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TRANSLATIONS ON EASTERN EUROPE

ECONOMIC AND INDUSTRIAL AFFAIRS

(FOUO 3/79)

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CONTENTS PAGE

INTERNATIONAL AFFAIRS

Poland's Participation in CEMA Multilateral Ventures Reviewed
(Tadeusz Wrzaszczyk; EKONOMISHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 3, 1978)..... 1

Polish-Soviet Production Specialization and Cooperation Discussed
(Jan Ptaszek; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 3, 1978)..... 7

Electronization of Poland's Communication Network CEMA Cooperation Noted
(Edward Kowalczyk; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 3, 1978)..... 16

Poland's Participation in CEMA Invention Programs Noted
(Jacek Szomanski; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, No 3, 1978)..... 24

CZECHOSLOVAKIA

Need for Rational Use of Fuels and Energy Stressed
(TECHNICKA PRACA, Aug 78)..... 30

Government Program, by Slavoj Odehnal, Josef Koutnik
Service Industries, by Bohumir Tejnicky
Reasons for High Use in CSSR, by Eugen Zunko

EAST GERMANY

Economic Problems Seen Leading to Reform
(CAPITAL, Dec 78)..... 42

INTERNATIONAL AFFAIRS

POLAND'S PARTICIPATION IN CEMA MULTILATERAL VENTURES REVIEWED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 3, 1978 pp 2-5

[Article by Tadeusz Wrzaszczyk, candidate member of the PZPR Central Committee Political Bureau, deputy chairman of the Council of Ministers and chairman of the Planning Commission of the Council of Ministers]

[Text] One of the factors in the overall development of the Polish's People's Republic is the constant development and extension of its economic relations with the fraternal countries which are members of CEMA. These relations are helping considerably in performing the socioeconomic tasks outlined by the sixth and seventh PZPR congresses, and they are conducive to the country's dynamic development and to improvement of the living conditions of society. Poland is making a weighty contribution in line with its economic potential to create ever stronger integrative relations among the CEMA member-countries. This is convincingly evidenced by the mere fact that Poland holds second place (after the Soviet Union) in the volume of trade among the CEMA member-countries.

The Coordinated Plan of Multilateral Integrative Programs of the CEMA Member-Countries in the Period 1976-1980, which was adopted at the 29th Meeting of the council's session in 1975, was one of a sequence of steps taken to make cooperation within our commonwealth more intensive. Implementation of this worthwhile initiative, which was advanced by Comrade A. Kosygin at the 27th Meeting of the CEMA Session, opened up opportunities for closer linkage of multilateral programs being carried out under the auspices of the council with the national-economic plans of the various CEMA member-countries.

The coordination of plans covering the period 1976-1980 took on a qualitatively new character thanks to the drafting of the Coordinated Plan of Multilateral Integrative Programs. That coordination now covers not only foreign trade, but also the production sphere as well as scientific-technical cooperation.

Performance of the multilateral integrative programs in joint construction or reconstruction of major production facilities has given the countries of

the socialist commonwealth new capacities for the production of pulp, asbestos, ferruginous raw materials and ferroalloys, gas, nickel and other minerals. This will make it possible to satisfy more fully the needs of the developing economies of the CEMA member-countries, and it will be conducive to expansion and intensification of economic cooperation, to a strengthening of integrative relations among our countries, and also to increased trade among the CEMA member-countries.

Performance of the mutual obligations in the domain of specialization and cooperation arising out of the agreements included in the Coordinated Plan guarantees each of the countries optimum and efficient utilization of existing production capacities and a growth of mutual deliveries. This applies to the specialized production of electronic computers, chemicals for plant pest control, the equipment of the container transport system, equipment for nuclear power stations, automobiles, roller bearings, drilling rigs and equipment for crude petroleum and gas production, synthetic dyes and other products. It is quite significant that the plan also includes important problems in the domain of science and technology such as development of up-to-date production technologies, research and planning-and-design projects, industrial application of the most recent achievements in science and technology, and development of prototypes of up-to-date machines and equipment for a number of sectors of the economy. Solving these problems will create opportunities for further economic development of our countries and for intensification of socialist economic integration.

Poland is taking part in almost all the programs included in the Coordinated Plan. Since we have insufficient reserves of certain raw materials, we attribute the greatest importance to joint construction of projects in the USSR so as to develop its raw materials and fuel base. This is eloquently evidenced, for example, by Poland's active participation in development of the Orenburg gas condensate deposit and in construction of the Soyuz Trunk Gas Pipeline in order to obtain future deliveries of Soviet natural gas to Poland. In accordance with the general agreement and also the bilateral treaties the Polish side will receive 2.8 billion cubic meters of gas per year after 1980. Poland has assumed the obligation of complete delivery of the third section of the gas pipeline, which is 583 km long.

Poland is discharging its obligations in the programs mentioned above--it is building not only the pipeline itself, but also compressor stations and is carrying out other related operations. The pipeline proper has already been built. This work was completed 10 months ahead of schedule thanks to a large concentration of manpower, materials and equipment as well as the production commitments assumed by the Polish crew. Extremely well-qualified specialists with a great deal of experience are being sent to build the gas pipeline. The construction machines and devices manufactured in Poland and being used alongside modern imported equipment have demonstrated their excellence.

Timely completion of construction of the Soyuz Gas Pipeline has very great importance to our economy. We are interested in obtaining the planned amount of natural gas for the chemical industry which is undergoing dynamic development, especially for production of nitrogen fertilizers and present-day types of plastics.

Another important problem for our economy is to guarantee the constant growth of iron ore deliveries. This possibility is afforded us by cooperation with the Soviet Union, which for many years now has been delivering this raw material to Poland. The general agreement concerning Poland's participation in developing capacities in the Soviet Union for mining iron ore and for producing certain types of ferroalloys guarantees that our country will receive about 2.5 million tons of iron-bearing raw materials (in terms of pure iron) in the 1979-1991 period. As part of its participation in development of that industry Poland will deliver various goods to the USSR, by and large machines and equipment, industrial goods and consumer goods.

Construction of the Ust'-Ilimsk Pulp Mill should also be mentioned among the programs included in the Coordinated Plan which have great importance to Poland's future economic development. Under this agreement Poland is guaranteed annual deliveries of 40,000 tons of paper pulp for 12 years. On the same basis Poland will receive 50,000 tons of raw materials annually from the Kiyembayev Asbestos Mining and Milling Combine for a period of 12 years.

We are also participating in construction of capacities for the production of nickel and cobalt in the Republic of Cuba. In return for the credit extended to that country, after 1980 Poland will annually receive 2,500 tons of nickel and cobalt for a period of 12 years. Poland's participation in building the 750-kv electric power transmission line from Vinnitsa in the USSR to Albertirsa in Hungary deserves attention. Moreover, Poland has joined other interested CEMA member-countries in carrying out geological explorations in the Mongolian People's Republic.

Our country has assisted Mongolia with a grant of 2.5 million transfer rubles.

Poland is also paying much attention to multilateral programs in the domain of industrial specialization and cooperation. The reason is that our country is an important participant in practically all agreements included in the plan. In most cases this participation involves both exports and imports. For example, on the basis of specialization and cooperation in the production of chemicals for plant pest control under CEMA auspices Poland will receive about 4,500 tons of various agents for plant pest control in the 1976-1980 period, mainly from Bulgaria, the GDR and Romania, and will deliver in exchange about 2,000 tons of other chemical products for the same purpose.

Thanks to our machinebuilding industry's participation in specialization and cooperation in the production of roller bearings and their deliveries to the

fraternal countries Poland will receive 100 million bearings of another type during the current 5-year period. This is also a good place to note the specialization and cooperation between Poland and the USSR in building automobiles, which is developing successfully and has been highly praised both by managers and also the workers involved. Poland, which is receiving VAZ automobiles and also assemblies and parts for the FIAT-125, is delivering a sizable amount of assemblies and parts for Soviet VAZ automobiles. In the 1976-1980 period these exports will amount to 2.55 million sets of 19 different products.

Deliveries of dyes on the basis of an agreement concluded through Interkhim concerning specialization and cooperation in the production of synthetic dyes and certain organic intermediates are an important item among Polish exports to the CEMA member-countries. In the 1976-1980 period the Polish chemical industry will deliver to those countries 2,300 tons of dyes, mainly dispersed dyes, and will purchase 1,400 tons of organic intermediates.

Poland has also signed agreements on specialization and cooperation in the production of equipment for the container transport system and polyisoprene rubber based on the C5 isoprene fraction. Mutual deliveries of these goods are of substantial help in meeting our needs. Even this brief enumeration of cooperative arrangements shows that participation in these agreements has essential importance to the Polish economy. On the one hand it helps to raise the technical level and improve the quality of the products our industry produces, and thanks to the expanded scale of production it creates conditions for lower production cost. On the other hand by guaranteeing deliveries of the relevant products to our partners, they are relieved from building new enterprises and thus save funds which are needed for other purposes.

Recognizing the importance of scientific-technical cooperation to the future economic development of the CEMA member-countries, Poland is actively participating in solving the problems included in the Coordinated Plan. Our scientific research organizations are taking part in work on all 17 problems envisaged by the plan. Poland is acting as coordinator for some of them. These include such problems as overall automation of production and management processes at coal mines; standardization of health and safety specifications of mining equipment used in the coal industry and figuring in mutual deliveries; development of new methods and means of effective utilization of solid fuel and improvement of existing ones, design of a facility for manufacturing building materials and other valuable materials from the waste of mining and coal enrichment; research on new types of pesticides, development of biological and other methods of plant pest control and interdisciplinary study of the effect of pesticides on the environment, etc. Poland's contribution is to be approximately one-seventh of the total expenditures of the CEMA member-countries for programs in the domain of science and technology.

Poland paid close attention to the drafting of the Coordinated Plan of Multilateral Integrative Programs, and it looks upon its own obligations in

fulfilling it as the principal yardstick for judging efforts made to intensify and improve the process of socialist economic integration.

Guided by the decisions of the 27th and 29th meetings of the CEMA Session, we worked out a system for incorporating the tasks contained in the Coordinated Plan into the National Socioeconomic Plan of the Polish People's Republic for 1976-1980 and later into annual plans. From now on Polish plans will reflect not only exports and imports, but also tasks performed as part of joint integrative programs, industrial specialization and cooperation, scientific-technical cooperation, credit taken and extended, and so on.

In summary form they have been defined in the plan of Poland's integrative programs with the CEMA member-countries for the 1976-1980 period, which is a special appendix to the Decree of the Polish Council of Ministers on the National Socioeconomic Plan for 1976-1980. Provision has also been made for solving these problems in the various sections of sector and industry plans for production, product distribution and foreign trade.

