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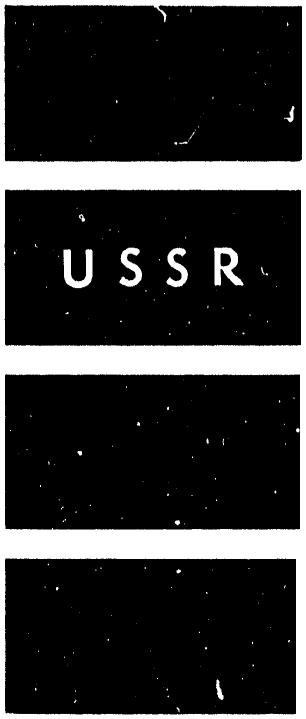
27 April 1979



TRANSLATIONS ON USSR TRADE AND SERVICES

(FOUO 5/79)

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APPROVED FOR RELEASE: 2007/02/09: CIA-RDP82-00850R000100040061-9

JPRS L/8425

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TRANSLATIONS ON USSR TRADE AND SERVICES

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INTERNATIONAL ECONOMIC RELATIONS

SECURING INFORMATION ON EVALUATING QUALITY OF FOREIGN PRODUCTS

Moscow NAUCHNO-TEKHNICHESKAYA INFORMATSIYA, SERIYA I, ORGANIZATSIYA I METODIKA INFORMATSIONNOY RABOTY in Russian No 1, Jan 79 pp 19-20

[Article by G. S. Verblovskiy and Z. M. Gurevich, submitted 25 Oct 1977]

[Text] One of the most important goals of the Tenth Five-Year Plan is to improve the quality of production in all sectors of industry through constant quality control. Objective evaluation of the quality of each new product is impossible without comparing it thoroughly with analogous foreign products. The latter determines a number of important tasks of information agencies.

Information needs caused by the problems of the evaluation of production quality are quite varied. According to GOST 15467-70, the quality of a product is understood to be "the aggregate of the properties of the product determining its suitability to satisfy particular needs in accordance with its purpose"[1]. This definition is concretized in two generalized indexes: the technical level and technical-economic level of the product's quality. The former is understood to be "the level of production quality determined by the aggregate of basic[2] indexes which does not include economic indexes"; the second index is "the level of production quality determined by the aggregate of basic indexes which include economic indexes" (GOST 16431-70).

On the whole, the solution of the problem of evaluating the quality of a product presupposes the availability of information on the designs of the products being compared, the technology of their manufacturing, materials and elements being used, economic characteristics, etc.

The main document which, according to YeSKD [Unified Design Documentation System] (GOST 2.116-71), must reflect the quality parameters of the product at all stages of its life cycle is the technical level and quality chart. The nomenclature of the indexes used in the chart includes the indexes of purpose, reliability and longevity, technological effectiveness, standardization and unification, as well as the ergonomic, aesthetic, patent-right and economic indexes.

Since the available sources of information about analogous foreign products, as a rule, do not contain data on most of these indexes, the securing of

information about the quality of foreign products must be viewed as an important independent problem, particularly because such information is also required for preparing technical and economic substantiations for new research projects, engineering assignments, analytical scientific and technical surveys, reports, for evaluation of foreign matket conditions, etc.

The most complete information about foreign products is given in advertisements on the pages of scientific and technical journals and in a firm's literature many kinds of which are still not used sufficiently[3]. Catalogues and prospectuses are used more actively than other kinds of firm publications. When using firm information, it is necessary to evaluate thoroughly its reliability and completeness. Foreign firms use their publications as a means of competition and often resort to various devices in order to represent their products most advantageously. Such devices include withholding information on disadvantageous parameters and intentional detailed description of secondary details which are not essential for the characteristics of the product at the expense of the shortening or even total exclusion of more important information. Giving the highest values of technical characteristics, the manufacturing firms, as a rule, do not mention the conditions in which these values were obtained, as well as the method used in determining these values. Vague terminology and description of methods are used widely for advertising purposes. Since the rules for the standardization of technical characteristics used abroad differ from our rules, in comparing analogous products, it is necessary to recalculate the characteristics mentioned in foreign publications in accordance with GOST and other normative documents[4].

The evaluation of the reliability of foreign information must be done with participation of information workers, metrologists, and designers of new equipment. The most reliable information is that obtained by analytical comparison of the data from various sources.

Unfortunately, there are no available methods or recommendations for the verification of the reliability of foreign information.

Experience shows that the most important and reliable information for evaluating the actual quality of imported products is obtained as a result of their thorough testing and use. In the machine-building industries, a unified procedure has been established for obtaining, study, and use of specimens of foreign equipment. Provisions are made for submitting technical reports about testing to sectorial information centers, publication of current awareness information, etc. However, this work is not carried out satisfactorily and is narrowly sectorial in nature; as a result, extremely necessary information is not included. It would be desirable to create an intersectorial system for studying specimens of imported equipment similar to the existing registrations system for NIR [scientific research work] and OKR [experimental design work].

Considering the intersectorial nature of the processes of the creation and use of instruments, measuring systems, etc, it is possible to propose, as an

experiment, to obligate all organizations and enterprises of all ministries and departments receiving new specimens of imported instruments, automation devices, etc, to submit information about the receipt of specimens to a selected information center (for example, VNTITsentr [All-Union Scientific and Technical Information Center]) and, after testing and appropriate studies, to report the results of the tests. This information should be submitted on standard carriers. Such information system (let us call it arbitrarily "Foreign Specimens") would contribute to the improvement of securing information for the quality control of the instruments and systems being created.

Evidently, the content of the studies on the technical and economic level and the quality of products created by the domestic industry does not remain invariable. There exist various points of view on the nomenclature of indexes, on the very approach to this work, and on the goals set in comparing new domestic products with foreign analogues having the highest characteristics. However, the problems of improving the information base and mastering the art of collection, analysis, and evaluation of the reliability of the needed information about foreign products remain urgent.

FOOTNOTES

1. Gurevich, Z. M. "Firm Journals and Their Place in the Information Reference Services," author's dissertation for the degree of the Candidate of Pedagogical Sciences, Leningrad, 1974, 24 pages.

2. The basic quality index of a product is understood to be "the index of quality of a product taken as the initial product in comparative evaluations of quality." Quality indexes of certain advanced specimens of products produced in the country or abroad can be taken as basic indexes: quality indexes achieved in a certain preceding period of time, or indexes of promising specimens established experimentally or calculated theoretically.

3. Verblovskiy, G. S., and Gurevich, Z. M. "Information on the Use of Products in Firm Literature," NTI [Scientific and Technical Information], Series I, 1975, No 12, pages 23-24.

4. For example, the Japanese firm Takeda Riken, in advertising its electrometer TR-84M, states that the error in voltage measurements constitutes 0.3%. However, they are not taking into consideration the error of the indicating instrument ($\pm$1%) and the error occurring due to the internal noise of the circuit (2% on a scale of 1 mv) which characterize the actual measurement error and are taken into consideration in accordance with the current USSR standards.

