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INTELLIGENCE MEMORANDUM

PLANNED EXPANSION OF THE EAST GERMAN CHEMICAL INDUSTRY
1959-65

CIA/RR IM 59-19

28 December 1959

~~WARNING~~

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CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

CONTENTS

	<u>Page</u>
Summary	1
I. Introduction	2
II. Program for Expansion	3
A. Initiation of the Program	3
B. Reasons for Expansion	3
C. Specific Goals	4
D. Planned Investments	6
III. Factors Affecting Fulfillment of Plans	7
A. Support for the Program	7
B. Anticipated Problems and Measures for Solving Them	8
1. General	8
2. Construction	8
3. Equipment	9
4. Technology	9
5. Supply of Raw Materials and Power	10
6. Manpower	11
IV. Prospects for Fulfilling the Program	11
V. Effects of the Program	13

Appendix

Source References	15
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Table

Production of Selected Chemical Products in East Ger- many, 1958 and 1965 Plan	5
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PLANNED EXPANSION OF THE EAST GERMAN CHEMICAL INDUSTRY*
1959-65

Summary

The expansion of the East German chemical industry scheduled for 1959-65 is designed to supplement the current expansion of the Soviet chemical industry and to help improve the standard of living in East Germany. The principal emphasis of the expansion is on plastics and synthetic fibers, and a petrochemical industry is to be established to supply a large portion of the raw materials for the manufacture of these products.

Under the program the East German chemical industry is to receive investment funds equal to more than three and one-half times those received during the preceding 7 years and is to be granted top priority in plans for the development of the economy. The USSR is providing credits for some special purposes. Difficulties will be encountered, however, in construction and in procurement of materials, equipment, and technology from abroad, particularly from the Free World. It is not expected that shortages of raw materials will impede the attainment of planned goals, although East Germany will continue to depend on imports for many materials. Supplies of electric power, however, may prove to be inadequate if plans for expansion of the power industry are not strictly followed.

The planned increases in production are to be attained almost entirely without significant additions to the labor force. The program called "Rekonstruktion,"** being applied throughout industry to extract maximum production from existing installations with minimum expenditures for modernization, is expected to provide nearly three-fourths of the total increases in production but probably will fall short of expectations.

It is doubtful that the program will be fulfilled on schedule, but undoubtedly there will be significant gains in production that will benefit both heavy industry and consumers in East Germany. The USSR

* The estimates and conclusions in this memorandum represent the best judgment of this Office as of 1 November 1959.

** See the footnote on p. 10, below.

also will derive economic benefits in the form of increased receipts from East Germany of certain chemical products, notably synthetic fibers and plastics.

I. Introduction

The East German chemical industry,* which is scheduled for major expansion during 1959-65,** currently ranks seventh among the chemical industries of the world, following the US, the USSR, West Germany, Great Britain, France, and Japan, and claims to be second only to the US in production per capita. This industry is the second largest in East Germany, following machine building. In 1958 the East German chemical industry provided about 15 percent of gross industrial output and the same percentage of all exports.

East Germany is the leading exporter of chemicals to the Sino-Soviet Bloc. In 1957 it supplied nearly one-third of all chemicals and chemical products imported by the USSR.**** Exports to the USSR include not only basic chemicals and intermediates, such as synthetic rubber, but also finished products, such as artificial fibers, photographic films, insecticides, plastic products, dyes, and pharmaceuticals. Most of these products help to satisfy the Soviet demand for consumer goods, but many also can be used by heavy industry or the armed forces.

The countries of the Sino-Soviet Bloc that have relatively well-developed chemical industries of their own -- Poland, Czechoslovakia, Rumania, and Communist China -- are the largest consumers of East German chemicals following the USSR. These countries obtain basic chemicals for further processing by their own industries, as well as finished products. Other countries of the Bloc receive mainly finished products.

* The East German chemical industry includes the production of synthetic liquid fuels.

** Since about March 1959 this period has been referred to as a "Seven Year Plan," indicating that plans for the remainder of the Second Five Year Plan (1956-60) have been combined with those for the Third Five Year Plan (1961-65).