On that basis specific tasks have been formulated in the national-economic plan for the relevant agencies so as to guarantee fulfillment of the commitments arising out of the Coordinated Plan. To be specific, they consist of the following:

i. furnishing the necessary funds in the plans of departments and ministries for full realization of contracts and agreements that have been concluded on cooperation, both bilateral and multilateral;

ii. assurance that commodity deliveries under the commitments assumed will be made by the dates envisaged in the contracts and agreements;

iii. setting up continuous monitoring and analysis of progress in performance of the tasks arising out of the Coordinate Plan both in physical and value terms.

In striving for the further development of higher forms of cooperation conducive to the development of integrative economic relations and to planned formation of conditions and opportunities for mutually advantageous contacts between individual sectors and industries in the economy of Poland and the other CEMA member-countries, we are making preparations for drafting the plan of multilateral integrative programs for the next 5-year period. This has already been reflected, to be specific, in the relevant orders issued to ministries and departments in our national-economic plan for 1978. We attribute great importance to this work, since we feel that the future successful development of the CEMA member-countries necessitates not only sound fulfillment of certain measures and the mutual obligations assumed by all the partners, but also timely steps to define future tasks.

The multilateral programs will be carried out mainly on the basis of intensified economic cooperation with the Soviet Union. Its role in Poland's economic development is very great.

The friendly meeting between Comrade E. Gierek, first secretary of the PZPR Central Committee, and Comrade L. Brezhnev, general secretary of the CC CPSU and chairman of the Presidium of the USSR Supreme Soviet, which took place in August 1977 in the Crimea was a particularly important factor in the development of cooperation and economic integration between the Polish People's Republic and the USSR. The decisions made during that meeting specifically call for the drafting of programs for development of industrial specialization and cooperation over the period up to 1990.

The visit to Moscow this January of P. Jaroszewicz, chairman of the Polish Council of Ministers, is evidence of the consistent implementation of the decisions of our leaders during the meeting in the Crimea and did a great deal toward further development of Polish-Soviet cooperation and improvement of its principles and mechanisms. This visit was further evidence of the fraternal relations between the two countries.

During the visit an estimate was made of needs and capabilities in the sphere of mutual economic relations in the upcoming years of the current 5-year period and also an assessment of the main lines of cooperation for the period following 1980.

A determination was made of those fields in which there are especially broad prospects for development of cooperation. They specifically include cooperation in the production of agricultural machines, trucks, equipment for nuclear power stations, ships and platforms for prospecting and developing offshore petroleum and gas deposits, complete manufacturing installations, as well as cooperation in the aviation industry.

Performance of this program of cooperation between our countries was highly praised at the next meeting between Comrade E. Gierek and Comrade L. I. Brezhnev, which took place in April 1978.

It is of paramount importance to Poland that the outlines of cooperation with the USSR in the 1981-1985 period are beginning to be sketched even now.

Many Polish industries have come into being and developed as a result of their relations with the Soviet market. That is why long-range definition of the lines of mutual cooperation is an essential factor contributing to the development and improvement of Polish planning.

The Moscow talks demonstrated that the Soviet side has also shown a keen interest in intensifying economic relations with Poland. Achievements in this domain have been well received; at the same time the two sides have expressed a readiness to intensify their relations, specifically on the basis of the development of industrial specialization and cooperation.

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INTERNATIONAL AFFAIRS

POLISH-SOVIET PRODUCTION SPECIALIZATION AND COOPERATION DISCUSSED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 3, 1978 pp 56-60

[Article by Jan Ptaszek, adviser to the Polish permanent representative to CEMA]

[Text] Especially good results have been achieved in the last decade in the domain of Polish-Soviet industrial specialization and cooperation within the same sector or industry. This is indicated by the relatively high share of products covered by industrial specialization and cooperation in Polish trade with the Soviet Union, which in 1977 was 23 percent.

Polish industry is now an attractive and valuable partner in many fields, and our capabilities in the domain of economic cooperation will be growing every year.

The 1968 signing of the agreement on cooperation in automobile production was a step of great economic importance in the domain of the division of labor.

Mutual deliveries of parts and assemblies for the FIAT automobiles manufactured in both countries were worth about 370 million exchange zlotys in the 1970-1975 period.

This agreement was extended to cover the current 5-year period. It specifically provides for annual sales to the Soviet Union of 400,000 sets of parts for the Zhiguli automobile; this is one-third more than in the 1971-1975 period. The list of orders covers 13 items: for example, storage batteries, headlights and rear lights, thermostats, license plate lights, automobile dome light fittings, and so on. Poland is receiving from the Soviet Union glass, bearings, door handles and other parts for the FIAT-125p automobile.

Provision has also been made for annual deliveries to the USSR of 110,000 sets of parts for the new model of the Zhiguli automobile in that period.

The next important direction in the intensification and expansion of cooperation between the two countries in the motor vehicle industry was the agreement signed 7 May 1975 on collaboration and cooperation in the production of trucks. It calls for long-term deliveries from Poland to the USSR of complete brake systems and push-button switches for trucks manufactured by the Kama Motor Vehicle Plant.

In exchange for the products delivered to the USSR Poland will be receiving KamAZ trucks.

The value of the bilateral deliveries under that agreement will be about 1.3 billion exchange zlotys in the 1976-1980 period, i.e., 650 million exchange zlotys of exports and the same of imports. Thanks to this agreement Poland is becoming one of the largest producers of brake systems in Europe, and the USSR is able to reduce its production cost. We should add that this cooperation will continue after 1980.

Recommendations are being prepared concerning the conduct of joint experimental design work to develop the construction of an up-to-date truck in the 1.5-3-ton range.

An understanding has already been reached on use of 550-HP diesel engines in BelAZ trucks, which are to be manufactured in Poland on a compensation basis.

Industrial cooperation with the Soviet Union is looked upon as a strategic and long-range direction in development of the Polish motor vehicle industry. Projects in this field should bring about an expansion of the forms of cooperative agreements.

Our countries are developing cooperation in the machine tool building industry. A cooperative agreement has been carried out since 1969 concerning deliveries of electromagnetic clutches for machine tools from Poland to the Soviet Union and of metal-cutting machine tools from the Soviet Union to Poland.

The agreement calls for mutual deliveries of products worth approximately 450 million exchange zlotys in the present 5-year period. It creates the basis for large-series production and further specialization of our industry. In the 1970-1975 period Poland sold the USSR 1.25 million electromagnetic clutches worth 250 million exchange zlotys.

Poland as a result became a major world producer of electromagnetic clutches. Poland is the only foreign supplier of this product for Soviet machine tool building.

Under agreements on industrial specialization through CEMA we are importing a number of models of custom-built machine tools from the USSR. On the basis of a bilateral agreement signed in 1973 the Soviet Union is specializing in the production of 19 models, and Poland 5 models of machine tools.

The plant for lathe attachments and chucks in Belostok has broad prospects for increasing deliveries; in the 1972-1975 period it delivered to the USSR under a long-term cooperative agreement 75,000 precision-made lathe chucks whose value totaled about 44 million exchange zlotys.

These agreements were extended and expanded by the 1975 agreement on specialization and cooperation in the machine tool building and toolmaking industry in the 1976-1980 period. Poland is producing 10 types of machine tools and the Soviet Union 50 types on the basis of specialization.

In connection with the considerable expansion of the list of products produced under the framework of specialization, the value of mutual deliveries of these products in the current 5-year period is increasing and will amount to about 1.6 billion exchange zlotys.

Thanks to the modern production and scientific research potential of the Soviet Union and Poland our countries are now well prepared for extensive cooperation in the production of construction machines.

Since 1970 Polish industry has become a supplier of a number of assemblies and parts for construction machines, mainly to the USSR. The capacity of the Soviet market and the stability of relations with Soviet partners guarantee the profitability of our production. For a number of years now the Huta Stalowa Wola Combine has been delivering to the Soviet Union gearboxes for heavy construction machines. They are manufactured on the basis of Soviet documentation. In accordance with the agreement on specialization and cooperation the USSR has ceased production of gearboxes for these machines and is using the Polish product exclusively. In 1975 our exports of gearboxes was 13,000 tons. In the current 5-year period their deliveries will reach 70,000 units.

Cooperation is developing on a similar basis in the production of front and rear axles for excavators, which the plant in Radomsko has organized. In the 1976-1980 period 30,000 units will be delivered to the USSR.

Under another agreement on specialization and cooperation that has been in effect for 3 years Poland is delivering universal joints for lift trucks to the USSR.

The present complexion of cooperation has created the foundation for trade agreements which are based to an ever greater degree on cooperative arrangements.

During the economic exhibition held in Moscow in August 1974 and dedicated to the 30th Anniversary of the Polish People's Republic, another agreement was signed on cooperation in the manufacture of construction machines in the 1976-1980 period. Mutual deliveries on the basis of that agreement amount to about 3.5 billion exchange zlotys.

Collaboration in this field is reinforced by the scientific-technical work which is extensively carried on and which is having an ever greater impact on cooperative arrangements.

The best example of this might be the activity of two mixed Polish-Soviet design teams in developing a line of new designs of hydraulic self-propelled cranes with lifting capacities of 25, 40, 63 and 100 tons. Their production will make it possible to meet the needs of the economies of Poland and the Soviet Union and also of the other CEMA countries for up-to-date high-capacity machines of this type.

Expansion of cooperation in the production of electronic computer equipment should be recognized as an important achievement. The agreement signed in this field in June 1971 has considerably promoted the development of one of the most up-to-date industries in Poland. We are exporting to the USSR 25 models of peripheral equipment for computers, such as storage, reading and printing devices.

In June 1977 Poland and the USSR signed an agreement extending cooperation in this field to 1985. It envisages a broad program of scientific-technical cooperation, specialization in production and cooperative deliveries of computer control complexes, including minicomputers, peripheral equipment and other hardware.

The Soviet Union has extended us every kind of technical assistance both in design and technology and also in deliveries of equipment and certain materials important to series production of the integrated circuits of Logika-2 systems.

Thanks to Soviet documentation and deliveries of equipment we have been able in a short time to organize the production of the Rubin-707 color television set.

Expansion of tape recorder production in Poland and the large-series nature of this production have created the possibility of annual deliveries of 1.5 million tape recorder heads to the Soviet Union.

Cooperative arrangements have also been established for the 1976-1980 period in the production of automation equipment and measuring apparatus. They have especial importance since they are making it possible for Polish industry to reduce the assortment of products produced, to a large series, and thereby to reduce production costs.