   Even with an adequate understanding of the metrological term, it is often completely unclear what method is used by the firm for determining the value. For example, in the propectus of the measuring device Automatic Pipette of the firm Micromedic Systems, Inc. (U.S.A.), a relative error of $\pm$2% is given for the measuring range of 0-5 ml. However, it is not known

in relation to what point of the range this error is calculated. In Soviet literature, it is recommended to normalize it in relation to one-half of the maximum measuring limit, i.e., in this case, in relation to the value of 2.5 ml. Then the absolute value of error would constitute the value of 0.05 ml. However, the Automatic Pipette Operating Manual containing methods for the verification of the characteristics recommends to determine the relative error on doses above 60% of the highest measuring limit. Moreover, studies on methods indicate that it is not the relative error of an individual dose that is in question, but a relative error of the arithmetic mean of ten doses (!). Thus, the characteristic in the prospectus is overstated by a minimum of one and a half times.

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INTERNATIONAL ECONOMIC RELATIONS

COOPERATION IN LIGHT INDUSTRY AMONG CEMA NATIONS STRESSES ADVANCED TECHNOLOGY

Moscow SHVEYNAYA PROMYSHLENNOST' in Russian No 1, 1979 pp 23-26

/Article by G. E. Zaytsev, advisor on light industry to the Permanent USSR Delegation to CEMA, "The Basic Directions of Scientific-Technical Cooperation of the CEMA Member-Nations for the Period up to 1990"/

/Text/ The nations of the socialist countries have achieved outstanding successes in the sphere of developing science and technology. The communist and workers' parties of all the fraternal states look upon scientific and technological progress as the most important prerequisite to the complete implementation of the advantages of socialism.

The CEMA member-nations' motive force for developing mutual scientific-technical cooperation is their desire to elevate the national economy of each nation and to assure rapid economic growth of the worldwide socialist commonwealth. This cooperation permits the CEMA member nations to put modern industrial objectives into operation, to utilize raw material and energy resources in a more efficient manner, and to increase the tempo of scientific and technical progress, with less expenditure of strength and resources, and in a shorter period.

At the 25th CPSU Congress, it was stressed that accelerating scientific and technical progress remains the foremost task for developing the Soviet economy at a modern stage. "We Communists," noted General Secretary of the CPSU Central Committee, Chairman of the Presidium of the USSR Supreme Soviet, Comrade L. I. Brezhnev, "proceed from the fact that only under the conditions of socialism does the scientific and technical revolution acquire its true direction, one which responds to the interests of humanity and society. In turn, only on the basis of accelerated development of science and technology can the ultimate mission of the socialist revolution be completed, and a communist society be built."

Scientific and technical progress in the CEMA nations is manifested first of all in creating new and up-to-date engineering and advanced processing methods, and perfecting and optimizing the industrial structure for social production; this means accelerating the development of advanced production, raising the technical-economic indicators and the quality of production, and constructing huge enterprises equipped with the latest technology.

Guided by decisions of the congresses of the communist and workers' parties on further increasing the standard of living of the population, scientists, specialists and economic administrators of the CEMA member nations are focusing their attention on the most important tasks of socioeconomic and scientific-technological progress, upon whose solution depends to the greatest degree the successful development of industry, science and technology. A broad front of research is being deployed and is discovering principles of new methods for augmenting the productive forces and creating the engineering and technology of the future.

In recent years the CEMA member nations have been successfully developing light industry, achieving new victories in the production of manufactured consumer goods, improving their quality and changing the assortment of goods; increasing the productivity of labor on the basis of renovating the engineering, mechanization and automation of the production processes; improving the utilization of production capacities and introduction of a complex system of quality control of production.

The growth of gross production in the different branches of light industry of the CEMA member nations for 1977, when compared with 1976, is shown in Table 1 (in percentages).

Table 1

Country	Industry		
	Textile	Garment	Shoes & Leather
Bulgaria	105	102	108
Hungary	103	102	103
GDR	103	101	105
Mongolia	106	105	105
Poland	109	112	108
Romania	114	106	109
USSR	103	105	104
CSSR	104	104	104

Note: Data on the Poland includes sales of goods and services.

Scientific and technical cooperation among the CEMA member nations, achieved within the framework of the Permanent CEMA Commission on Light Industry, has increased output and improved the quality of production.

Of great significance to the garment industry of the CEMA member nations is the research conducted on the theme of "The Complex Development of High-Productivity Manufacturing Methods for Making Men's Coats, Suits, Trousers and Shirts, and Women's Summer Coats, Cotton Dresses and Work Clothes".

Each of the participating countries, in developing the theme, has established a production line for a certain type of article. The results achieved are presented in Table 2.

Table 2

Country	Type of Article	Results Achieved				
		Time spent per unit of production in the countries, minutes	Growth rate in productivity of labor in the countries - %	Best actual time spent in the USSR, minutes	Average actual time spent in the USSR, minutes	Decrease in time spent in the USSR upon introduction of production lines - %
1	2	3	4	5	6	7
Bulgaria	Men's Trousers	49	38	48	79	61
Hungary	Work Clothes	33	55	59	80	*
GDR	Men's Suits	140	15	174	244	74
Poland	Women's Summer Coats (Raincoats)	112	30	113	165	31
Romania	Shirts, Men's	19	26	24	29	53
USSR	Coats, Men's	120	25	120	198	65
CSSR	Dresses, Women's cotton	43	20	42	53	23

Note: Time spent in columns 5 & 6 based on 1977 data.
* Decreased by a factor of 2.4

In the years 1966-1967, 23 such production lines were introduced in the USSR, and additional output in the sum of 69.7 million rubles was produced.

The practice of introducing production lines showed that the sharp decrease in time spent on manufacturing clothing is possible only under conditions where the production lines are supplied a full complement of manufacturing equipment, utilizing accessory resources and automatic control.

In order to more widely introduce the total mechanization of garment manufacturing lines in the country, the USSR Council of Ministers commissioned Gosplan USSR, the USSR Minlegpishchmash /Ministry of Machine Building for Light and Food Industry and Household Appliances/ and the USSR Minlegprom /Ministry of Light Industry/, and enlisted other ministries as well, to organize mass production of equipment for these production lines, taking advantage of the cooperation and production specialization of different components and machinery within the framework of CEMA.

In 1979, they continued to develop a unified system of designing clothing for the standard sizes established for the CEMA member nations; highly productive methods for putting together parts of garments without using thread; and modern methods of packaging, wrapping, storage and shipment of ready-to-wear garments.

Proposals were drafted in 1977 for the year 1979 on the general trends of styles for the CEMA nations, taking into account the type of materials used; on the range of fashionable colors for clothing fabrics and knitted materials; and on making up textile and knitted materials stylishly, considering their texture and the composition of the raw materials.