**** Exclusive of natural rubber.

II. Program for Expansion

A. Initiation of the Program

In February 1958 the USSR agreed to lend East Germany 300 million East German marks (DME*) for expanding production of plastics and synthetic fibers at several major chemical plants. Repayment was to be made in kind, primarily in products of the new facilities. In a speech in East Germany on 9 July 1958, Khrushchev stressed the advantages of an international pooling of chemical raw materials and processing capacity and indicated that the chemical industry was to be expanded in East Germany as well as in the USSR. The next day, East German Deputy Premier Ulbricht, speaking before the Fifth Party Congress of the Socialist Unity Party, stated some of the specific goals set for the expansion and noted that the USSR would supply some raw materials for building and operating new chemical plants. In another speech, on 4 November, he outlined in detail not only the purpose and goals of the expansion but also many of the anticipated problems and measures to be initiated to overcome them.

B. Reasons for Expansion

Statements of Khrushchev, subsequent statements by functionaries in both the USSR and East Germany, and Soviet willingness to furnish important raw materials leave no doubt that the East German expansion was Soviet-inspired and was initiated primarily to supplement the expansion of the Soviet chemical industry. By exploiting chemical technology and capacity and also skilled manpower in East Germany to process a portion of Soviet raw materials, the USSR expects to obtain increased supplies of high-grade intermediate and finished chemical products sooner than would be possible if it had to build all the processing facilities itself. These products include, particularly, synthetic rubber, polyvinyl chloride and other plastics, and synthetic fibers.

A second reason for the program, and one which has naturally received more publicity in East Germany, is to bolster the East German economy and to improve the standard of living. Under the slogan "Brot, Wohlstand, Schoenheit" (Bread, Well-Being, Beauty), an intensive campaign has been waged to convince the people of their stake in the success of the program and to win their support for it.

* Approximately \$135 million at the official rate of exchange, or between \$75 million and \$90 million in comparable values. At the official rate of exchange, 1 DME equals approximately US \$0.45. A more realistic equivalent for investments (construction work and equipment) is US \$0.25 to \$0.30.

Besides serving as an incentive to the workers, increased benefits to the East German economy are important for the prestige of the Soviet Bloc because the present contrast between East and West Germany reflects unfavorably on the entire Bloc. East German leaders have stated repeatedly that catching up with production in "capitalist" West Germany is "the chief economic task" of the moment and have cited the chemical industry as a major contributor to its solution.

C. Specific Goals

During 1959-65, while output of industry as a whole in East Germany is to increase by 88 percent, output of the chemical industry is scheduled to increase by 103 percent. Exports of chemicals in 1965 are scheduled to be twice those of 1950, although total exports are to increase by only 80 percent.

A general expansion of the East German chemical industry is planned, but the emphasis is to be on plastics and synthetic fibers, outputs of which are scheduled to increase by 150 percent and by more than 450 percent, respectively, by 1965. Several new types of plastics are to be produced, including both low-pressure and high-pressure polyethylene, polyester resins, and new types of polystyrene and epoxy resins. Production of silicone products, including lacquers, oils, and greases, is to increase 1,900 percent by 1965. The increases in production of plastics are to be accomplished by expanding the capacities of existing plants, particularly those at VEB* Leuna-Werke "Walter Ulbricht" in Merseburg, VEB Chemische Werke Buna in Schkopau, and VEB Elektrochemisches Kombinat Bitterfeld in Bitterfeld.

The woollike fibers Prelana and Lanon,** which have already been made in limited amounts, are scheduled for large-scale production by 1965, and two new plants are to be built to produce them. One, to produce Prelana, will be located at the VEB Kunstseidenwerk (Artificial Silk Plant) "Friedrich Engels" in Premnitz; the other, to produce Dederon*** and Lanon, at Guben on the Neisse River.

The accompanying table**** shows some of the more important goals set for increases in production of chemical products in East Germany by 1965.

* Volkseigener Betrieb -- People-Owned Enterprise.

** These fibers resemble, respectively, the US products Orlon and Dacron.

*** A nylon fiber formerly called Perlon.

**** The table follows on p. 5.

Production of Selected Chemical Products in East Germany a/
1958 and 1965 Plan

Chemical Product	Planned Production for 1965	
	Production in 1958 (Thousand Metric Tons)	Thousand Metric Tons
Plastics	120 b/	300
Of which:		250
Polyvinyl chloride	54.6	120
Polystyrene	3.6	20
Polyethylene	c/	50 d/
Synthetic fibers	6.8 b/	38
Of which:		556
Dederon filament	1.5	6.5
Dederon staple fiber	2.5	3.7
Prelana fiber	c/	10
Lanon fiber	d/	10
Synthetic rubber	83.8	113
Calcium carbide	830.7	1,200
Soda ash	552.9	730
Caustic soda	296.4	440
Sulfuric acid f/	650.2	1,298
Ammonia g/	365.3	425
Nitrogen fertilizer g/	320.0	362
Phosphorus fertilizer h/	137.6	250

a. As 100 percent sulfuric acid.

b. Estimated.

c. Negligible.

d. Capacity.

e. The percentage increase is not meaningful, because the base is negligible.

f. As 100 percent sulfuric acid.

g. As nitrogen.

h. As phosphorus pentoxide.