We are exporting to the USSR manometers, pneumatic position regulators, switches and torsion balances, keyboard units for Iskra calculators, and power assemblies for cash registers.

Poland is importing from the USSR Iskra calculators, Sweda cash registers, and monitoring and recording devices for process control.

An agreement has also been signed on production in our country of computerized process control systems in the manufacture of sulfuric acid and in the sugar industry. The USSR is specializing in the production of control systems for the fuel and power industry and also for ferrous metallurgy.

An agreement was signed in September 1975 on specialization in the production of electronic products, radio measuring apparatus and line communication equipment. Under that agreement Soviet industry is producing 32 different pieces of communication equipment. Poland is specializing in the production of 12 such products, which it is delivering to the USSR.

Thanks to cooperation among specialists of the two countries who are making design changes in the Pentakonta automatic telephone exchanges (designed for 10,000 subscribers), which are manufactured in Poland, Poland will be delivering these exchanges to the Soviet Union. Our countries are also planning to engage in cooperation in the development and production of automatic central offices using the crossbar and electronic systems.

The agreement signed by Poland and the USSR on specialization in the electrical equipment industry has great importance to that industry's development. Under it 18 models and groups of electrical products are to be produced in the USSR, including 500-megawatt turbogenerators, electric road locomotives, asynchronous electric motors, "bloc" transformers for 500-megawatt turbogenerators, etc. Polish industry will specialize in the production of six models and groups of electrical products, including complete mobile substations, distribution installations for agriculture, power switchboard and fuse boxes, etc.

Three countries--the GDR, Poland and the USSR--have concluded an agreement to build a plant at Novovolynsk in the Soviet Union for the production of specialized manufacturing equipment for the electrical equipment industry.

The joint construction makes it possible to save considerable funds which would otherwise be spent if this enterprise were being built by only one country.

Bilateral cooperation is also developing in the production of machines and equipment for the food industry. Poland is specializing in the manufacture of 39 products and is delivering them to the Soviet market.

International socialist division of labor is also developing effectively in the field of textile machines, which was initiated by the December 1971 signing of an agreement on specialization and cooperation in the production of looms.

The Polish textile machine industry has organized the production of five assemblies for shuttle-free looms on the basis of Soviet documentation and with the technical assistance of Soviet specialists. In exchange for them we are receiving from the USSR finished looms for our light industry and

assemblies for their production. The value of mutual deliveries in the 1972-1976 period was 115 million exchange zlotys.

This agreement has been extended to 1976-1980. In the current 5-year period mutual deliveries are to be tripled over the previous 5-year period. Their value will be nearly 480 million exchange zlotys.

Soviet industry is specializing in the production of 73 machines. The majority are representatives of high-output equipment: STB looms, spinning and twisting frames, production lines for short flax fiber, and so on.

Our industry will specialize in the production of 11 machines and pieces of equipment. They consist of up-to-date preparation and spinning equipment for the cotton industry and also certain machines for dyeing and finishing.

Our country signed a particularly important agreement on cooperation in the production of tractors and farm machines on 17 November 1971. It defines the principles and scope of industrial specialization and cooperation and also of joint design and research programs.

Under the agreement, for instance, Polish industry has ceased the production of crawler tractors, since Polish needs for them are being met by Soviet suppliers. Poland in turn is supplying Soviet agriculture complete equipment for crop-drying operations and the like.

Because of the good results in cooperation a decision was made to extend the life of this agreement for 1976-1980. Mutual deliveries of machines during those years are planned in the amount of 1.9 billion exchange zlotys.

The Soviet Union will specialize in the production of tractors in the 0.6-ton and 6-ton class, plows and harrows of various types and also cultivators, while Poland will specialize in the production of potato diggers, clover hullers, and so on.

Technical and industrial cooperation are developing successfully in the aviation industry. An agreement signed in 1971 concerned joint design development and organization of the production of new jet airplanes for use in agriculture which will be manufactured in Poland and exported primarily to the Soviet Union.

At the transport equipment plant in Mielec in the spring of 1973 Polish and Soviet designers developed a new model of this aircraft, designated the M-15. The most recent design features of world aeronautical engineering are being used in the production of this up-to-date aircraft. Thanks to cooperation, the aircraft was created in record time, which will make it possible for our country to hold second place in the world among producers of agricultural aircraft.

Cooperation in the production of the Il-86, a 350-passenger medium-range jet aircraft also called the air bus, represents a new level of cooperation in the aviation industry from the standpoint of scale and technical complexity. On the basis of a Soviet design Polish enterprises will be manufacturing tail and rudder units, elements of the wing mechanism and screw-type (vintovyye) mechanisms for this aircraft.

Polish industry will also go into the manufacture of the An-28 passenger plane on the basis of Soviet documentation.

Cooperation in the production of equipment for nuclear power stations, which is based on an intergovernmental agreement, has essential importance to our economy. The terms of cooperation defined in that agreement also create opportunities for use of the Soviet Union's achievements and abundant experience in the organization of production and training of personnel, as well as interaction in developing scientific-technical research.

An agreement on specialization and cooperation in the production of mining machines and equipment up to 1980 will have great importance to development of the coal industry in both countries in view of the tasks of increasing coal mining and the need to further improve working conditions in this industry.

Over the last 5 years there was considerable progress in the division of labor in the chemical industry of the two countries.

Under an understanding on specialization of production covering 70 products in the 1971-1975 period, 17 products were manufactured in Poland and 53 in the Soviet Union.

Cooperation is continuing to develop in this field in the current 5-year period. The total value of chemical products involved in trade during this period is about 4.3 billion exchange zlotys, which is nearly double the volume of trade in the 1971-1975 period.

During this 5-year period the Soviet chemical industry is specializing in the production of 51 chemical products and the Polish chemical industry 31 products.

We should emphasize that this type of cooperation is dictated by the needs for profitability of production, since in present-day chemistry production engineering is going in the direction of large-capacity units, which improves the efficiency of capital investments considerably.

The favorable examples we have given to illustrate the division of labor between our two countries in the manufacturing industries do not, however, exhaust the possibilities that exist for cooperation.

The basic principle governing future projects in the domain of specialization and cooperation should be the desire to produce above all those machines and pieces of equipment, parts and assemblies which are not yet being manufactured in the socialist countries or are being produced in insufficient quantities.

A great economic benefit can be achieved through participation in the division of labor in connection with the construction of joint industrial facilities both in the socialist countries and also in the capitalist countries. Consideration can be given to the following: the design of the projects, agreement on mutual deliveries of machines and equipment, and also participation in the installation and startup of the projects being built.

There are sizable opportunities for specialization and cooperation in the field of industrial consumer goods. Achievement of extensive division of labor in production of this group of products is all the more interesting and advantageous because design capacity is reached more quickly in the production of these products than in other industries. The payoff period for productive outlays is shorter, and guarantees of effective deliveries and sales prospects are better.

In accordance with decrees adopted in August 1977 during the Crimean meeting of Comrade E. Gierek, first secretary of the PZPR Central Committee, with Comrade L. I. Brezhnev, general secretary of the CC CPSU and chairman of the Presidium of the USSR Supreme Soviet, the ministries of the two countries undertook to draft prospective programs for industrial specialization and cooperation covering the period up to 1990. These programs will have fundamental importance to development of division of labor between Poland and the Soviet Union. They will comprise a set of interrelated programs corresponding to the main lines of economic development of the two countries. The programs will include proposals concerning the following:

i. the possibility of developing and intensifying specialization in the production of specific products developed on the basis of an analysis and assessment of the effectiveness of economic relations and of prospects for their development, including fuller utilization of the results of scientific research and project planning and design work done in the two countries;

ii. initiation or expansion of the production of articles in short supply and also articles which at the present are being purchased on the markets of the capitalist countries, as well as achievement of joint production in cases when it is justified;

iii. possible directions for coordination of capital investments in order to develop the relevant production capacities to provide for mutual deliveries on the basis of industrial specialization and cooperation, assuming optimum efficiency in utilization of existing production capacities and their modernization and reconstruction;

iv. measures directed toward preparation of the production of products covered by specialization, including the neqessary scientific-technical research, drafting of technical documentation, material and technical supply, and also assessment of the needs and possibilities of meeting them;

v. organization of joint research and project planning and design offices;

vi. possible forms of cooperation on the markets of third countries with a view to selling deliveries of products manufactured under industrial specialization and cooperation between enterprises of the two countries, including complete manufacturing lines;

vii. programs to speed up standardization and adoption of standards governing production of industrial products involved in or scheduled for industrial specialization and cooperation in individual industries of the two countries.

These programs will include the problems of cooperation defined in the protocol of the talks between Comrade P. Jaroszewicz, chairman of the Polish Council of Ministers, and Comrade A. Kosygin, chairman of the USSR Council of Ministers, 30-31 January 1978. It was decided to give priority to the task of developing cooperation in the production of equipment for nuclear power stations, taking into account organization of cooperation with the other CEMA member-countries and a feasibility study on setting up a special joint administration to develop the technology for manufacturing that equipment, cooperative production of large-capacity dump trucks, organization of the production of ships and platforms for exploration and development of offshore petroleum and gas deposits and a number of other branches of machinebuilding.

Problems arising out of the long-range special-purpose cooperative programs among the CEMA member-countries will also be stated in concrete terms in the programs for industrial specialization and cooperation being drafted jointly. The sum total of these projects ought to make for further progress toward joint solution of essential problems in economic cooperation between Poland and the Soviet Union and should enlarge opportunities for establishing effective scientific-technical and industrial cooperation in certain industries of the two countries.

7045
CSO: 1823

INTERNATIONAL AFFAIRS

ELECTRONIZATION OF POLAND'S COMMUNICATION NETWORK CEMA COOPERATION NOTED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 3, 1978 pp 61-64

[Article by Edward Kowalczyk, minister of communications of the Polish People's Republic]

[Text] Adoption of the Comprehensive Program has marked the beginning of a new stage of cooperation within CEMA. The major problem of production, science and technology are now crucial to mutually advantageous and highly effective relations. An ever greater number of scientific-technical problems are being worked on jointly by interested countries. The sphere of activity of coordinating centers and other organizational forms of cooperation is expanding.

The results of the activity of the Council for Mutual Economic Assistance is indicative of the tremendous role which this organization has in the process of the development, intensification and improvement of economic and scientific-technical cooperation among the CEMA countries and development of socialist economic integration in all sectors of their economies.

The Standing CEMA Commission for Communications and Postal Service was set up in 1971 under a decree of the 25th Meeting of the council's session. Its creation has facilitated improvement and expansion of cooperation of CEMA member-countries in this field.