Attributing great importance to scientific and technical cooperation, the Permanent CEMA Commission on Light Industry drafted and approved at the end of 1977 the Basic Trends of Scientific and Technical Cooperation of the CEMA Member Nations in the Textile, Knitted Wear, Garment-manufacturing, Shoe and Leather Goods, and the Woodworking Industry for the Period up to 1980. Teamwork will mark the pursuit of increasing productivity of labor, improving the quality of production and working conditions, and solving pressing problems of preserving the environment.

The garment-manufacturing industry envisages developing an automated process for laying out patterns for textile materials utilizing new methods and electronic computer technology; developing progressive technology for manufacturing different kinds of clothing, and on this basis preparing the requirements for establishing a full complement of equipment; research, development and putting into production methods for shaping pattern pieces and the simplest kinds of clothing, bypassing the stages of weaving and sewing, with the aim of decreasing the amount of labor on the articles and increasing productivity of labor; developing new methods for packaging and wrapping, shipping and warehouse storage of different kinds of ready-to-wear clothes in the garment-manufacturing industry; developing and assimilating new forms of organizing and directing production in the garment-manufacturing shops on the basis of uniformity of pattern parts, and complete mechanization and automation of the processes for manufacturing articles of clothing.

The 32nd CEMA Conference, which was convened in 1978, approved The Basic Directions for Further Perfecting the Organization of Multilateral Cooperation of the CEMA Member Nations and the Activities of the Council, in order to increase the effectiveness of cooperation among the CEMA member nations.

It was noted in the decree of this session that scientific and technical cooperation and developing standards for CEMA are not sufficiently coordinated with the specialization and cooperation in production which exists, that contractual forms of scientific and technical cooperation are rarely used, and that the proper interaction in the work of the CEMA organs is still not being provided; all of which has a negative effect on working out the problems, especially those of a complex character which involve several industries.

The session of the council obligated the committees and the permanent commissions of the CEMA member nations:

to define more precisely the priority directions of its activities, proceeding first of all with the task of completely implementing the Complex Program, of developing and implementing the measures of the Long-term Special-purpose Program for Cooperation (DTsPS), and concentrating forces for organization of cooperation in the sphere of physical production, and especially toward preparation of projects for agreements and contracts on solving the concrete problems of economic and scientific-technical cooperation;

to focus the work of the permanent industrial commissions on organizing direct multilateral production and scientific-technical cooperation within the industry, with the goal of energetically solving the problems of the CEMA member nations connected with the effective utilization of capacities, exchange of the range of goods produced, development and introduction of new engineering and technology, etc.;

to concentrate scientific-technical cooperation in the industrial organs of CEMA on the organization of applied development (first of all that which emanates from DTsPS), capable of having an economic effect on the countries; and agreement on measures for introduction by the interested countries of the results received from production, chiefly on the basis of specialization and cooperation;

to focus attention of the CEMA Committee on Scientific and Technical Cooperation first of all on working out exploratory questions which emanate from DTsPS, concerning large inter-industry problems;

to expand the use of the contractual form of scientific and technical cooperation for draft agreements organized within the framework of a committee and the branch organs of CEMA, bearing in mind in particular the development of direct contractual relations between the cooperating organizations, and guaranteeing fulfillment of the obligations accepted by the parties to it;

and to concentrate efforts on developing advanced CEMA standards (at the world-wide level) for production which represents an item of specialization and cooperation in production, in accordance with the long-range special-purpose cooperative programs and multilateral agreements.

In order to improve interaction among CEMA organs and also with the international economic organizations created by the CEMA member nations, the Council session commissioned the Council Secretariat, beginning with 1979, to develop, and the Executive Committee to approve, a consolidated plan for laying the groundwork of the basic intersectorial problems with the CEMA organs.

Resolutions adopted at the 29th, 30th and 32nd CEMA Sessions on developing long-term special-purpose plans for cooperation of CEMA nations on satisfying the rational requirements of the CEMA member nations for industrial consumer goods, are very significant, and especially those of the 32nd Session. This program proceeds from the necessity for providing the needs of the population of the commonwealth of the CEMA member nations for the basic types of consumer goods, by virtue of expanding their production and reciprocal supply. With this aim, the Working Group of the CEMA Committee on Cooperation in the Area of Planning Activities has worked out a draft for DTsPS, to include the structure of the program and the basic measures for realizing the program. Inserted into the draft were the following measures for scientific and technical cooperation of the CEMA member nations in the sphere of the garment-manufacturing industry, for the development and assimilation of:

highly-efficient industrial processes for manufacturing mass-produced clothing, using production lines, which include complexes of semiautomatic equipment with programmed control;

a manufacturing method for making different kinds of clothing parts and the most basic articles directly from a roll of material using special equipment;

industrial processes for laying out patterns of textile materials based on use of programmed control of pattern-making, using various methods of cutting;

techniques using special equipment for making one-piece clothing patterns and the components;

completely-mechanized lines with programmed control for manufacturing high-quality garments (men's trousers, jackets, coats, shirts and work clothes; ladies' dresses and raincoats).

Work by specialists in the garment industry and machine-building industry on developing the new manufacturing methods and engineering requirements of the new equipment will be carried on within the framework of the Permanent CEMA Commission on Light Industry, and on the part of developing new machinery and equipment—the Permanent CEMA Commission on Machine-building and the MKhO /possibly, International Economic Department/ of Intertekstilmash /International Textile Machinery Plant/.

Implementing the measures of DTsPS on satisfying the rational requirements of CEMA member nations for manufactured consumer goods has great significance for the development of the garment industry, and the work connected with their implementation will be of highest priority in the years 1979-1985.

In October 1978, the Permanent CEMA Commission on Light Industry adopted a resolution for the purpose of perfecting the methods for designing clothing, on the basis of a common system for designing clothing in all the CEMA member nations. Work is to be carried out in the years 1981-1985 on the theme, "The Principles for Planning and Designing Clothing: Testing, Coordination and Introduction of a Common System for Designing Clothing among the CEMA Member Nations". Introducing the results of the work on this theme will permit raising the technical level of preparation for production; mechanization of the processes for designing clothing; and it will advance the manufacture of clothing and assure that the articles will fit a person well.

Currently various adhesive materials are in use around the world, designed for duplicating parts of clothing. Experiments in manufacturing using applied adhesive materials demonstrates that in order to produce high-quality clothing, a wide assortment of woven and nonwoven, tightly-differentiated strips is required, depending on the property of the material on top; which demands perfecting the methods for sizing and duplicating clothing patterns, evaluation of the properties of adhesive materials and control of the sizing parameters. In order to solve these problems, work will be carried out in the years 1981-1985 on the theme "The Development and Perfection of Methods for Sizing and Duplicating Parts of Clothing and Evaluation of the Properties of Adhesive Materials, as well as Control Over Sizing Parameters."

Scientific and technical cooperation occupies an ever more important position in the development of the national economy and in the system of integrated economic ties of the CEMA member nations.

Realization of the contemplated measures for scientific-technical cooperation will assure the further development of the garment industry of the CEMA nations.