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In order to provide a portion of the basic and intermediate chemicals required for this expansion, the establishment of a petrochemical industry is planned in East Germany. A petroleum refinery, to operate on crude oil piped in from the USSR, is being built at Schwedt on the Oder River. It is to have an eventual throughput capacity of 8 million tons per year but is scheduled to start operating in 1963 with a capacity variously reported between 1.25 million and 2 million tons per year.

The establishment of a petrochemical industry is primarily an effort to create a more economical base for the production of synthetics. Selected products from the new refinery and from a cracking plant to be set up at the VEB Leuna-Werke in Bezirk Halle will be processed further into chemical starting materials to supplement, and eventually to replace, calcium carbide, the material principally used at present for the production of plastics and synthetic fibers. This shift to a petrochemical base will cut the costs of products by more than one-half. The shift is desirable because production of carbide consumes large quantities of scarce electric power and of coke, which is bulky and is obtained in large measure from outside the country. The importation of petroleum by pipeline will reduce the demands placed on the transportation system for the movement of coke. Furthermore, production of synthetics from petroleum generally requires less complex processing than production from carbide. Petroleum has the additional advantage of furnishing other chemical starting materials; especially aromatics, such as benzol, toluol, and naphthalene, which East Germany has had to import in sizable quantities. Nevertheless, before petrochemicals become available, it will be necessary to expand production of calcium carbide to meet increased demands for the manufacture of synthetics. By 1965, production of carbide is to increase by about 45 percent, to about 1.2 million tons. After 1965 the rate of expansion of carbide capacity is expected to decline as petrochemical capacity is increased.

D. Planned Investments

In the period 1959-65, investments in the East German chemical industry are scheduled to be 10.9 billion DME, more than 3.5 times the 2.9 billion DME invested in the industry during the preceding 7-year period. Of this total, 900 million DME have been allocated for 1959, 1.4 billion for 1960, and the remaining 8.6 billion for the following 5 years. The relatively small amount allocated for 1959 reflects the fact that most of the work of actually building and equipping plants must wait until the preliminary work of planning and designing and preparation of sites has been completed.

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As evidence of the emphasis on synthetic fibers and plastics, 5.1 billion DME, or nearly one-half of the total, is allocated to the VVB* Chemiefaser und Fotochemie (Chemical Fibers and Photochemicals) and the VVB Elektrochemie und Plaste (Electrochemistry and Plastics). Although this amount includes some funds to be used for other purposes,** it does not include the large sums for the refinery at Schwedt or for the expansion of petroleum-refining facilities at the VEB Leuna-Werke and the VEB Kombinat Espenhain, which are subordinate to other VVB's.

In line with the increased emphasis on production of chemicals, the share of the East German chemical industry in total investments appears to be rising. In 1958, 650 million DME, or 5.4 percent of the total investment, was utilized by the chemical industry. In 1959 the share is scheduled to be 900 million DME, or 6.1 percent of the total investment. By comparison, the chemical industry in the USSR is scheduled to receive about 5.2 percent of total investment during 1959-65.

Presumably the investment figures given above include loans from the USSR. In the autumn of 1958 a Soviet loan of 110 million rubles*** to cover imports from the USSR of construction materials for the chemical industry was announced, but it was not explained whether this sum was a new loan or part of the previously mentioned loan of 300 million DME (see A, above). In either case, the Soviet loan or loans amount to only 3 or 4 percent of the total funds allocated to the chemical industry under the East German Seven Year Plan. The materials that the USSR is to furnish against these credits are vital to the program, however, and would be difficult to obtain from any other source.

III. Factors Affecting Fulfillment of Plans

A. Support for the Program

The East German chemical industry, which was formerly ranked behind the fuels and power industries in priority, has now been given top priority in all current plans for development of the economy. Various organizational measures have been taken to assure that the program receives the requisite cooperation from all branches of industry involved (see B, 2 and 3, below) in order to help avoid

* Vereinigung volkseigener Betriebe -- Association of People-Owned Enterprises.

** The funds for VVB Elektrochemie und Plaste, for example, also cover projects for expansion of capacity for production of light metals and for the construction of plants to produce zirconium and metallic calcium for use in the atomic energy program.