In a comparatively short time the commission has worked out the main lines and tasks of cooperation in the sector of communications and the postal service. These directions were approved at the 27th Meeting of the council's session as a supplement to the Comprehensive Program for Further Intensification and Improvement of Cooperation and for Development of Socialist Economic Integration of the CEMA Member-Countries.

One of the fundamental aspects of cooperation in communications and the postal service is now the question of setting up the VAKSS (multipurpose interlinked computerized communications system) of the CEMA member-countries for transmission of all types of information. A very important task in this

connection is to create the communications systems, equipment and apparatus, including the equipment and apparatus necessary to the creation of the VAKSS and the national communications networks of the CEMA member-countries.

The cooperation of these countries is taking place in the context of the scientific-technical revolution. Equipment is developing at a fast pace, and new technologies are being created. A typical feature of this process is the rapid development and ever broader use of electronics in many sectors of the economy.

There are, of course, progressive trends in the extensive use of electronics in the communications field, which has given rise to many ideas in this field of engineering. This applies above all to the question of electronizing the communications network, that large technical system in which every successful technical and organizational innovation can be of inestimable use to society and bring a large economic benefit.

By electronization of the communications network we mean initiating the production and operation of apparatus that incorporates the most recent technological achievements of electronics, above all up-to-date electronic elements and assemblies. This gives rise to problems (mainly in the switching field) of replacing traditional electromechanical devices by electronic assemblies, of using integrated circuits in the production of communications apparatus, for example, in telephone apparatus for various uses, and also of introducing computer-based automation of measuring and monitoring processes.

It might be asked: Is it sound to incorporate the most recent technology into the production of communications equipment if there are difficulties in obtaining the required amount and assortment of electronic components, when consumers using traditional apparatus do not immediately feel an increase in the volume or improvement in the quality of services, nor a drop in service charges? After all, the present communications apparatus by and large does meet all the needs for services (in corresponding amount, of course), it is relatively cheaper, more accessible materials are used in its manufacture, and the manufacturing methods were mastered long ago.

This is in fact the view that some specialists take on the matter. But it is difficult to agree with this approach if we take into account the prospects for development of communications techniques. There is no question that the right way of solving the problem is to weigh the economic prerequisites and on that basis determine the rate of introduction of the new equipment, which will effectively bring about technical-and-economic and social progress.

There should be no fundamental doubt about the actual need for full electronization in the sense of application of the most recent technology and extensive introduction of present-day electronic components in the production of communications apparatus, since it affords the following possibilities:

i. improved saving on material;

ii. reduction of equipment size and weight;

iii. higher reliability of equipment and greater resistance to the effect of external conditions;

iv. greater technological homogeneity in manufacturing;

v. eventual reduction of the cost of apparatus;

vi. automation of the operation of devices, of attending them, of monitoring and of measurements, and also of their operation without preventive maintenance or repair;

vii. adoption of digital transmission and switching systems which offer reliable interaction of communications networks with electronic computer systems;

viii. realization of a unified and integrated communications network encompassing telephone, telegraph, phototelegraph and telemetric communications and radio and TV broadcasting;

ix. use of new technical and organizational forms of operation that ensure, for example, automatic control of data flows, message switching and automatic attendance;

x. the rendering of new types of services, including the possibility of man-computer dialog;

xi. more rational use of the electromagnetic spectrum by achieving the necessary electromagnetic compatibility of communications equipment;

xii. creation of a unified scientific research, production and personnel capability for production and operation of all types of data processing and transmission equipment;

xiii. achievement of high flexibility in the use of new circuit and system designs.

All of this argued in favor of the decision to gradually adopt in Poland the most recent achievements in the field of electronics, and especially to electronize switching apparatus. Production of Ye-10 electronic automatic central telephone offices has begun on that basis. Polish scientific research organizations are now conducting projects related to electronization of telegraph offices, telephone sets and also on development of various types of communications apparatus incorporating integrated circuits of varying degrees of integration. Multichannel communications systems and radio and TV broadcasting transmitters manufactured in Poland are being modernized.

The relevant industrial enterprises are undergoing reorganization to apply the newest technologies under foreign licenses.

The process of intensive modernization of the communications network must, however, be accompanied by serious action to increase the scale of production. This compels us to use all possible potential, including equipment that is still suitable and productive though scheduled for gradual retirement. This situation is having an impact on the methods of planning the future development of communications, in which the interests of the near future and more distant future must be reconciled with today's capabilities and needs.

In addition to giving first consideration to the optimum needs of the present, we must at the same time have a clearly defined goal for the future. That goal is to build on a national scale a single integrated communications network, which would be the integrated technical facility for transmission of various forms of information so as to meet the needs of administrative agencies, the economy, culture, the general public and public and political information. It would have good links with the international VAKSS, which has been designed and is gradually being set up by the CEMA member-countries.

The outlines of the future electronic, digital and integrated communications network are sketched out distinctly enough, and its advantages are unquestionable. Yet this is a far off goal whose achievement will take several decades. At the same time, in a situation where we have an electronic switching system coupled with digital transmission systems, we already have the possibility and need to utilize these advantages.

So far neither Poland nor probably the other CEMA member-countries has a completely crystallized conception of how to go about setting up a network that would use the principle of gradual penetration of promising technology into the present communications network, which for many years yet will be meeting the country's needs. Development of tnat conception is a good topic for cooperation within the framework of the Standing CEMA Commission for Communications and Postal Service.

The main problem in this connection is to define and introduce an optimum mode of penetration of digital electronic equipment into the complex organism of the existing communications network, whose operation and constant development would not be interrupted.

The unified and comprehensive nature of the network predetermines every decision pertaining to its development and is having an important impact on all the plans for construction and operation. Not a single facility or communications installation can operate separately and independently; full interlinkage of the entire communications network is obligatory. So, if some particular section of the network is improperly fitted into its overall structure, the local benefits obtained will be considerably smaller.

Network structure is a peculiarity of communications. The facilities making it up do not operate independently, but within the framework of a single system, and services in this field are the result of the operation of the entire network and not just of its individual facilities.

In the communications field it is the unified network that is the subject matter of planning, and the comprehensive approach is a necessity in planning. Every communications facility must be fitted into the overall network with respect to a whole number of indicators.

To plan development of communications without this approach would be to run the risk that the new facilities would not be able to interact and efficiently perform their functions; in one section there might be a sharp drop in the network's traffic capacity. This means that in planning development of the communications network we must be able to foresee the role and place of every new facility in the network not only in the very near, but also the remote future. After all, the operating capabilities of the network depend now on a number of factors and decisions taken in the past and manifested in the specific form and condition of the present equipment. Likewise, the decisions we make now determine possibilities for our actions and the actions of our successors over the next 10-20 years.

By introducing digital electronic equipment we are trying to fulfill an important condition for reconciling near and more distant goals. But it is considerably more difficult to retain the principle of functional and technical unity in a network consisting of old and new equipment. As the new apparatus is introduced, it must be adapted to the devices already in operation. All adaptations are quite expensive by their nature, so that the new equipment to be introduced must be capable of the greatest flexibility and ability to fit a variety of conditions. In planning the use and development of electronic central offices with the Ye-10 system we must take into account all the areas in which they might be used: local and zonal, intercity and international, as well as subscriber and internal systems.

We should note, however, that the cost of switching equipment both for quasielectronic and also electronic systems is now far greater than that of switching equipment of crossbar electromechanical systems; the advantages are realized in construction of the network itself. It is supposed that as the technology improves for production of the components and parts there will be a substantial reduction in the cost of equipment for the Ye-10 system--this trend has been observed throughout the field of electronics. At the same time, we should not expect a substantial reduction in the cost of equipment for the crossbar electromechanical system--its prices are rising throughout the world.

A feature of electronic switching offices is that they are linked with digital transmission systems. Consequently, these offices can be used rationally only when combined with such systems. As a result we obtain a qualitatively new telephone network and its construction costs are reduced even at

the present cost of electronic switching equipment, which is still relatively high. Some specialists feel that it is still too early to introduce full electronization and give preference to quasielectronic systems, which do not have these characteristics and therefore do not yield a substantial benefit when the network is built. The total cost of networks based on electronic systems is lower than for quasielectronic systems whenever decentralization of the network is economically justified. This is because the cost of quasielectronic systems is now also rather high, but they do not afford higher efficiency in utilization of the network. From the standpoint of rendering services, the electronic and quasielectronic systems can today be regarded as almost equivalent, but in the future the advantage is on the side of the former. That is why the quasielectronic systems should be looked on as a transition.

By way of confirmation we might mention that in many cases the quasielectronis systems are being reorganized as electronic systems with a switching field built on the principle of time-division of channels.

The CEMA member-countries which have advanced electronic equipment can also introduce it boldly in the communications field.

Electronic switching systems are now being developed in the Soviet Union in cooperation with the GDR. The results of these projects are very promising, and in all likelihood they will become the basis of experiments in the use of certain types of switching devices.

In the industrially advanced countries of the world we see today not only an interest in the electronization of equipment, but also intensive practical activity in that direction. In France, West Germany and England extensive plans are being carried out for development and production of electronic systems. Much attention in the United States is being paid to development of the conception of the city which has a multipurpose communications network. A multioffice system of digital commutators interconnected with digital transmission systems using optical transmission lines is thought most suitable for such a network.

The American literature also contains an example of a typical rural area in which a digital network made it possible to reduce the number of offices from 195 to 70.

Many well-known firms throughout the world are putting electronic central offices into production using recent technological achievements.

The electronic time switching system, combined with digital transmission systems, is now making it possible to create a communications network with integrated technology. Even now regional networks embodying this principle can be set up and linked to one another by analog transmission lines. We should mention in this connection that every electronic switching system can interact with any other system in the transitional period.

All these systems will be undergoing constant modernization. The dynamic development of the production of electronic components which has recently been taking place ensures the step-by-step development of the system. Changes related to development of technology and transmission systems will bring about an expansion of the economically sound field of application of the electronic switching system. Consequently, this system can be the basis for the switching system of the telephone network with integrated technology.

A communications network with integrated technology is the first stage. Later the transition will be made to integration of services--to creation of a single digital communications network consisting of digital transmission channels and electronic offices with a time division switching system not only for telephony, but also for telegraphy and other types of services. The projects being carried out in Poland are aimed at studying the possibilities of using the electronic switching system for data transmission as well. It is now difficult to say whether the future electronic switching system in a network with integrated technology and services will be referred to as the Ye-10 or by some other designation. The essential thing is that this system will retain the basic features of the electronic switching system now being manufactured in Poland and already in practical use.