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DOMESTIC TRADE AND CONSUMER GOODS

NEW TYPE OF PURCHASING CONTRACT WITH INDIVIDUALS

Moscow SOVETSKOYE GOSUDARSTVO I PRAVO in Russian No 1, Jan 79 pp 90-94

[Article by B. D. Basheyev, candidate of juridical sciences and docent of Kemerovo State University: "Purchasing Agricultural Products From Individuals Under Contract"]

[Text] The state obtains a large portion of agricultural products from socialist organizations--kolkhozes, sovkhozes and other state agricultural enterprises. Yet private farms are an important source of supply of foodstuffs and raw materials. In recent years more than 10 percent of state purchases of farm products have come from kolkhoz members and workers and employees.[1] At the 16th Trade Union Congress and at the July (1978) Plenum of the CC CPSU L. I. Brezhnev especially emphasized the need to take greater advantage of the capabilities of private farms to increase the country's sources of food supply.

The legal basis for organizing purchases of farm products from individuals is Paragraph 20 of the decree of the USSR Council of Ministers entitled "On Unification of the Decisions of the USSR Government on the Question of Organizing State Purchases of Agricultural Products," which is dated 23 April 1970.[2] It states that the farms of kolkhoz members, workers and employees, professional hunters, handicraftsmen and other individuals may if they wish sell to the state surpluses they have of agricultural products the state is interested in buying. The traditional legal form for purchases of agricultural products on private farms is the purchase-sales contract. But with the passage of time these procurements have undergone substantial changes; along with the customary purchase-sales transactions there is now a variant with its own inherent features and peculiarities which can best be called a purchasing contract.

1 See SOVETY DEPUTATOV TRUDYASHCHIKHSYA, No 12, 1975, p 92.
2 See SP SSSR [collection of USSR government regulations and decrees], No 8, 1970, p 63.

The Conception of the Purchasing Contract

The parties to the contract are the supplier of the product and the procurer. The role of the supplier is played by the individual who has a plot of land at the homestead and his own livestock, poultry and rabbits. Sometimes the suppliers are hunters and other individuals if they furnish game and wild fruit and berries to procurers. The procurers are consumer cooperative organizations, enterprises of the meat and dairy industry and certain others. The subject matter of the contract are agricultural products and raw materials purchased under contracts concluded in advance, whose delivery and acceptance are on a regular basis over a specified period of time (for example, procurement of milk, rabbits, the meat of hooved game, furs and pelts are delivered to receiving stations during a year, quarter, or season). The subject matter of the purchasing contract may also be products reaching the receiving station periodically, from time to time, according to a schedule. Consumer cooperatives purchase live poultry and poultry meat from individuals under such agreements. Rarely have one-time purchases of products of homestead plots and fruits of the forest been made under purchasing contracts, but recently they have become more widespread. Such agreements are now being drawn up to cover purchases of potatoes, vegetables, fruit and livestock from individuals.

Aside from the general norms of civil legislation, the purchasing contract is regulated by special normative enactments: the Standard Contract for Purchasing Farm Products from the Private Farms of Kolkhoz Members, Workers, Employees and Other Individuals. These relations are also regulated by the Standard Contract for the Taking and Purchasing of Pelts and Other Products of Hunting, the Standard Contract for the Purchasing of Rabbit Skins, Live Rabbits and Other Products of Rabbit Raising, which were adopted by order of the USSR Ministry of Procurements, and the Standard Contract for the Taking and Delivery of Meat of Wild Hooved Animals, adopted by the board of the RSFSR Union of Hunters' and Fishermen's Societies.

Consumer cooperative organizations make purchases of livestock and domestic poultry from individuals on the basis of model contracts drafted by the board of Tsentrosoyuz at various times. The purchasing contract serves as the means whereby an individual's property becomes the property of the state, the cooperative organization or the public organization. But it has quite a few specific features inherent only in this type of sales transaction. The principal peculiarity is that its validity is not limited to the sales sphere--it calls for the supplier to be given certain aid in production of his product, in its preparation and in the organization of its delivery. Other essential features of the purchasing contract which distinguish it from the purchase-sales contract is that it must be in writing, it must be concluded in advance, and the date of its execution and the date of its performance do not coincide. The overwhelming majority of purchasing contracts contain clauses concerning financial liability in which provision is made for forfeits (fines, penalties) to be invoked for nonperformance or improper discharge of obligations. The purchasing contract is an agreement

between suppliers and procurers under which the supplier assumes the obligation to produce or obtain the products of agriculture or hunting or wild fruits and berries specified, and the procurer agrees to issue an advance and to provide essential aid to the other party in the production or obtaining of the product, to accept it and to pay for it. It is evident from this definition of the contract that it is always consensual, for compensation, and bilateral. Gradually this legal form covering transactions involving the procurement of agricultural products from individuals is being applied more widely. In recent years cooperators in Krasnodarskiy Kray have been concluding as many as 30,000 written contracts with individuals for the purchase of potatoes from the future harvest. In Bryanskaya Oblast prior contracts for purchases of apples from individuals are concluded. The practice of concluding written contracts providing for suppliers to discharge their obligations subsequently is being carried over into the purchasing of vegetables and cultivated and wild fruits and berries.

Conclusion of the Contract

Usually the draft contract is drawn up by the procurer, who has a plan for state purchases or an assignment from the superior organization, requiring him to procure agricultural products and raw materials. Sometimes the supplier will be the initiator of the contract's conclusion. In such cases the officials of the procurement organization issue the individual a printed form of the contract with the suggestion that he fill it out and fill in the necessary numbers. The procedure for concluding contracts for the purchasing of farm products from the private farms of kolkhoz members, workers, employees and other individuals provides that the procurer shall have sheets on which the text of the contract is partially printed; these sheets correspond in content to the Standard Contract for Purchases. After negotiation, when an agreement has been reached, the sheet is filled out, the types and amounts of the products to be sold are specified, and other necessary information is entered. The procedure calls for the supplier's farm to be taken as the place where the contract is concluded. This provision is altogether justified, since it makes it necessary to examine the supplier's farm, to verify the existence of livestock, poultry and rabbits and the conditions under which they are kept, and so on, before the contract is concluded. Often contracts for the taking of pelts and their purchase are concluded and signed at the place where the procurement organization is located, since often the offerer is a hunter and there are a number of complicated questions specific the organization of hunting which he must go there to agree on with the other contracting party. This would seem to be proper practice. It ought to be set forth normatively, and the appropriate amendments should be made in the procedure for conclusion of contracts.

The contract forms corresponding to the standard and model contracts facilitate the process of concluding the contract, since there is no longer a need to agree on certain clauses, for example, concerning financial liability, but the reaching of an agreement is not reduced merely to filling in the blank with the figures and other information. Disputes arise between the

contracting parties concerning the type, amount, and grade of products to be delivered, and the mode of delivery to the receiving station. Sometimes suppliers object to clauses concerning financial liability, proposing that they be omitted. If these clauses are envisaged in the standard contract, then they must be included in the specific contract even though the interested party does not agree with them. The standard contracts are a species of normative enactments which have been adopted by the competent authorities, and their clauses may not be amended at the discretion of the parties. Any other arrangement would not be conducive to establishing orderly relations between the contracting parties, nor to the strengthening of contract discipline, and would inflict harm on the stability and strengthening of legal relations in this field.