*** Approximately US \$27.5 million at the official rate of exchange of 4 rubles to US \$1.

administrative snarls such as have hampered industrial expansion in the past. Furthermore, as already mentioned (see II, D, above), the USSR has agreed to furnish both money and materials to support the program.

B. Anticipated Problems and Measures for Solving Them

1. General

Problems that will be encountered under the new program in East Germany are essentially those encountered in any planned economy, but they will be magnified by the fact that the program represents a major effort for a comparatively small economy with only about a decade of experience in centralized economic planning. Complications of planning, procurement, allocation, and supervision of execution of plans underlie many of the problems connected with the new program.

2. Construction

Expansion of the East German chemical industry frequently has been hampered in the past by the failure of the construction industry to meet commitments because of shortages of manpower, machinery, and materials and because of shortcomings in planning and scheduling, not only in the construction industry itself but also in the design and engineering offices. Designing and engineering work often is behind schedule or improperly executed, partly because of a shortage of technical personnel. These shortcomings frequently have led to costly and time-consuming alterations after installations are partly built. Allocation of investment funds according to an arbitrary time schedule, without regard to the actual work to be done in a given period, also has caused irregularities and slowdowns in construction work.

To avoid or minimize these shortcomings in the future, designers and engineers are urged to collaborate closely during the planning and drafting stages of a project so that subsequent changes can be avoided. Furthermore, construction work is not to be started until plans and drawings are completed. A new enterprise, the VEB Bau- und Montagekombinat Chemie (Construction and Installation Combine for Chemistry), has been formed to supervise and coordinate construction and installation work at the construction sites. Also, according to plans, construction work on projects for the chemical industry will be reduced by utilizing open-air installations wherever possible.

3. Equipment

Enterprises manufacturing equipment often fail to make deliveries on schedule, frequently because their own suppliers fail to deliver materials or parts on time. Failure to meet delivery schedules is often attributable to the failure of foreign-trade enterprises to obtain necessary imports, because many items of chemical equipment require materials which East Germany does not produce or produces only in limited quantities.

Lack of standardization in chemical equipment is another problem which frequently delays execution of chemical projects. Components ordered from different enterprises are often made to different specifications and must be remade or adapted before they can be installed together. A special enterprise designated VEB Komplette Chemieanlagen (Complete Chemical Installations) has been formed to coordinate procurement of chemical equipment, assuring the requisite standardization and adherence to schedules.

The ability of East German manufacturers of chemical equipment to cover the demands of the chemical industry also will be limited by the fact that East Germany has heavy commitments to furnish chemical equipment and also measuring and control devices to other countries of the Soviet Bloc, primarily the USSR. Steps have been taken by the Council for Mutual Economic Assistance (CEMA) to work out specifications for chemical equipment on a Bloc-wide basis.

Some chemical equipment produced in East Germany is below world standards in both design and construction. Although designers have been exhorted to improve their work, some of the new equipment currently being installed is not of the most modern design.

4. Technology

Some synthetic products, such as polyethylene and Lanon fibers, scheduled for large-scale production by 1965 are produced at present in East Germany only on a laboratory or pilot-plant scale. Specifications and drawings for full-scale plants will be needed very soon if construction schedules are to be met, and East Germany does not have adequate numbers of designers and engineers to handle all the work involved in scaling up the processes for commercial production. Although the USSR is reported to be supplying some technological data, including the petrochemical processes for the new refinery, it will be necessary for East Germany to obtain additional process data, plant specifications, and special materials and equipment, particularly measuring and control devices, from the Free World. Some Western countries, notably the US, are opposed in certain instances to supplying technology

that will enhance the competitive stature of the Soviet Bloc. Moreover, the ability of East Germany to pay for imports from the Free World is restricted. East Germany even may find itself in some instances competing with the USSR for Western aid because the USSR is planning to expand some of the same lines of production as East Germany and also is seeking to purchase Western technology. East Germany probably will be persistent in its efforts, however, and may achieve some success. The British firm Imperial Chemical Industries (ICI) reportedly has been negotiating with the VEB Leuna-Werke for delivery of equipment and technology for the production of ethylene and polyethylene.

One particularly important factor in plans for the East German chemical industry is that about 70 percent of the increases in production are to be achieved through "Rekonstruktion,"* a program aimed at minimizing obsolescence in existing plants, particularly with respect to mechanization and automation. Increases in production of some products depend almost entirely on this program. Separate investment funds are earmarked for it, and workers, technicians, and engineers all are encouraged to suggest improvements. Although production increases surely will result from this program, it is very doubtful that these increases will be as great as planned.