The approach based on the "hypothetical ideal system" which no one has yet built must be regarded as unrealistic. Opponents of electronization often deliberately contrive that kind of idealization so as to be able more easily to demonstrate how unrealistic it is.

The Polish People's Republic, in purchasing the license for the Ye-10 electronic switching system which is promising and advanced on a world scale, has assumed the main risk involved in creating the future integrated communications network. The results indicate that this decision was correct. The fraternal socialist countries can in our opinion also take advantage of Poland's experience and adopt this system as the basis of their work in setting up a future integrated communications network. This approach will help to speed up the creation of that network.

Projects in this field can be carried out not only on the basis of bilateral cooperation, but also and above all through multilateral cooperation within the framework of the Standing CEMA Commission for Communications and Postal Service. One of the topics for scientific-technical research envisaged by the 1976-1980 National Socioeconomic Plan is development of an integrated digital communications system and the apparatus making it up. The projects under this topic are being coordinated by the Communications Research Institute of the Polish People's Republic, and scientific research organizations of the other CEMA member-countries are also taking part. At its 11th Meeting, which was held in 1976, the Standing CEMA Commission for Communications and Postal Service adopted as a basis proposals concerning the directions of future projects aimed at creating an integrated digital communications system and the equipment comprising it.

At the same time the commission has been supplementing the topic list of projects in the first phase. They consist of the commission's drafting and consideration in 1978 of technical specifications for automatic electronic central telephone offices. Adoption of these specifications by the Standing CEMA Commission for Communications and Postal Service will make it possible for work to begin on specialization and cooperation in the production of automatic electronic central telephone offices within the framework of the Standing CEMA Commission for the Radio Equipment and Electronics Industry.

We can therefore say that possibilities exist for solving this problem. Realization of the first phase of the integrated communications network in a future that is now not so far off depends above all on communications experts of the CEMA member-countries.

PHOTO CAPTIONS

1. p 63, top — Ye-10 electronic automatic central telephone office in the Communications Institute of the Polish People's Republic.

2. p 63, bottom — Production of electronic automatic telephone offices at the Telkom-Teletra Plant.

7045
CSO: 1823

INTERNATIONAL AFFAIRS

POLAND'S PARTICIPATION IN CEMA INVENTION PROGRAMS NOTED

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 3, 1978 pp 84-87

[Article by Jacek Szomanski, chairman of the Polish Patent Office and chairman of the Conference of Heads of Agencies for Patents and Inventions of the CEMA Member-Countries]

[Text] Scientific-technical progress is one of the principal factors affecting social development. But under socialism all achievements in the domain of science and technology are used for the good of the entire society. V. I. Lenin attributed great importance to inventions and discoveries as an important factor in scientific-technical progress. Clear evidence of this is the Decree on Inventions which he signed as early as 1919 and which proclaims the basic principles of socialist legislation in this field.

We should emphasize that the Leninist principles set forth in that decree have been consistently observed in Polish law on inventions and discoveries. For instance, in our legal system provision is made for creation of the social and economic conditions for development of invention and the movement of production innovators. Socialist legislation provides protection of the property and personal rights of inventors and optimally combines social needs and individual rights. This is an especially valuable proof of the superiority of socialist law.

Cooperation among the socialist countries in the field of inventions and protection of industrial property began in 1959. In the first stage this cooperation consisted only of organizing conferences of heads of agencies for inventions and discoveries. They examined questions pertaining to inventions, trademarks and industrial designs, classification and patent information, and also matters related to international cooperation arising out of the participation of the socialist countries in VOIS (World Organization for Intellectual Property). The Polish Patent Office has taken an active part in this cooperation.

In 1971 a permanent CEMA organ was created--the Conference of Heads of Agencies for Patents and Inventions of the CEMA Member-Countries. The bylaws of

the Conference of Heads of Agencies for Patents and Inventions of the CEMA Member-Countries state that its most important tasks are to study and work on matters that pertain to protection and use of inventions and also to prepare proposals concerning multilateral regulation of these matters.

The conference pays particular attention to improving the legal basis of cooperation in the field of inventions and discoveries.

One of the first documents prepared by the conference was the Agreement on Legal Protection of Inventions, Industrial Designs, Utility Models and Trademarks in the performance of economic and scientific-technical cooperation; the Polish delegation made a substantial contribution to the drafting of that agreement, which was signed in Moscow on 12 April 1973 by all the CEMA member-countries. It has been ratified by the State Council of the Polish People's Republic and thus has the force of law for Poland. The agreement touches upon a number of the most important legal issues concerning the protection and use of joint solutions (inventions, industrial designs and utility models) arrived at in the process of economic and scientific-technical cooperation of enterprises, scientific research institutes, organizations, teams, and so on. That document states that new solutions coming about as the result of creative economic and financial interaction represent the common property of the participants in cooperation. Thus the agreement facilitates the implementation of one of the basic principles of CEMA activity--the achievement of mutual and equal benefits. It defines a uniform procedure for obtaining protection of joint solutions, the equal rights of the parties, the sale of licenses to third countries, distribution of the income earned and remuneration of the originators.

During cooperation with CEMA member-countries in the field of inventions the Polish side has attributed tremendous importance to the study and regulation of the legal issues and to improvement of national legislation in this field, regarding them as an essential factor in encouragement of scientific-technical progress. The proposals for greater uniformity and gradual standardization of national legislation in the field of invention, which were prepared by the Polish delegation as part of the work of the conference, were reflected in the Main Directions and Tasks in Cooperation of the CEMA Member-Countries in the Field of Invention and Patent Affairs, which were drafted by the conference and approved at the 69th Meeting of the CEMA Executive Committee, and in the Measures for Cooperation of the CEMA Member-Countries in the Field of Invention and Patent Affairs, which were adopted at the same time. Those documents stated that the CEMA member-countries now face the task of combining the achievements of the scientific-technical revolution with the advantages of socialism. Applied to the field of invention this means that by their joint efforts the CEMA member-countries would create conditions for reliable protection and for their extensive use of scientific-technical achievements created during implementation of the Comprehensive Program. The need to speed up application of scientific-technical achievements confronts the CEMA member-countries with a number of important new tasks in their cooperation in the field of invention, as it does in other

fields. The essential thing here is closer linkage between the field of invention and the other fields of cooperation, and especially an indissoluble bond with the "science--technology--production--consumption" process.

The Main Lines and Tasks for Cooperation mentioned above encompass the entire problem area of the activity of agencies for discoveries and inventions: matters concerning the awarding of protection of inventions, industrial designs, utility models, and trademarks; the problems of patent information, invention planning and economics, the training of specialists, etc.

Improving the legal foundations for invention helps to speed up its development. The space of this article allows us to discuss only the most important and promising of the measures envisaged.

On the basis of a thorough analysis of existing national regulations and international treaties in the field of invention the Polish and GDR delegations prepared the draft of an international agreement. Accordingly on 5 July 1975 eight CEMA member-countries signed an agreement in Leipzig on standardization of requirements for the preparation and submittal of patent applications, which makes it easier to compile documentation when applications are filed to obtain authors' certificates and other certificates of protection in several countries.

The agreement on mutual recognition of authors' certificates and other certificates of protection of inventions, which were signed in December 1976 in Havana, is also making it easier to obtain certificates of protection. The Polish delegation has participated with the Soviet and Hungarian delegations in this field in developing the conception of standard regulations on inventions, which should be conducive to further improvement of the national legislation of the CEMA member-countries in this field.

The constant growth in the number of applications for patents and the related increase in the amount of work to be done by the relevant agencies have made it necessary to take steps simultaneously in several or even all the CEMA member-countries to improve the procedure for obtaining certificates of protection of inventions.

At the present time an applicant who wants to protect his invention simultaneously in several countries has to submit applications to each of those countries, and their agencies for discoveries and inventions must make an evaluation of that same invention. This means that the work of both the applicants and also the agencies is duplicated.

On the initiative of the USSR delegation the Main Directions and the Measures mentioned above included the topic of preparating a multilateral agreement of the CEMA member-countries on a single certificate to protect inventions. This task was assigned to the delegations of Poland and the USSR. The recommendations for an agreement which they drafted and also the draft of the agreement called for the filing of only one application to an international

agency which would evaluate the application, would publish it and would issue patent rights or other certificates of protection that would be valid simultaneously in several or all the CEMA member-countries. Such an agreement would be very worthwhile, especially in the following respects:

i. it would make it easier for applicants from the CEMA member-countries to obtain certificates of protection;

ii. it would make it possible for agencies for inventions and discoveries to save on the labor and staff of highly qualified specialists, since all the time-consuming work, especially the patent search and evaluation, would be done by the international agency;

iii. it would speed up access to information on all applications for protection and all solutions protected in the CEMA member-countries by means of a single international publication; it would facilitate expert evaluation as to the patent "purity" of exported products and would make it easier to get one's bearings in a patent situation when a decision is being made on important capital investments;

iv. international economic organizations of the CEMA member-countries and international scientific research and project planning and design teams would be able to call upon the international agency for inventions and discoveries to make an evaluation and conduct a patent information search for the purposes of their projects and thus take advantage of the most recent technical solutions in the world.

Achievement of these goals necessitates a detailed analysis of a number of essential legal, economic and technical questions so that the decisions made contribute the maximum to implementation of the Comprehensive Program and thereby to raising the level of prosperity of the workers in all the CEMA member-countries and to the building of advanced socialism and communism. The Polish delegation is taking an active part in the study of all these questions and in the preparation of solutions.

At the present time much attention is being paid to improvement and expansion of cooperation in the field of patent information as well as cooperation of national patent information systems with the International Patent Information System (MSPI). Performance of these tasks will have great importance not only to agencies for inventions and discoveries, but also for sectoral standing CEMA commissions and for their performance of tasks envisaged in the Comprehensive Program and in the long-range special-purpose cooperative programs. The standing CEMA commissions, using patent documentation for project planning and design projects or for purposes of industrial specialization and cooperation, are the most important consumers of patent information.

The MSPI, as a specialized system within the framework of the MSNTI (International System of Scientific-Technical Information), will help to increase

further the level of scientific research and project planning and design work. Moreover, MSPI will give consumers readier access to documentation and make it more up-to-date, will make it possible to reduce the costs of obtaining and processing information thanks to the international division of labor, and will also promote a rise in the effectiveness of information activity.

The MSPI will include a number of subsystems in whose development the Polish side is taking an active part. One of them is the Service for Computerized Processing of Bibliographic Information (ASBA). This system collaborates with INPADOK (International Patent Documentation Center), and we thereby obtain on machine-readable data carriers information on the most recent patent information published in the industrially advanced countries of the world. The Polish delegation is taking an active part in development and exchange of this information on magnetic carriers and also in development of software for the ASBA. The information obtained in this way is a good basis for setting up sector information retrieval systems. So, this activity helps to meet the need which the economies of our countries have for information concerning the most recent technical achievements in the world. That aim is also served by the system which has been developed and introduced for exchange of information on the most important inventions in the CEMA member-countries.