No procedure has been established for resolving the differences that arise in negotiating a purchasing contract, before it has been concluded. These disagreements not uncommonly result in rejection of the contract, since the supplier is not bound by any sort of planning or administrative enactments which are binding on the procurer. He himself decides to sell the product to the procurer or to sell it on the market, and so on. Only members of the hunters' society, in accordance with the standard contract for the taking and delivery of the meat of wild hooved animals must abide by the requirements of a normative enactment approved by the supreme body of their union and sell the meat taken to the procurer. It would be wise to establish the following procedure so as to safeguard the interests of individuals who want to sell surpluses of their products to the procurement organization: the rayon inspectorate for procurements and quality of agricultural products should have its nonstaff inspector in every village, chosen from among the competent local agricultural specialists capable of resolving differences in negotiations. The inspector's decision would be binding on the procurer. The result would be that unfounded demands and objections on the part of the procurer would be eliminated, and individuals would be able to sell their products. The contract is drawn up in triplicate and registered with the executive committee of the rural soviet; two copies remain with the procurer, and one goes to the supplier.

The legislation previously in effect did not provide for purchasing contracts to be recorded with a government administrative agency. The purpose of this measure is to enhance the legal strength and importance of the agreement between individuals and procurement organizations, to make the parties more accountable for performance of the conditions of the contract, and have a record of the proposed influx of agricultural products from individuals within the jurisdiction of the given rural soviet.

The Contents of the Contract

The contract is considered to have been concluded when an agreement on all essential points is reached between the parties and put in the required form. In a purchasing contract the essential points are those envisaged in standard contracts recognized by normative enactments. The contents of

specific contracts must correspond to the standard contract and may not be contrary to them. The model contracts also contain a list of clauses which are the basis of the future agreement, since they were drafted to take into account actual practice in the purchasing of the given product and conform to the interests of the parties and envisage measures that ensure that the obligations assumed will be discharged. The conditions contained in them safeguard not only the interests of the procurer, but also those of the supplier, they tend to strengthen contract discipline, they give the supplier an opportunity to sell product surpluses without hindrance, and they impart stability to the relations between the parties. That is why the content of specific agreements frequently correspond to the clauses of the model contract regulating product purchases.

A list of the conditions which are indispensable in contracts of this type depends on the content of the specific contract. In some cases only the conditions expressing the essence of the agreement may be indispensable. Conditions concerning the subject matter, dates and prices will be indispensable to a purchasing contract. If an agreement has not been reached though on just one of these points, a contract has not been concluded. Also essential are those points on which an agreement must be reached by declaration of one of the parties. For instance, in negotiating a purchasing contract the supplier demanded inclusion of a clause to the effect that if the potato harvest should be bad, he would be relieved from the obligation to sell products to the procurer. This demand was met, and the appropriate clause became an integral part of the agreement.

In addition to the clauses which are formulated during negotiations, the contract presupposes provisions provided for by legal norms regulating the given relations, i.e., the customary conditions. They take effect without being included in the contract and they are binding on the parties. The customary conditions differ from the essential conditions in that their presence or absence does not affect the fact of the contract's conclusion. Since they have been set forth in legal norms, there is no need for them to be included in the text of the contract. It is assumed that parties agreeing to conclude a purchasing contract have thereby agreed to subject themselves to the requirements contained in normative enactments regulating the given relations. Regardless of whether these conditions are included in the purchasing contract or not, no changes whatsoever ensue; suppliers of products will not be reimbursed expenses of their delivery to receiving stations, since there is an explicit indication in the normative enactment concerning this matter. The considerations taken into account in establishing that settlement procedure was that potatoes, fruits and vegetables are purchased from individuals at prices considerably higher than the purchase prices paid kolkhozes and sovkhozes for the same products.

In the legal literature it is also customary to distinguish in the contents of the contract ad hoc conditions resolving issues which have not been envisaged at all by the legal norms or which regulate specific relations differently than provided for in substantive norms. Once included in the

contract, the ad hoc conditions acquire the status of essential conditions. If one examines the subject matter of a purchasing contract, the conclusion can be drawn that the refusal to give a separate place in it to the ad hoc conditions is altogether justified. If during negotiations one of the parties asks for an additional provision to be included in the text, once it has been accepted by the other contracting party it becomes an essential condition in full compliance with Article 34 of the Bases of Civil Legislation of the USSR and the Union Republics and Article 160 of the RSFSR Civil Code.

The essential conditions of a purchasing contract can be divided into conditions that regulate and define more specifically the subject matter, the price, the time and the procedure for performance of the obligations, financial liability for nonperformance or improper performance. A special place is taken by conditions that require the procurer to take steps to extend aid in the production, organization and preparation of the product's delivery and to encourage suppliers. In contracts covering the taking and purchase of furs the procurers commit themselves to sell to the hunter ammunition, guns, hunting gear and food before the hunting season begins, to inform the hunters ahead of time on matters concerning the hunting regulations and open seasons, on the methods of taking furs and other products of hunting, on its removal and curing, and also to familiarize the hunter with GOST [state standards] and technical specifications applicable to the products of hunting and with the current purchase prices for them. In organizing state milk purchases on the basis of a contract whereby individuals help out enterprises of the dairy industry, kolkhozes and sovkhozes extend aid to owners of dairy cows by furnishing them pastures, by allocating feed, and by providing veterinary service. The procurer of the products of rabbit raising assumes the obligations of providing the supplier advance instruction, of providing him written instructions and visual aids on rabbit raising and primary processing of the products of rabbit raising, and makes food and the necessary supplies available to him. It would be difficult for the hunter or rabbit raiser to discharge his obligations under the contract until the procurer takes these actions. The procurer's duty to provide the conditions necessary to performance of his obligations by the supplier is specific and differs from the set of steps incumbent upon the seller. It is not possible in the text of the contract to foresee all the actions which the procurer should perform to extend aid to the supplier. An important place is occupied by countersales of mixed feeds to suppliers, which are provided for in many contracts and which have become widespread. This strengthens relations between procurement organizations and individuals and encourages an increase in the volume of production and sale of products to procurers.