5. Supply of Raw Materials and Power

No difficulties are foreseen during the plan period in the supply of chemical raw materials. East Germany will continue to depend on imports, mainly from the USSR, but there is every indication that the USSR will make the deliveries or will see that East Germany is able to obtain the materials elsewhere. Especially coke, phosphate rock, and pyrites will continue to be required on a large scale in addition to the increases planned in imports of petroleum.

The supply of electric power, which the East German chemical industry consumes in enormous amounts,** is a potential impediment to the attainment of planned goals. As the chemical industry expands,

* The term Rekonstruktion, in current usage, means modernization, with a concomitant increase in productivity, to the greatest extent possible without extensive construction work or major expenditures. The program is in force throughout East German industry, not in the chemical industry alone.

** One-third of all the power produced in East Germany is consumed by the chemical industry, approximately one-tenth of the total output being required for production of calcium carbide alone.

output of power, which at present is barely adequate to satisfy the national demand, will have to be expanded proportionately because opportunities for importing power or diverting it from other industries are limited.

6. Manpower

Labor is a scarce commodity in East Germany, and because of the low wartime birth rate the working population is expected to decrease during the next few years, even if defections to the West cease or are offset by immigration. Initially the chemical industry will be affected mainly by a shortage of labor for construction, but as the new plants are completed, the supply of chemical workers will begin to become critical. According to plans, the need for additional labor in the chemical industry is to be covered largely by increasing productivity per worker through the widespread introduction of mechanization and automation. This solution is based on the assumption that the technological problems associated with the introduction of automation can be solved. Comprehensive training programs to train personnel to operate more highly mechanized plants also will be required. In addition, it is planned to employ more women, but this possibility is limited, because 60 percent of all women of working age are already employed. An additional measure for stretching the labor force without increasing it is the training of chemical workers in "second trade" in order to avoid having workers idle during some stages of production. The "second trades" are principally those connected with maintenance.

The erection of the new refinery and the new plant for synthetic fibers in the eastern part of East Germany, where there is no pool of skilled chemical labor, complicates the problem. Although the press has cited the necessity of starting to train cadres to be ready to operate the plants when they are completed, it will be difficult to find the requisite number of workers without depleting the supply of labor for other occupations. If workers are moved in from other areas, the construction industry will be further burdened to provide housing and other facilities for them. Moreover, with expansion also taking place in the established centers of the chemical industry, there will be few trained workers who can be spared for the new plants, especially workers with maintenance skills.

IV. Prospects for Fulfilling the Program

In spite of the measures taken to overcome the problems mentioned above, prospects for fulfilling the program for expansion of the East German chemical industry on schedule do not appear bright. The industry cannot in practice be given the unqualified top priority that it

has been granted in theory, because the rest of the economy also is scheduled to expand, although not so rapidly. Furthermore, all the other parts of the economy involved must meet their commitments fully if the program is to be fulfilled, and it is doubtful that East Germany will succeed in mobilizing the necessary maximum effort. The administrative measures instituted (see III, B, 2 and 3, above) undoubtedly will help to keep the individual parts of the industrial network coordinated and mobilized behind the program, but the past performance of the East German economy does not indicate an ability to support so large and rapid an expansion without more outside aid than is now in evidence.

Moreover, the program apparently has begun slowly. During the first part of 1959 the East German press criticized lags in construction in particular. At the end of the first quarter of 1959, for example, construction on investment projects at four of the larger chemical plants was reported to be between 7 and 14 percent of the amount scheduled for the year. The performance of the machine-building enterprises and of the enterprises producing control equipment also has been cited as unsatisfactory. Other targets of criticism have included the work of the designing and engineering offices and the inadequate coordination of activities among the separate branches of industry. Electric power and manpower also have been reported to be inadequate.

All the standard Communist methods -- "socialist" competitions, performance pledges by individual workers, and various speed-up methods that actually amount to unpaid overtime work -- are being applied in East Germany in an effort to improve performance and to increase the rate of expansion. Although in the past such methods have been successful in increasing output, it is doubtful that performance can be maintained at a level high enough to meet the scheduled goals.

Although a precise estimate of the degree of plan fulfillment is not possible at this early date, it appears that the East German economy cannot attain before 1967 the goals set for 1965. There has been no overt indication so far, however, that the East German government expects anything less than complete fulfillment.

