarily because of the lack of computer equipment and the necessary programs and specialists capable of operating them. For many people the computer has not yet become a necessary element, without which operation fulfillment is unthinkable. This qualitative leap in our development and labor organization is still to be experienced.

Developing the ships of the future requires a new approach to the personnel training system. Specialists should not be trained or complete their training at the work sites (on the ships, in the management system of shipping companies, etc.), including accumulating experience from their own errors. Personnel training and retraining can be organized on the basis of regional VUZes and Morflot scientific research institutes on a cost-accounting basis with broad use of trainer-simulators, and the same computers (and the training programs corresponding to them) and permanent courses in a broad range of specialties. Only the outstripping nature of personnel training will ensure the normal operation of the available equipment (allowing for its constant updating) and not lead to errors in operating the fleet.

The systems of fleet orders and supplies must also be changed. The ships of the future should be built with maximum consideration of the special features of the operating routes. This is a condition of ensuring the "transport producibility" of the ships. The existing system—aimed at carrying out a "unified technical policy"—continues to turn out copies of identical ships in the various shipping companies on all the basins. Such ships are, of course, cheaper to build, but their lack of conformity to the conditions of specific routes costs too much in operation.

When developing the ships of the future, the already known paths of the advanced countries should not be copied. On the whole, the direction that they have taken to create highly economical, automated ships is correct.

The degree of introducing them or other innovations, technical devices or decisions, however, should be determined primarily by economic criteria, taking into consideration the differences in our country. For example, the direction taken in the capitalist countries, toward reducing the size of the crew to 12-14 persons, is dictated by the fact that the expenditures to maintain the crew are, on the average, 20 percent of the operating expenses. In the Soviet fleet, this indicator is not over 8 percent (according to the data from studies made by the TsNIIMF) [Central Scientific Research Institute of the Maritime Fleet]. Accordingly, the reduction in our crews should not be as sizable as it is abroad. In addition, other factors, related to our existing system of technical service and ship repair, also have an effect. It is possible that with the course of economic reforms in the USSR, the situation will change and crew wages will increase so that we will be forced to reduce the crews, just as is practiced today by the leading shipping companies. Time will resolve this problem.

Designing and building new ships abroad is supported by a powerful ship repair base, an efficient system of spare parts supply (SZCh), and long-term guarantees of equipment suppliers. All this is so far inaccessible to domestic practice. We cannot count on the modular system of ship repair because of the lack of the necessary equipment at the SRZ, and this makes it more complicated to introduce modular technology in shipbuilding. Today's system of SZCh orders and material-technical supply, primitive by today's requirements, leaves no hope of servicing and repairing ships without delays due to the short supply. The guarantees of the enterprises participating in the development of a ship are as a rule in effect for one or two years. The interest of the SRZ and the enterprises—suppliers of equipment and technical service—must be aroused for the entire service life of the ships. Efficient supply of SZCh can be implemented in the future only with the introduction of an automated system of gathering and turning over information (requisitions), closed in the system: ship-shipping company (SMTO)-enterprise (supplier).

Creating ships of the future is a task on a large scale, in which the maritime fleet cannot be the only participant and interested party. Other ministries or individual enterprises must be drawn into it. Under the new conditions of economic activity, success will in many ways depend on the degree to which we are able to interest related sectors in the creation of modern, reliable equipment, the transition to new economic (contractual) relations, and the establishing of direct ties and contacts. Considering the fact that for all the participants in the "ship of the future" program—this is possibly the only path toward progress, and its realization should be relied on.

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187

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