In the case of unplanned purchases of livestock, live poultry and poultry meat from individuals by consumer cooperative organizations, the productive character of the contracts is less pronounced. The model contract for the purchase of poultry and poultry meat provides for countersale of mixed feeds to suppliers. The model contract for the purchase of livestock from individuals does not contain clauses that require the procurer to extend aid to

the owner of the livestock in obtaining feed, though consumer cooperatives have such capability. This defect ought to be corrected; it would help rural inhabitants to solve the problem of feeds more easily, it would give them more incentive to raise animals for subsequent sale to consumer cooperatives. Cooperators of certain oblasts are attempting to do away with this drawback. In Saratovskaya Oblast and in Uzbekistan contracts between consumer cooperative organizations and individuals for raising and selling livestock and young animals at negotiated prices are quite common. The products supplied under the contracts are charged against the young animals obtained from the farm. The suppliers are sold concentrated feeds above all. Potato purchasing contracts call for suppliers to be given assistance in the form of transport and containers. In Kemerovskaya and a number of other oblasts the practice of extending advances to suppliers has begun in recent years. When contracts are concluded for purchases of livestock, poultry and rabbits the procurers advance the other contracting party as much as 30 percent of the value of the products contracted for. In many regions of the country rabbit raisers are sold concentrated feeds in advance when purchasing contracts are negotiated. When necessary individuals with whom contracts are concluded for the purchase of agricultural products are advanced money (up to 50 percent of the value of the contract when the products of animal husbandry are being purchased and up to 30 percent when the products of plant cultivation are involved). Gosbank credits are used for this purpose in the regular way.

Contract Performance

The purchasing contract is a bilateral bargain in which each of the parties possesses rights and obligations and figures as both creditor and debtor toward the other contracting party. Normative enactments regulating these relations have set forth the principle of specific performance of obligations; they point out that the payment of a penalty, forfeit or fine does not release the party from the discharge of obligations under the contract (Paragraph 6 of the Standard Contract for the Taking and Purchase of Pelts and Other Products of Hunting, Paragraph 6 of the Standard Contract for the Purchase of Rabbit Skins, Live Rabbits and Other Products of Rabbit Raising, and the relevant paragraphs of the other standard contracts). The wording of these paragraphs differs somewhat from the wording of Part 6, Article 36, of the Bases. While they provide that the payment of a penalty, forfeit or fine does not release the contracting party from fulfillment of his obligations under the contract, these normative enactments say nothing about losses. The following question arises: Is the party still required to make specific performance after reimbursing losses? It would seem that payment of a forfeit and reimbursement of losses does not release a party at fault from specific performance under Part 6, Article 36, of the Bases. In our view this issue needs clarification. Sublegal enactments ought not to contain a different formulation of the principle of specific performance than that which the legislator has provided. For that reason their wording ought to be brought into conformity with the wording of Part 6, Article 36, of the Bases.

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CSO: 1823

MANPOWER: LABOR, EDUCATION, DEMOGRAPHY

BOOK DESCRIBES POPULATION MIGRATION

Moscow SOTSIAL'NYE FAKTORY I OSOBENNOSTI MIGRATSII NASELENIYA SSSR (Social Factors and Peculiarities of Migration of the Population of the USSR) in Russian 1978 signed to press 25 May 78 pp 1-6, 141-142

/Brief description, Introduction and Table of Contents of book edited by Prof. L. L. Rybakovskiy and Prof. V. Ya. Churakov, Academy of Sciences, Institute of Sociological Research/

/Excerpts/ Title Page:
Title: SOTSIAL'NYE FAKTORY I OSOBENNOSTI MIGRATSII NASELENIYA SSSR (Social Factors and Peculiarities of Migration of the Population of the USSR)
Signed to Press Date: 25 May 1978
Publisher: Nauka
Place of Publication: Moscow
Number of Copies Published: 3,200
Number of Pages: 142

Brief Description:

Theoretical questions of population migration, its essence, forms and causal factors are examined in the book; the laws and peculiarities of migration processes are analyzed. The correlation between intensity and results of migration on one hand and various socio-economic factors on the other is traced in the work.

Introduction:

The beginning of the sixties was marked by notable revival of scientific research in the field of population migration. This was aided to a significant degree by the development of science in Siberia, primarily the association within the framework of the Siberian branch created at that time of the Academy of Sciences USSR of economic, sociological and demographic research conducted in Siberia and the Far East. Precisely in these regions the most urgent and complex problems of population migration arose.

Using the results of research carried out at this period, several monographs were published.[1]

The Siberian Branch of the Academy of Sciences USSR later became an all-union scientific research center on problems of the socio-demographic development of the countryside, including migration of the rural popula-

tion. The collective of scientists headed by T. I. Zaslavskaya published a number of works interesting in a theoretical and practical respect, devoted to elaboration of methological and systematic questions of study of the social development of the countryside in general and research on the development of the Siberian countryside in particular.[2]

The scientific workers of the Population Center of Moscow State University have concentrated their attention on research on the correlations of migration processes with resettling of the population and urbanization and on study of the specifics of migration of the urban population. The great service of the Population Center and the department of the same name of Moscow State University lies in training of demographic personnel of broad profile and preparation of education textbooks for these purposes.[3]

In 1974 study of population migration was begun by the Institute of Sociological Research, Academy of Sciences USSR. Principal attention was concentrated on research in interrayon migrational processes, and also migration of the rural population to cities, which are most significant for the socio-economic development of the country. The initial premise was the idea that migration is a complex socio-demographic process which must be studied complexly.[4] Thereby the subject of research includes migration itself, the factors causing it and the consequences of these processes. The complexity of the subject also presupposes complexity of methods applied (statistical analysis, sociological surveys, mathematical simulation, etc.).

Books on the theory and methods of research on migration processes in the USSR which have been published in recent years present great scientific interest. For example, the publishing house "Statistika" in the seventies alone published more than 10 monographs and collections of articles devoted to population migration.[5] Several works have been issued by other publishing houses, including "Nauka,"[6] and also "Ekonomika."[7] Nonetheless scientific interest in this problem is not slackening. Books on population migration do not lie long on counters; there is always demand for them. The subject demand is also not met by central journals, on whose pages in the Ninth Five-Year Plan alone 25 articles on problems of population migration were published.

The present monograph is the collective work of staff members of the sector of social problems of migration of the Institute of Sociological Research, Academy of Sciences USSR. The book consists of two parts: in its first part theoretical and methodological questions are examined: the essence and forms of migration and its factors are ascertained and much space is allotted to characterization of the methods with the aid of which this social phenomenon is studied. In the second part of the book the migrational processes which take place in the USSR and their interterritorial and intersettlement trend are analyzed, the factors which cause these processes are ascertained and the correlation of migration with population structure is examined.

The chapters were written by the following authors: L. L. Rybakovskiy--chapters 1, 3, 4, 6; A. G. Zubanov--chapter 2; L. V. Makarova--chapters 3, 4, and 8; K. D. Argunova--chapter 4; S. N. Zhelezko and G. F. Morozova--chapter 5; B. G. Serditykh--chapters 6 and 7; E. I. Rybakovskaya--chapter 6; N. I. Kozhevnikova and G. G. Koroleva--chapter 9; N. V. Tarasova and M. A. Uskova--chapter 10.