Agencies for discoveries and inventions have been given important tasks in stimulating creative initiative and performance of programs to help to meet the most urgent needs of the economy concerning dissemination of technical achievements and their planned use. Attention has also been paid to these questions in the Main Lines which we mentioned above.

In Poland there are certain world-recognized achievements in development of official administration of invention affairs and also in application of legal and economic incentives to encourage inventive creativity and the financial motivation of enterprises and their staffs to create and apply inventions. The Polish side is sharing its experience in this field with the other CEMA member-countries. For instance, it joins the Hungarian delegation in working on matters concerning the forms and mechanisms for financial incentives to encourage technical progress.

One of the principal tasks of the Conference of Heads of Agencies for Patents and Inventions is the aid extended to the Republic of Cuba and to the Mongolian People's Republic by the other CEMA member-countries.

Poland, represented by the Polish Patent Office, has actively participated in all sessions of the conference and also in all meetings of groups of experts assigned by the conference to do the work of preparing materials and drafts of the decisions of the conference. The Polish People's Republic has also been the author or a coauthor in the work done on certain problems included in the annual plans of the conference.

All we have said concerns only a few of the most important problems in cooperation of the CEMA member-countries which the Polish side has a particular interest in solving. At the same time the Polish side is participating in work on a number of other problems related to protection of the achievements of technical progress and their use. Joint study and solution of those problems is multiplying the achievements of those countries.

It is also very important to coordinate the viewpoints of the CEMA member-countries in connection with their presentation to the World Organization for Intellectual Property.

In December 1977 the Conference of Heads of Agencies for Patents and Inventions held its 13 meeting at which important decisions were made on further cooperation in the field of invention and patent affairs.

The conference discussed the tasks arising out of the decrees of the Executive Committee of the council pertaining specifically to preparation of drafts of long-range special-purpose cooperative programs and further improvement of the effectiveness of cooperation in the field of invention. During the session consideration was given to the draft of an agreement on mutual legal protection of indications of origin and names of origin of commodities, the draft of a standard regulation on inventions and a report on preparation of a draft of an agreement on a single certificate of protection of inventions of the CEMA member-countries.

The conference approved the Method for Conducting Patent Research, which makes it easier for agencies for inventions and discoveries and other organizations of CEMA member-countries to conduct patent research in order to raise the technical level and competitibility of new technical contributions being developed, recommendations to standardize the title page of the description of inventions in the CEMA member-countries, and proposals concerning use of the results of preliminary patent research conducted by organizations in the process of government evaluation. Further steps were outlined toward setting up the International Patent Information System of the CEMA member-countries.

In 1978 the Polish side directed its activity in accordance with the rules of procedure of the conference. We made every effort to step up activity even more in order to make our contribution to implementation of the resolution of the Seventh PZPR Congress, which stated: "The Polish People's Republic will continue to join the other CEMA countries in advocating expansion and enrichment of the process of socialist economic integration and faster dynamic socioeconomic development of the entire commonwealth and of each country individually."

7045
CSO: 1823

CZECHOSLOVAKIA

NEED FOR RATIONAL USE OF FUELS AND ENERGY STRESSED

Government Program

Bratislava TECHNICKA PRACA in Czech Aug 78 pp 11-12

[Article by Engrs Slavoj Odehnal, CSc, and Josef Koutnik: "The State Program for Rationalizing the Consumption of Fuels and Energy"]

[Text] In comparison with a number of countries, our economy is quite demanding in terms of energy; average consumption of fuels and energy in a number of branches and sectors surpasses the amount customary in industrially developed countries, partly because of the composition of our fuel and energy resources, based predominantly on solid fuels utilizable basically with lower effectiveness; in addition, there are the structure of production and the size of productive capacities. But it is not possible to say that thrift regarding fuels and energy is on a good level and that thus there do not exist genuine preconditions for lowering consumption.

The 14th CPCZ Congress already was concerned with these basic questions, and on the basis of its conclusions the State Program for Rationalization in the Conservation of Fuels and Electric Energy which the CSSR government issued in February 1972 was formulated. With this program, systematic care was established for lowering the energy demands of production in all decisive branches of our economy.

The state was based on the principle of ensuring savings of fuels and electric energy through the planning of rationalizing programs in industry, orienting efforts toward the solution of selected societywide significant problems directed at lowering the energy demands of the productive and the nonproductive spheres, and formulating economic instruments and measures to support the rational use of fuels and electric energy. Along with specific measures with potentials for implementation in the course of the Fifth Five-Year-Plan, it contained a number of tasks of a more long-term character forming the preconditions for lowering the energy demands of production and raising the level of conservation in the utilization of fuels and energy in the long run.

For orienting productive and nonproductive spheres on the realization of societywide significant measures bringing a saving of fuels and energy, partial rationalization programs were formulated aiming at:

--modernization of selected energy-demanding consumers such as boilers, fuel and electric furnaces, compressors, distributing transformers, pumps, ventilators, and electric motors;

--the use of secondary sources of energy, especially waste heat in metallurgical and chemical industry and from compressor stations of transit pipelines;

--the implementation of heavy-current semiconductor technology in tramways and railroad transportation and in industrial mechanisms;

--raising the technical level of burners for the combustion of gas and liquid fuels;

--raising the quality of lining materials for industrial furnaces to lower the loss of heat;

--raising the technical level of the heating systems of central heating, equipment for individual heating and warming up of warm water in the nonproductive sphere;

--protection of chimneys against the corrosive effects of condensates rising during the burning of gas and liquid fuels;

--raising the heat-insulating capacities of the outer surfaces of buildings.

It is necessary further to intensify systematic care for the conservation of fuels and energy. Aware of this fact, the 15th CPCZ Congress resolved in the Guideline for the Economic and Social Development of the CSSR in the Years 1976 to 1980 to ensure savings of fuels and energy at least in an amount of 2 to 2.5 percent and to mobilize for the attainment of this goal technical means in the area of production technology and energy consumers, and thereby systematically lower the average consumption of fuels and energy. On the basis of this basic directive, an updated state program of rationalization of consumption of fuels and energy for the Sixth Five-Year Plan was drawn up and approved by the CSSR government in December 1976.

This program contains a collection of technical and economic measures in the area of industrial production, transportation, communications, and agriculture, as well as housing and community economy. It proceeds from the fact that the decisive share of savings of fuels and energy, the attainment of which is anticipated in the Sixth Five-Year Plan, will be taken care of by the implementation of rationalization measures above all in industry with the help of the state plan; thus, large measures are to

be pursued in the annual implementational plans. Besides this, it contains directives and measures both in productive and nonproductive areas which represent potential sources of savings and orient efforts on their formulation and implementation in the plans of the Economic Production Units, enterprises, and plants. It includes not only the rationalization of existing productive capacities but also measures regarding the new construction of production capacities and the introduction of new technologies with a lower consumption of energy which would ensure the lowering of energy demands of the national economy as a whole.

In comparison with the conceptualization in the Fifth Five-Year Plan, the program is substantially expanded in a number of directions; for instance, it attempts to formulate long-term limits of the consumption of fuels and energy for industry, construction, transportation, and agriculture; it grasps the lowering of energy demands of newly modernized productive and nonproductive projects already in the stage of preparatory documentation; it links up with the preparation of rationalization measures and with control of their fulfillment by industrial production directed by the national committees; it makes new measures for insuring a unified long-term energy policy in the sector of construction and operation of installations for supplying industry and the population with heat; it insures the working out of the proposal for the optimal supplying of housing settlements with individual energy carriers for the Seventh Five-Year Plan and the longer run; it increases the utilization of the tasks of the state plan for the development of science and technology with a goal of lowering the consumption of fuels and energy in industry and in the nonproductive sphere.

On the basis of the state program, annual plans of rationalization measures are being drawn up for lowering the consumption of fuels and energy with a goal of reaching and surpassing the task set by the CPCZ 15th Congress. In the past 2 years of the Sixth Five-Year Plan, we have all in all succeeded in surpassing the planned savings of fuels and energy; but the goals set were not attained everywhere nor was a thorough implementation of the measures set down in the state program safeguarded. Thus, in the period to come it is essential that rationalization of the consumption of fuels and energy become one of the basic elements of management activity on all levels in industry, transportation, construction, agriculture and the housing and community area. The tasks connected with safeguarding the rational conservation of fuels and energy are not small and easy, but they have a key significance for lowering the pressure between resource and consumption on a statewide level; thus their realization goes beyond the interests of plants and enterprises because a sufficiency of fuels and energy is one of the basic conditions of the further well-proportioned growth of our economy.

In connection with the preparatory work for the period of the Seventh Five-Year Plan, principles of activity were worked out aiming at the further systematic lowering of the energy demands of all key branches and manufactures. We anticipate that individual production departments will

verify, in the course of this year, the average consumption of all energy-demanding production and on the basis of detailed analysis and with the utilization of comparisons and experiences from abroad will propose for individual years of the Seventh Five-Year Plan sets of technical and organizational actions for successive realization, especially on an investment character, leading to a systematic lowering of the average consumption of fuels and energy. In drawing up the proposals for measures, the departments will proceed from the chief directives of rationalization, oriented on the implementation of new technology, the utilization of secondary energy sources, the raising of the efficiency of machines and equipment, the lowering of losses of energy, technological innovations in the production processes and the liquidation of outmoded operations, the implementation of measuring and regulating technology, the optimalization of the regime of fuel and energy consumption of fuels and energy in selected energy-demanding production processes will become binding tasks of the state plan and an effective economic incentive for the leading workers will be introduced for their lowering according to plan.

In the period of the Seventh Five-Year Plan we temporarily anticipate a new state program of the rationalization of the consumption of fuels and energy which will proceed from the fact that individual rationalization measures will be firmly anchored in the corresponding parts of the state plan of growth of the national economy and there will be above all a view toward large breakthrough measures, in the implementation of which a greater number of departments, national committees, or other organs and organizations will take part.

Service Industries

Bratislava TECHNICKA PRAGA in Czech Aug 78 pp 13-16

[Article by Engr Bohumir Tejnicky: "Rationalization of the Consumption of Fuels and Energy in the Nonproductive Sphere"]

[Text] The nonproductive sphere is a significant element of the national economy not only from the viewpoint of its significance for the growth and regeneration of work potential but also on the side of the consumption of fuel and energy resources.

