THE NEED FOR IMPROVEMENTS IN THE ORGANIZATION
OF PRODUCTION, LABOR, AND MANAGEMENT IN THE
CHEMICAL ENGINEERING INDUSTRY

A.V. Kuramzhin

Unified control is exercised over the development of production, science, technology, and economics in chemical and petroleum engineering in accordance with the decisions of the September (1965) Plenary of the CPSU Central Committee. As a result, the chemical engineering factories and institutes have been able to raise the output of chemical equipment considerably, and commission large production capacities; raise labor productivity; attain higher production efficiency; improve the technical standard, quality, reliability, and life of chemical equipment; develop new and advanced machine and apparatus designs; and supply compact technological production lines.

It is possible to utilize to the utmost all the possibilities and advantages of the sectorwise control of industry only with the radical improvement of production organization. The chemical engineering factories are, therefore, devoting great attention to production organization. The measures adopted to this end include: preparation and introduction of plans for scientific organization of labor; greater specialization of enterprises, shops, and sections; improvement of the working conditions; introduction of the new methods of planning and economic incentives at all the existing factories (except experimental and newly-built factories); closer contact between factories and institutes in the field of chemical engineering.

In order to raise the output of chemical equipment under the present conditions, the workers in this industry will have to work with determination to increase labor productivity, improve the utilization of the existing capacities, accelerate the commissioning of new capacities, and raise the economic efficiency of production.

The special features of the chemical engineering industry are a wide and complicated range of items and the individual nature of their manufacture; high technical specifications of the equipment in view of the specific operating conditions, variety of materials and components; short designing and supply periods; and nonuniform loading of capacities owing to the constantly changing demand for chemical equipment. Therefore, an expedient and flexible production organization is essential for the successful operation of any chemical engineering enterprise.

For this reason, we must again return to the problems of production organization and formulate certain basic points.

Production organization is the scientifically based system for the fullest utilization of the labor, material, and financial resources of the factory. Its aim is to manufacture high-quality products of the highest technical standard at the minimum cost of social labor, and it is achieved by the continuous improvement in labor productivity and economic efficiency of production.

Production organization is inseparably linked with the following:

(a) technical progress, since both have the same aim (manufacture of high-quality products of the highest technical level) and method (raising labor productivity by the use of the latest and improved means of production and technological processes);

(b) production economics, since the most important criterion of the measures to improve production organization is the raising of the economic efficiency of production;

(c) scientific organization of labor, which is an inseparable and very important part of production organization, since it is the labor of all the members of the factory staff, and in particular the workers, that puts the enterprise's resources in operation and ensures the attainment of the final aim of production.

Translated from Khimicheskoe i Neftyanoe Mashinostroenie, No.12, pp.1-3, December, 1968.
organization — manufacture of the product. Scientific organization of labor cannot be separated from and opposed to the concept of production organization, for the mere, even if the best, utilization of labor without the appropriate utilization of the material and financial resources does not ensure the minimum expenditure of social labor;

(d) the entire national economy, since through rise in labor productivity and economic efficiency of production at a given factory, production organization should ensure the minimum expenditure of social labor on the country-wide scale. This, in combination with centralized supervision with economic self-sufficiency and initiative at the enterprise level, encourages the enterprise to use advanced designs, materials and methods of organizing equipment delivery.

Production Organization is based on scientifically justified engineering and economic methods, standards, technoeconomic-analysis data, and advanced experience, which are common to all factories; it is characterized by the variety and flexibility of the organizational forms, solutions, and methods which take account of the specific nature of the industrial sector as well as each factory, shop, section, and working unit in particular.

The most important principles of production organization are:

(a) appropriate and clear-cut structure of the enterprise with precisely defined functions, subordination and responsibilities of the subdivisions, and rational operational links between them;

(b) precisely defined functions, subordination, and responsibilities of the staff and, thereby, the widest possible autonomy and decentralization of management and responsibilities considering the knowledge, experience, and abilities of the personnel;

(c) reliable system of information collection and monitoring to enable timely detection and correction of departures from the normal production process;

(d) emphasis on the fulfillment of plans and compliance with decisions; inculcation into the personnel of the spirit of unfailing observance of the State discipline, fulfillment of plans, socialist obligations, orders, and instructions of the supervisory bodies and of the enterprise's management.

The system of production organization is being developed on the following lines: material and technical base of production, organization of the labor of the enterprise's personnel, and production management.

The material and technical base of production concerns the organization of production preparation (preparation of itemwise plans on the basis of the economy's demand and long-term programs for new designs, the technical and material preparation for production, the long-term preparation for production including the development and mastering of new capacities and the construction of new industrial, residential, cultural, and public structures); increased product, component, and technological specialization of the factory, shops, sections, and working units; increased interfatory and intershop cooperation; increased standardization and unitization of the equipment produced; improved technical level, equipping, mechanization, and automation of the technological and production processes; organization of stores and transport inside the factory and shops; improved utilization of the production capacities and greater number of shifts; and improvements in the quality, reliability, and life of the equipment manufactured.

The organization of labor means the introduction of the scientific organization of labor for the workers, engineers, technicians, and servicemen; bringing the working conditions to the optimum level; improvement in the workers' amenities during production operations; improvements in the standard of production, planning of shops and the factory territory, and introduction of production esthetics; constant study of the personnel composition of the enterprise, distribution and training of personnel, development of the creative abilities of the personnel, and the workers' participation in the management, organization of socialist competition and competition in the most specific and reasonable forms to win the title of enterprise (shop, section) of communist labor.

Production management means improving the organizational structure of the factory and its subdivisions; analysis and formulation of operational links between shops and sections; formulation and introduction of regulations for the structural subdivisions and service instructions for the staff; improvement of the standard and reliability of production information, improvement and mechanization of reporting, improvement of the working of the dispatcher's section and of production control; organization of statistical work and simplification of the technical, production, and economic documentation; improvement of the production