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TRANSPORTATION

NEW SOVIET AIRLINER YAK-42 DESCRIBED

Prague TECHNICKY TYDENNIK in Czech 6 Feb 79 p 22

[Article by (vkk)]

[Text] A new airplane, the YAK-42 for 120 passengers, with a flight range of 1,850 kilometers, and a cruising speed of 850 kilometers per hour has originated in the design office of A.S. Yakovlev. For the time being, it is operating on "Aeroflot" routes, but in the very near future it will also appear at Czechoslovak airports in the colors of CSA [Czechoslovak Airline]. There is great interest in the new airplane all over the world, and that is why the editorial board of the periodical "SOVIET EXPORTS" asked a few questions of S.A. Yakovlev, deputy general design engineer of the aircraft.

[Question] What basis did you use in selecting the concept of the aircraft and its design?

[Answer] In developing the Yak-42 airplane, we used the basic technical ideas which proved to be so successful in the case of the Yak-40 airplane. The reliability of all the systems of the Yak-40 airplane has been tested by many long-distance flights in Europe, Asia, Africa, Australia, and America. It is enough to recall the demonstration flight through South America: 115,000 kilometers, 270 flight hours, 260 landings at all kinds of airports, including airports in high mountains. For almost half a year, the airplane flew thousands of kilometers away from its main base. There was no need to replace a single part during the entire period. The Yak-40 airplane returned from South America to Moscow via the USA, Canada, Alaska, and Siberia, and was able to continue flying immediately. We applied this operational experience in designing the Yak-42.plane. The plane is designed for short and medium-distance routes. The type for short routes carries a hundred persons. The passengers put their luggage in compartments located in a space close to the entrance to the plane.

For longer flights, we install an additional 20 seats, and luggage is placed in the space below the cabin floor.

[Question] As a rule, there are only small airports on local routes. The Yak-42 is a plane with backswept wings. As is known, these planes have a relatively high landing speed. Can the Yak-42 land safely at airports of local routes?

[Answer] Certainly. Even though the landing speed of the Yak-42 plane is somewhat higher than that of Yak-40, roughly 200 kilometers per hour, the overall distance needed for landing from an altitude of 15 meters is almost the same, which means 1,100 meters. Therefore, the Yak-42 can take off and land safely on runways only 1,800 meters long.

[Question] How was it possible to achieve such remarkable parameters in the case of an airplane with backswept wings carrying 120 passengers?

[Answer] We used double-slotted flaps with a hinged surface. As soon as the wheels of the undercarriage touch the ground, spoilers which increase frontal drag and reduce uplift are brought out automatically. That increases the adherence of the tires to the surface of the runway, so that the pilot can apply the brakes more effectively. The Yak-42 plane also has a new set of flight and navigational instruments, which provide for manual or automatic flight control.

[Question] How did the new design help to increase the strength of the airplane and extend its operational capacity?

[Answer] The most important part of the plane, which as a rule determines its service life, is the wing. The service life of the wing depends on the operational reliability of the part which is subjected to the greatest stress, namely the wing's root. The Yak-42 has a one-piece wing, and that is why the stress is distributed throughout its entire structural shell evenly. In addition, the profiles of the wing at various points of its span are selected in such a way that the center of aerodynamic installation is shifted closer to the fuselage. That reduces the bending moments and the stress in that part of the wing, whcih increases its service life and reliability. All vitally important assemblies and systems are duplicated, some of them actually triplicated.

Hydraulics are completely duplicated in the Yak-42 plane. In addition to the basic distribution system, there is also an emergency with a separate reservoir for operating fluid and independent reserve pumps. As regards the distribution systems, we have a dual reserve, in the case of pumping stations a triple reserve, and with regard to sources of current a quadruple reserve.

Each alternator that is installed in the plane, delivers electric current to an independent feeder channel. The output of each channel is sufficient to feed, all the equipment in the aircraft. But even if two generators fail, there is enough electric current for all the systems. And if the third generator also fails, then electric current is delivered by the emergency

generator of the auxiliary unit which is put into operation after two generators of the basic system fail. If the emergency generator were also to fail to operate, something which practically cannot occur, all of the most important systems using alternating current will be fed by electric current from batteries through converters and equipment using direct current, directly from batteries.

[Question] What is essential for duplicating or triplicating a certain system?

[Answer] Experience gained from operations of analogical systems and long-term tests of supply sources. However, we kept in mind also the kind of almost impossible incident such as, for example, failure of all hydraulic systems used in the lowering the landing gear. In that case, the crew opens the landing gear doors manually and the landing gear is locked into position by its own weight and airflow.

[Question] The Yak-40 is independent of the equipment used at an airport, it does not need steps or a starting truck to start the engine. Does the Yak-42 have also these advantages?

[Answer] Yes. As a matter of fact, the Yak-42 has two types of steps. One set in the rear--the same as Yak-40--and the second in the front, immediately behind the crew cabin.

To start the engines,an auxiliary unit is used in this airplane which delivers compressed air both on the ground and in flight. The Yak-40 started its motors quite reliably even at La Paz in Bolivia, the airport with the highest altitude in the world (4,000 meters above sea level). There is no doubt that Yak-42 will start its motors easily under the same conditions.

[Question] To what extent is the servicing of Yak-42 laborious and strenuous?

[Answer] On local routes, the flight lasts as a rule one hour. The plane stays on the ground 15 to 20 minutes and takes off again. The extent of the required technical check at the airport is minimal. A routine check is enough in view of the outstanding degree of reliability of the airplane. A detailed inspection takes place once a day, when the flights have been completed. The system of technical checks of a Yak-42 plane is based on the relationship of the operations, and the actual condition of the individual systems. That reduces considerably the laboriousness of servicing.

FIGURE APPENDIX

Yak-42, a new Soviet plane for short and medium-distance routes, has three D-36 engines, with a take-off thrust of 637 KN. The service life of the airplane is 30,000 hours and 30,000 landings, maximum utility load is

14,500 kilograms (Figure 1).

Figure 2 shows the interior of the pilot's cabin.

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TRANSPORTATION

METHODS TO REDUCE TRACK, WHEEL FLANGE WEAR PROPOSED

Moscow ELEKTRICHESKAYA I TEPLOVOZNAYA TYAGA in Russian No 6, 1978 pp 43-45

[Article by Candidates of Technical Sciences A. S. Linev and M. S. Kogan: "How to Reduce Track and Wheel Flange Wear on the Baykal-Amur Mainline"]

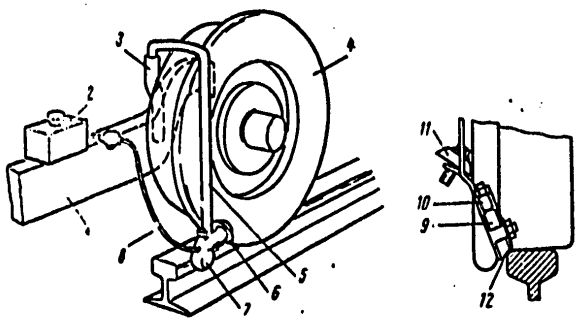
[Text] Over a great extent the BAM [Baykal-Amur Mainline] has a complex track plan and profile, and in addition passes through regions with harsh climatic conditions. While as an average for the railroad network the share of curved track equals approximately 26 percent, on the BAM it is about 45 percent, and even much greater on the pass or grade sections. The minimum curve radius equals 300 meters. The grades have an incline of up to 18 percent. Under such conditions, rather intensive lateral wear on curved track and the wheel flanges can be expected. The use of rails which have been hardened along their length only partially can reduce the acuteness of the question of rail wear, since the hardened rails wear out approximately 1.5-fold less than the unhardened ones. But the intensity of the wear on the wheel flanges with hardened rails is not reduced, but rather increases, since the "working in" of the rail profile to the wheel occurs more slowly.

