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PRACTICAL SIGNIFICANCE OF DESIGNING AUTOMATION SYSTEMS OF TECHNOLOGICAL PROCESSES

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Annotation: In the article, the automation of hydrotechnical structures, which is the most relevant in our country. Hydrotechnical structures, as a rule, have their main characteristics: reliability category; target function; distinctive features, for example, construction; located omi, etc. classified according to

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The issues to be solved in the automation of the production processes of modern production require experts to know the principles of the structure and operation of various automation devices, the methods of making different types and classes of automatic systems, and general technical information that can be exchanged clearly and in a single value along with work in the field of automation of technological processes. it also requires language acquisition. It is necessary to express a logical and technically based system of automation of a technological process in a language that is equally understandable to experts dealing with issues of installation, adjustment and use of automation systems. In this case, all specialists should have the same understanding in the field of equipment supply of the automation system being created, implementation of the given adjustment laws, methods of assembly of tools and automation tools, transfer of impulse and command lines and source lines. How can this be understood in one word, for example, without the direct participation of installers in the process of developing or using a system of workers in assembly work? Such mutual understanding is provided by means of a specially developed technical document, which is called a process automation project.

Stages of designing automation systems.Construction of new industrial facilities and reconstruction of existing enterprises is carried out on the basis of the project.Depending on the complexity of the object under construction, the project will consist of certain parts. The project may have parts such as technical-economic, technological, construction, plumbing, electricity, automation. The automation department (group) of an organization specialized in this field or a technological design institute is responsible for the control and automatic adjustment and control of technological processes, which is a part of the automation project. This project includes control and measuring instruments, adjusters, automation and signaling devices, which ensure the rational operation of technological processes and safety in the operation of equipment, and technical documents used in the designed object.The basis for the implementation of the design is the order given by the organization that makes the technological part of the project and/or the customer. Sometimes the automation project organization is also involved in creating the task. The design tasks include: a) the composition of the object being designed, a brief description of the technological process, the characteristics of devices and equipment; b) the result of controlled and adjusted quantities, indicating the characteristics of the environment; c) permissible errors in control and adjustment and functional signs of devices.At present, it is represented by different levels of equipment of automation systems of production processes.

Technological management objects - aggregates, devices, production systems and workshops - are increasingly being equipped with centralized automation systems. (Fig. 18.2, b) all information is released. The experience of using centralized systems in production has revealed a number of shortcomings in the following form: the reliability of the automation system has decreased due to the inability to correct errors in the MBP; The costs of technical equipment of the MBP and communication lines have increased, which has made it difficult for enterprises with continuous TJ working around the clock to carry out maintenance and preventive work in the MBP, which depends on the collection of all operational information in the MBP. Accumulation in the MBP allows it to be used operationally to implement the optimal management of the object, which is only the generality of the technological device. Most modern enterprises can include complex object-centered automation systems for processing and analyzing a large amount of information coming to the MBP is spreading widely depending on the level of use of computer technology (XT) tools. It not only increases the quality of information about BTO and the manufactured products and reduces the waste of raw materials, but also provides a new organization of management - operational calculation of technical and economic indicators, coordination of the work of some production units and the enterprise as a whole. HT tools with automation systems in the structural scheme are called automatic control systems of technological processes (TJABS). The design of automation systems of technological processes is carried out in one and two stages. In two-stage design, a technical project (TL) is created, and working drawings (ICH) are created in the second stage. In one-stage design, both stages are combined, which is called technical working design (TIL). One-step design is more convenient. In this case, it is appropriate to create projects of automated systems of simple objects and to introduce uncomplicated typical projects or to reuse economically efficient individual projects.

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