In view of the difficulties likely to be encountered, progress under the program probably will not be uniform. Because such a large part of the program depends on the completion of the petrochemical facilities, it is probable that construction of the refinery at Schwedt will proceed more or less on schedule. If problems should arise in connection with construction or with deliveries of oil from the USSR, however, or if the manpower problem at Schwedt should

become insuperable, progress on the refinery might slow down and expansion of capacity for calcium carbide might be further stressed.

Limiting factors in the program are the extent to which electric power output keeps pace with increased chemical capacity, the degree to which automation and other technological advances succeed in reducing requirements for manpower, and the amount of aid that can be obtained from abroad. Success in procuring aid from abroad will depend both on support from the USSR in obtaining products that the Soviet Bloc can furnish and on the willingness of Western countries and individual manufacturers to sell items that cannot be obtained within the Sino-Soviet Bloc. Payments for items purchased from the West may prove an obstacle unless the USSR also furnishes adequate credits in Western currencies.

V. Effects of the Program

The program for expansion of the chemical industry will have certain adverse effects on the East German economy. For one thing, much of the plant now existing probably will suffer excessive wear because of the prevailing practice of overworking equipment and slighting maintenance whenever plan goals appear in jeopardy. Another probable result will be increased dissatisfaction of the workers, who will be required under the various speed-up methods to work harder without realizing many of the benefits that they have been promised. Housing problems, which probably will continue because of the emphasis on industrial rather than residential construction, will add to the dissatisfaction.

Nevertheless, the program eventually will result in a considerable net gain to the East German economy. Even if production in 1965 does not reach the ambitious goals set, there will be substantial increases in production of plastics, synthetic rubber, synthetic fibers, and other chemical products. As a consequence, heavy industry will have larger supplies of modern materials at its disposal and will be able to produce more products, and in many cases better products, both for domestic consumption and for export. East German dependence on imports of nonferrous metals and other raw materials will be reduced, because man-made materials will be available to replace large amounts of these items. Consumers will benefit from increased supplies of textiles and consumer goods made of plastics. Both consumers and industry will benefit from the increase in imports that can be paid for with exports of chemicals.

One of the most noticeable changes to result from the program will be in East German foreign trade in chemicals. Not only will there be a shift to more extensive imports of raw materials and larger

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exports of finished chemical products, but also the direction of trade will shift so that the economically strong countries of the Free World will become less important as trading partners. Dependence on Western deliveries will be diminished, while dependence on countries of the Sino-Soviet Bloc, both as suppliers of raw materials and as markets for finished goods, will increase. At the same time, exports of finished goods to underdeveloped countries of the Free World are to increase. The results will be to bind the East German economy more firmly to the economies of the other Communist countries and to further the economic penetration of the underdeveloped countries.

The USSR also will benefit from the expansion of the East German chemical industry, because the USSR can be expected to exercise first claim on additional quantities of East German chemical products that become available, particularly the synthetic materials to be produced from Soviet crude oil in plants partly financed with Soviet funds. Moreover, the greater availability of synthetic materials and other chemical products in the Bloc will contribute to an increased potential for the "economic competition" with the West that has been a major feature of Soviet foreign policy.

Expansion of the East German chemical industry also will affect other countries of the Sino-Soviet Bloc. Although the current program apparently was initiated by the USSR directly rather than through CEMA, the CEMA Permanent Commission for Cooperation in the Field of the Chemical Industry has been active in helping to work out details of the plans for specialization and cooperation with other countries of the Bloc. Inasmuch as East Germany has been selected to specialize in several important plastics and synthetic fibers, the success or failure of the East German plans for expanding production of these products will affect their availability throughout the Bloc.

The current program for development of the East German chemical industry may thus be considered one more indication of Soviet intentions toward East Germany. The increased ties with the Sino-Soviet Bloc that will result from the program indicate that East Germany is expected to play an important part in plans for the integration of the chemical industries of the Bloc. This projected integration provides the USSR with further reason for resisting any efforts to loosen East Germany's economic ties with the rest of the Bloc.

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APPENDIX

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

<u>Source of Information</u>	<u>Information</u>
Doc. - Documentary	1 - Confirmed by other sources
A - Completely reliable	2 - Probably true
B - Usually reliable	3 - Possibly true
C - Fairly reliable	4 - Doubtful
D - Not usually reliable	5 - Probably false
E - Not reliable	6 - Cannot be judged
F - Cannot be judged	

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this memorandum. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

Except for CIA finished intelligence, all sources used in this memorandum are evaluated RR 2 unless otherwise indicated.

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