On the Soviet railroads, the lubricating of the rails and wheel flanges is done by track lubricators with a feeder plate 570 mm long and a lubricant tank holding 12 kg of lubricant. The experience of using such devices shows that by lubricating the intensity of side wear on the rails can be reduced by several-fold. A rather high effectiveness from employing the track devices is achieved in the instance that they are placed close to one another, not farther than 3 km apart in single curves, and operate continuously. On lines with a traffic load of around 50 million ton km per km per year, the devices should be filled after 15-20 days.

Track lubricators can be installed on the BAM, but their use on this line involves numerous difficulties. Under the conditions of a sparsely populated locality, the maintenance personnel will live at station points which are located every 40-50 km. Under these conditions the inspecting of the instruments and their refilling will take a great deal of working time,

for the personnel can be brought out only by handcars which would be sent between trains. These expenditures can be reduced if the capacity of the lubricant tank on the existing devices is increased by several-fold (the track lubricators of the "Meso" firm have tanks of 86 and 144 kg).

The experience of foreign railroads shows that the length of the feeder plates on certain devices reaches 2,700 mm, and this makes it possible to apply lubricant to the entire circumference of the wheel. This increases the effectiveness of rail lubrication by the track lubricators. However, under the conditions of the BAM, the most effective is to lubricate the rails and wheel flanges using locomotive devices with the direct application of the lubricant to the side edge of the rail. Such a lubricating method is used on the lines of the Moscow Subway, on the experimental ring of the Central Scientific Research Institute of the Ministry of the Railroads, and as an experiment was previously used on certain railroads of the system. It has been most widely used on foreign railroads and in particular on the Japanese ones.



Design of the Automatic Lubricator
of the Kinki Nippon Railways System

Devices of different design (see the drawing) are used for lubricating the rails and wheel rims in Japan. The operating principle of the Kinki Nippon device consists in the following. The lubricant from the tank 2 is supplied through a rubber tube to valve 9 to the lubricating device 7 which, in being in direct contact with the side of the rail head at point 12, delivers the lubricant to the rail. The device is fastened to the locomotive rocker arm 3. By a rod 5 and a guide roller 6, the lubricant is constantly delivered to the required place on the rail head.

When the roller is not in contact with the rail, valve 9 is closed by a spring and the lubricant is not delivered to the roller. On track curves the roller is continuously in contact with the outside rail, and this provides continuous lubricating of the side edge. In moving along straight track the crew can put the roller into contact with the rails in certain sections, and the rails are then lubricated.

The lubricant material used in this device is a mineral oil mixed with a fatty oil which has been treated with hot air. The addition of the fatty component to the mineral oil, on the one hand, ensures lubricating at high speed due to the good adhesion characteristics of the oil, and on the other, prevents it from running beyond the point of application. The use of various mixes makes it possible to employ the lubricant material with plus and minus temperatures.

Lubricant consumption is approximately 4 liters per 400-500 km.

Subsequently this railroad developed an improved type of lubricator with a nozzle. This new lubricator combines both a guide roller which directly regulates the area of lubricant distribution, and a nozzle system with a minimum number of wearable parts. The lubricant is supplied to the nozzle by air fed into the oil tank. There is a two-stage regulation of air pressure. At speeds up to 30 km per hour, the air is delivered to the nozzles through a high-pressure control valve. Here the amount of lubricant delivered to the nozzles is increased. The rate is controlled by a counter activated by a lug on the roller which turns on the inner surface of the wheel. As the speed increases, the frequency of pulses recorded by the counter also increases and this closes the circuit which controls the admission of air to the oil tank through electropneumatic valves. For the low pressure circuit, this valve is activated at a speed of 5 km per hour, and the high-pressure circuit upon reaching a speed of 30 km per hour. At a speed below 5 km per hour and at a halt, delivery of the lubricant is automatically stopped.

When the crew enters a curve of a certain radius, ordinarily 1,200 meters, a sliding lug on the truck moves along a guide fastened to the lower frame. Here by a tracking mechanism an electronic circuit is closed, and air is admitted to the two electropneumatic valves leading to the oil tank.

With the activating of the valves, the air enters the oil tank and releases oil on the inner face of the rail.

The experience of the Japanese railroads shows the high effectiveness of such a rail lubricating method. Here the intensity of rail wear has been reduced by 5-fold, the wear on the flanges has been reduced by approximately 2-fold, and the consumption of electric power in pulling the trains has been reduced by 12 percent. This is related to a reduction in resistance in moving over the lubricated rails.

The maintenance of the devices mounted on locomotives is much easier than the track devices. Considering all of this in the near future we must work out the design of a device for locomotives in order to introduce the designated method for lubricating rails and wheel flanges on the BAM.

The BAM is being laid in regions with very harsh climatic conditions. The absolute minimum temperature reaches -62° C. The number of days per year

with a temperature below -50° C is 13, and a negative temperature lasts 190-234 days. In this regard, the question arises of selecting a lubricant for the track lubricators on the BAM. The presently used winter track lubricant can be used in the devices to -30° C.

As a result of research carried out it has been established that the industrial-commercial lubricant, the TsIATIM-201 (State Standard 6267-74), in terms of its low-temperature properties can be used on the track lubricators of the BAM. This lubricant works in the devices down to -50° C, and reduces track and wheel flange wear by several-fold. When it is necessary to reduce the intensity of rail wear (on sections with a heavy track plan and profile), the LZ-318 antiscuff and antiwear additive can be added to this lubricant.

The question of the need for year-round operation of track lubricators on the BAM does not require additional study. The fact is that in wintertime, a film of moisture forms on the rails and this helps, as research has shown, to reduce the intensity of wear. In comparison with the summer period, winter wear can be 2-3-fold less. If the same indicators are obtained for reducing wear in the wintertime under the conditions of the BAM, then in a number of instances there will be no need to lubricate the track and wheel flanges with very low outside air temperatures.

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TRANSPORTATION

BRIEFS

RAIL DEFICIENCIES NOTED--Soviet trains are arriving chronically late. On the main lines, one in four trains arrives late in Moscow. From an average 33.4 kilometers per hour in 1975, the average speed of a freight train has fallen to 32.3 kms per hour by 1977. Rail cars that covered an average of 248 kms 2 years ago now average only 234 kms. In numerous Ural districts half of the seed supply is unfit for use [because of late delivery?]. [Text] [Paris VALEURS ACTUELLES in French 26 Mar 79 p 36]

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