The consumption of fuels and energy in the nonproductive sphere is determined by the needs for the fund of housing mainly for the purposes of heating and the heating of water and for other goals such as cooking, inessential electricity, and individual motoring, but also by the need for housing settlement and supersettlement facilities, including community transportation, public lighting, the consumption of offices, stores, services and crafts, health services, schools, cultural, recreational, and bodybuilding installations and other nonproductive consumption.

The share of the nonproductive sphere in the final consumption of the entire national economy is constantly rising and in comparison with 1960,

when it amounted only to 24 percent, it is today about 32 percent. As a result of the rise in living standards, we can expect a further growth for the future. By 1980, it is expected that the area of the nonproductive sphere will attain the level of consumption of 20.6 million tmp/r, of which the incremenet during the Sixth Five-Year Plan will be 3.5 million tmp, which signifies exceeding the guideline by 46 percent in this period. Because the safeguarding of the needed fuel and energy resources for the development of the nonproductive sphere under consideration is ever more difficult for the national economy, it is necessary in a fundamental way to lower energy demands in this area.

State Program for the Period of the Fifth Five-Year Plan

The problems of the rationalization of the consumption of fuels and energy in the national economy of our republic has come to the fore of the interest of a wide public since the CPCZ 14th Congress. With a view to the fact that the solution of all the connected problems is a basic precondition for the successful development of the economy of the CSSR, the federal government accepted, by its resolution No 51/72, the State Program for Rationalization in the Conservation of Fuels and Electric Energy, which became the basic instrument for the development of organizational, managing and creative work for safeguarding the rational utilization of fuels and electric energy.

This state program for the Fifth Five-Year Plan also contained specific material measures for the rationalization of the consumption of fuels and energy in the nonproductive sphere, measures which were to create the conditions for the further efficient development of this area and safeguard the preconditions for comprehensive solution in the sector of technical policy to heating and heating water, the rationalization of heating systems, the insuring of optimal regulation and measuring of the consumption of hot water and hot nonpotable water and the improvement of heat insulation qualities of outer surfaces of buildings for the minimalization of losses of heat in their heating.

In the sector of technical policy, the FMTIR [expansion unknown] drew up a working schedule in 1972 of tasks safeguarding the rational utilization of fuels and electric energy for heating in the nonproductive sphere including the preparation of hot nonpotable water. The working schedule became an inseparable component of the material measures of the state program and provided a solution of these problems:

--the setting of the fundamental criteria for the optimal utilization of individual forms of energy for heating and the preparation of hot nonpotable water and for their implementation in the proposal of the regional concepts of energy supply for the nonproductive sphere;

--the carrying out of the classification of the territory of the CSSR according to degree of pollution of the atmosphere with harmful substances from combustion processes;

--the formulation of a comprehensive concept of the production of boilers of the output series 0.016 to 3.5 MW (9.01 to 3 kcal/h);

--the comprehensive solution of heating systems of central heating for the modernization of existing buildings and new housing and civil construction;

--the execution of the analysis of the technical and economic level of selected individual consumers of domestic production and imports for heating and the preparation of hot nonpotable water including the proposal of measures for raising their level;

--the elaboration of a comprehensive program of improving the heat-insulating qualities of the outer surfaces of buildings;

--the evaluation of existing methods and the elaboration of proposals for the protection of chimneys in housing and civil construction against corrossive effects of condensates arising during the combustion of liquid and gas fuels.

In the course of the Fifth Five-Year Plan we did not succeed in finishing a program for the production of measuring and regulatory technology for heating systems consonant with the needs of new construction and the modernization of existing construction, including insuring servicing services and the production of replacement parts. For this reason this set of problems was shifted forward into the new state program of rationalization of the consumption of fuels and energy for the period of the Sixth Five-Year Plan and the longer run.

As an implementational measure of the state program for the Fifth Five-Year Plan, in CKD Dukla [Ceskomoravska-Kolben-Danek, National Enterprise (Heavy Machinery Plants)] National Enterprise the leading workplace for scientific-technical development for the area of heating systems of central heating was created with statewide competence which, despite initial difficulties, is fulfilling the tasks set and is successfully seeing to the solution of problems of the consumption of fuels and energy in heating systems. Domestic and foreign cooperation of this sort is ever developing and the results obtained testify to the fact that in this sector the tasks are well taken care of.

A basic measure aiming at the problem of implementing the measuring of the consumption of heat and hot nonpotable water and the regulation of the temperature of heating and nonpotable water in apartment houses and in projects of civil amenities was the publication of FMTIR Guideline No 3/74 "Several Measures in Capital Construction for Economy in the Use of Heat in the Housing and Community Economy, with Effectiveness from 1 January 1975." The insufficient implementation of this guideline in new construction is connected with the failure to insure the production of measuring and regulatory technology in the needed amount on the part of FMHTS and FMVS [expansion unknown], as will be explained further on.

A significant contribution for improving the heat-insulation qualities of outer surfaces of buildings was the comprehensive economic evaluation of construction expenditures on projects with optimally insulated outer surface against savings in investment and operational expenditures for heating, drawn up by the CSR and SSR construction ministries in 1972. The conclusions of this evaluation aimed at a further development of building structures for the mass implementation of types of buildings and gradually are penetrating into the innovating programs of the material production base of construction. But innovation is a long-term affair and is not taking place at such a rate that we can be content.

For the protection of chimneys against corrosive effects of condensates arising during the combustion of liquid and gas fuels, the licensed production of special fireclay segments has been introduced which will be employed in new construction and in the reconstruction of existing chimneys.

State Program for the Period of the Sixth Five-Year Plan

The deteriorating situation in regard to insuring an increase in fuel and energy resources and the growing disproportion between resource and consumption have led the 15th CPCZ Congress to establish the guideline for the Sixth Five-Year Plan, among other things, the necessity of more efficiently conserving and evaluating all kinds of fuels and energy, of pushing through the holding to norms in the consumption of fuels and energy, and of orienting ourselves on making the energy economy more efficient. In harmony with this guideline, the CSSR government ordered the formulation of a new state program of rationalization of the consumption of fuels and energy, which was approved by enactment No 287 of 9 December 1976.

For the nonproductive sphere this state program contains binding measures in the sectors of:

--modernization of energy consumers for heating and the preparation of hot nonpotable water;

--regulation and measuring of the consumption of heat and hot nonpotable water in housing and civil construction;

--protection of standing chimneys and new chimney construction;

--cutting the losses of heat by the outer surfaces of buildings;

--rationalization of the consumption of electric energy in lighting technology;

--supplying of industry and population with heat;

--optimalization of the energy supply of housing and settlements;

--rationalization of the consumption of fuels and energy in transportation.

Modernization of energy consumers for heating and the preparation of hot nonpotable water is taken care of in harmony with the segmented rationalization programs elaborated by the FMTIR. The evaluting commissions of the state testing laboratories in Prague and Brno employ in the execution of state testing, in keeping with law No 30/68 Sb., elaborate classification criteria with progressive parameters especially from the viewpoint of the efficiency of consumers and thus contribute to raising their level.

For implementing regulation and measurement of the consumption of heating and hot nonpotable water, the FMHTS and FMVS were directed to put forward a program for the production of the necessary instrumentational technology for the extent of planned new construction and modernization of construction in the Sixth Five-Year Plan. In view of the fact that neither department presented the programs in the time allocated, it was necessary to include the annual volume of production of the main instruments and installations into the guideline for the preparation of the plan for 1979, which was approved by CSSR government decree No 314/77. The FMTIF is discussing the handling of production in the volumes for 1979 and the longer run at the present time directly with the two engineering departments.

For insuring the protection of chimneys, the Czechoslovak ceramics plants are expanding the variety and content of the production of chimney lining and molded bricks from special fire clay. To take care of repairs after accidents of chimneys in old construction, the possibility of importing flexible steel chimney lining from the Hungarian People's Republic is being examined at the present time.

Cutting the losses of heat by the outer surfaces of buildings is a very complex problem, connected partly with insuring building construction corresponding to heat-technological qualities and partly with maintaining technological discipline in the actual construction of buildings. The following were established as the state program: the elaboration of plans for the production of mineral, ceramic, and glass fibers, and of products from them for heat-insulation purposes, expansion of the production and application of layered surfaces with heat insulating fibers, eventually of further newly developed structures with heat resistance of a minimum of $R=0.95 m^2 . °C . kW^{-1}$) and limiting the production of construction pieces not attaining this value, testing the efficiency of the application of triple glass windows, the proposing of methods of random checks of the heat-technical qualities of construction pieces at production and utilization places and the steady application of thermovisual tests for mass-produced types of buildings of comprehensive housing construction in various material varieties and in all cases of experimental construction.

A steady transition in the production of construction pieces while maintaining established heat resistance is being carried out. The analysis carried out of the efficiency of triple glass for presently manufactured windows has indeed demonstrated the possibility of obtaining heat savings in the amount of about 810 kWh (0.7 Gcal) per housing unit per year,

although before final decision about its implementation it is necessary to work out a more advantageous construction result and test the possibility of including its increased price into expenses for the apartment. The method of carrying out random controls of the heat-technical qualities of outer construction pieces at the producers' is normally carried out; at the utilizers' it is prepared from 1979 on. Thermovisual tests in the suggested extent of contruction have already provided a number of positive results which contribute to improving the technology of production and the actual construction of buildings.

Rationalization of the consumption of electric energy in lighting technology strikes, among other places in the sector of the modernization of public lighting, up against the insufficient production of progressive light sources and luminares, which must be taken care of in Tesla Holesovice National Enterprise and Elektrosvit Nove Zamky National Enterprise.

The problems of supplying industry and population with heat, which is to do away with the present lack of coordination in the construction and operation of energy sources and provide a unified plan for the management of this important part of the energy economy of the state, is the subject of a special report which the FMPE and FMTIR will present this year to the CSSR government.

For the optimalization of the energy supply of housing settlements, the FMTIR and FMPE worked out on the basis of a task set by CSSR government decree No 123/76 in the past year an extensive study in which an anlysis was carried out of the previous methods of energy supply, the chief causes for heat losses and their extent were ascertained, and the possibilities for a rational solution for newly built residential groupings were proposed including necessary measures for implementation in the Seventh Five-Year Plan and the longer run. They are at present working the results of the study into the proposal for the CSSR government decree on the optimal technical and economic solution of the supply of fuels and energy to housing settlements built.

In the sector of the rationalization of the consumption of fuels and energy in transportation, the thyristorization of T3 tramways in urban mass transit and the replacement of rotating convertors in converting stations of transportation enterprises with silicon ones have been lagging behind the schedule set in the state program. The causes of the lag in realization of the measures ordered are complex and do not lie only in the insufficient capacity of the producers. In cooperation with the CSR Urban Council and the SSR Urban Council, regional national committees, and production departments, the FMTIR is handling the situation that has developed. Meanwhile the problem of the development of trolleybus transport in urban agglomerations, which merges into the problem of insuring the production of trolleybuses with thyristor regulation, remains unresolved.

That in the nonproduction sphere there exist significant reserves, especially in heating and the preparation of hot nonpotable water is a known fact. Through the measures of the state program of the rationalization of the consumption of fuels and energy, the fulfillment of which the CSSR government ordered by its decree, conditions are formed for reaching a decisive turnaround and the gradual removal of the disproportion between demand and need of energy resources. In order that an insufficiency of energy may not become a brake on the further development of the nonproductive sphere, it is necessary to mobilize all forces for fulfilling the established measures.

Reasons for High Use in CSSR

Bratislava TECHNICKA PRACA in Slovak Aug 78 p 36

[Article by Dr Engr Eugen Zunko: "Reasons for High Use of Energy in the CSSR"]

[Text] In comparison with some industrially developed countries, the CSSR is marked by a substantially higher demand for energy per individual inhabitant. In comparison with the CSSR with 100 percent average fuel-energy demand for a single inhabitant, the GDR has 95 percent, the FRG 82 percent, the USSR 71 percent, the PPR 68 percent, France 60 percent and Austria only 55 percent.

The high demand for energy in the CSSR derives mainly from the composition of the primary sources of energy and from the structure of Czechoslovak industry. The analysis of the demand for energy shows its causes and simultaneously provides a stimulus for proposals for reducing it.

In the composition of fossil fuels, solid fuels predominant in the CSSR with a larger share of brown coal and lignite, i.e., fuels with lower heat output, for instance, by 1990 the heat output of brown coal from the Sverma Basin will decline to 10,600 $kJ.kg^{-1}$.

The combustion of brown coal and lignites with a lower heat output represents, compared with liquid and gas fuels, on the average 20 percent higher consumption.

Through the modernization of boilers, the construction of new central economic sources of heat, the use of fluid combustion of less valuable fuels, the curtailing of losses in combustion, especially in small boilers, the automatization of combustion processes, and the improvement of service and upkeep of combustion installations, we are insuring savings of fuel.

The composition of industrial production in the CSSR is based on branches that are energy-demanding. These are metallurgy, engineering, electrotechnical industry, chemicals, the production of cellulose and paper, the production of construction materials, glass, ceramics, and so on. The

share of energy in expenditures on engineering products is insignificant, although in the metals used, energy forms a basic share of expenditures. We are obtaining savings of energy through innovative programs in the production of metals, rolling material, in chemicals in the production of sulphuric and nitric acid, ammonia, construction materials, plastics and fibers.

Lower technological and energy efficiency is connected with the existing technological production processes and with energy consumers in the productive and nonproductive spheres.

We must insure energy savings through the modernization of technological equipment, for instance of industrial furnaces, rolling mills, drying kilns, galvanizing and other installations. Energy users in the productive and nonproductive spheres should meet the strictest requirements in their efficiency and meet the top standards of production in the world.

Insufficient utilization of waste heat in Czechoslovak industry. This involves the utilization of waste heat from technological processes, waste oils and gases, bio-gases, reactor heat, and combustible wastes of every kind. Increasing the savings of fuels and energy will arise from the application of heat pumps in the utilization of low-potential heat, and also of waste heat from compressor stations and from cooling towers, especially in condensation power plants.

Unjustified high consumption of heat in central heating is connected:

--with incorrect dimensions of heating systems without their correct servicing and upkeep;

--with insufficient automatic equithermal regulation of heat;

--with unsuitable measurement of the consumption of heat in heating, with the measurement of hot nonpotable water and the regulation of its heat,

--with insufficient insulating qualities of buildings.

Through the removal of the mentioned shortcomings, savings will be obtained in the consumption of fuels.

Inadequacy of sources of light for illumination in industry, transport in the community sphere and in households. New rational sources of light, the development of which is already complete, should be rapidly brought into production.

Insufficient application of semiconductor technology. Savings of energy will arise through the introduction of thyristor pulse regulation of directed drive phases, rolling and paper machines, in railroad traction, in urban mass transit, in the transistorization of signaling technology, and in other equipment.

The size of some Czechoslovak engineering and electrotechnical products is high and does not attain the worldwide standard. A larger size means a greater share of energy in products. It is necessary to insure the technical and quality parameters of Czechoslovak products during the simultaneous curtailing of their size.

The need to raise the technical, technological, organization, and management level of Czechoslovak production and apply measuring and regulating technology to a greater extent. We must utilize basic stocks better, increase the productivity of labor, and exploit existing reserves to increase the volume of production.

The high demand for energy and the passive energy balance of primary resources of energy and fuels in the CSSR, together with an annual increase of the need for these resources of around 3 percent, demands the realization of proposals mentioned here and elsewhere for the saving of fuels and energy. The relative annual saving of fuels and energy in the Czechoslovak economy ought to hover around 2 percent. The State Program for the Rationalization of Consumption of Fuels and Energy, approved by the CSSR government for the Sixth Five-Year Plan, also calls for insuring savings of fuels and energy. For the attainment of savings of fuels and energy, it is necessary to utilize in industry, transportation, agriculture, and in the community sphere an improvement campaign and the activity of brigades of socialist labor.

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ECONOMIC PROBLEMS SEEN LEADING TO REFORM

Hamburg CAPITAL in German No 12, Dec 78 p 315

[Unattributed article: "But it Is Moving--The GDR Is Tinkering with a New Economic Reform"]

[Text] Life as a debtor of the West cannot go on for the GDR. After the to's and fro's of their dictated economy the ruling party is now trying with a guarded liberalism, to achieve higher production.

Elli Knickelbein of the state cable works in Schwerin is the name of the latest heroine of the SED. The GDR-lady insulates cable, not only in large quantity--40 kilometers per shift--but also so well that she has for the third time been awarded the honorary title "distinguished quality worker."

As usual, whenever the economy of the GDR begins to flounder, the SED lets pioneering heroes of labor emerge from the masses of its proletarian army. And as usual, this presages imminent radical changes--and this is the case in this instance as well. It is now necessary to achieve "a change of the national economy from a predominantly extensive type of production to a predominantly intensive type of production," as Prof Otto Reinhold, rector of the Academy of Social Sciences of the Central Committee of the SED, expressed in classical globbledegook. "To express it even more clearly," his party chief Erich Honecker added, "the question involves not a regard for quality and effectiveness, but how to make these factors the decisive criteria of action."

The necessity of all of this was in the final analysis also made clear at the Eighth Congress of the Central Committee of the reigning party, held shortly before the current 5-Year Plan's half-time. There Erich Honecker, Prime Minister Willi Stoph, labor union boss Harry Tisch, and top economic functionary Guenther Mittag let fly such complaints about the GDR the likes of which are usually relegated by the party to the realm of "anticommunist agitation."

For instance:

--"In many sectors our production is still too expensive";

--"Shoddiness, waste of effort and absenteeism are irreconcilable with work ethic and socialist morality";

--"The amount of extensive investment projects is still too high; incomplete investments continue to be too high."

This official acknowledgement has much in common with the criticism voiced by the GDR dissident Rudolf Bahro, who has been sentenced to 8 years in prison--namely, that just about everything that has been undertaken has been characterized by a "characteristically poor relationship between investment and results." Well-known economists of the party see the cause for this in the current system of economic management and planning.

Indeed, even the "balance of 7 successful years," recently compiled by Honecker, points to difficulties--when it is supplemented with suppressed data. These data show that in the first 7 years of the rule of Ulbricht's successor, from 1971 to 1977, the GNP climbed by some 42 percent. The rate of growth was thus not greater than during the last 7 years of Ulbricht, from 1964 to 1970, in spite of a more favorable initial position.

However, under Ulbricht the favorable balance of trade amounted to almost 4 billion valuta marks. Under Honecker trade deficits have grown to the tune of some 19 billion valuta marks. This debt-path, along which the SED leads its people into a better life, cannot be trod indefinitely. Thus, Honecker concluded perceptively, "the development of imports as well as exports concerns vital questions of our national economy." "Of vital interest to our nation," would be the task he assigned, a "rationalization in large measure."

Similar things have been heard from East Berlin on many occasions, but basically nothing has changed. For example, the Council of National Economy declared in the summer of 1963 that the state economic management would lead "to wastages and violations of economic laws, and would thus slow our economic and social development." Aid would be forthcoming from the "new economic system," an economic reform, which, however, had to be prematurely abandoned as unfeasible. Indeed, in 1965 the party expert for economic questions, Dr Erich Apel, committed suicide.

Thus the GDR workers trundle on in the manner that the party has crammed into them for years--plans had to be fulfilled according to quantity; quality was unimportant. And when suddenly quality was demanded, the ton-ideology in production could not be liquidated. Prof Harry Nick, director of research of the Academy of Social Sciences, recited a list of effects that would result if "the planning of the GDR is directed too single-mindedly toward quantitative growth in production." For example:

--"Divergence between supply and demand";

--"Hoarding of resources";

--"Excessive operative management expenses";

--"Overtime coupled with downtime."

Of course, the workers make a hefty profit within the socialist reality. Next to their pay they receive a bonus for the quantity produced, but not for quality; therefore, they produce in loads. It is thus obvious that in this vexed economic situation planning methods that only yesterday were considered sacred, even though they limited progress, must be considered particularly irritating. Changes have thus been initiated.

To bring the problem to a common denominator it is deemed necessary to decentralize economic decision-making that has nestled high up in the pinnacles of the state. Profits, which have to be turned over to the state, will in the future play a more important role in the evaluation of a plant's achievement. This means less for the state and more for the plant. Of course, this presupposes that the inflexible price formation would no longer be a taboo of the party. Such suggestions leave the impression that the party is after all moving toward reforms, or at least is bringing reforms under discussion. For, as Honecker stated, the question involves probably "the most far-reaching improvement of the organism of our national economy."

"Improvement" has thus become the new slogan for reforms. In the summer of 1953 there was talk of a "new course" and a decade later of a "new economic system." Even then, under Ulbricht, slogans of "decentralization," "profit," and "price formation" enjoyed wide popularity, but hardly anything has changed. Now these good old acquaintances are experiencing resurrection under Honecker.

Thus, within the GDR there are plans against plans. What was the song of Bert Brecht, who venerated the GDR system? "Yes, make me a plan, and be it but a great show, and make me a second plan, neither of them will go."

240
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