USING AUTOCAD WITH DESIGN OF THE PRODUCTION THE PHARMACEUTICAL INDUSTRY

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This article discusses the GMP standards and their use in the development of pharmaceuticals, and the use of an automated system AutoCAD. GMP standards are widely used in the development of pharmaceutical products. Presented technical documentation for project pharmaceutical production. Considering the scope of the project is the pharmaceutical industry. The project is a manufacturing enterprise provides access to the models, calculations, drawings, design, plant, machinery, appliances, etc D. which are necessary for the creation, preparation or restructuring of the technical documentation. Considered normativie GMP rules (good manufacturing practice) which is a system of standards, rules and guidelines of production to ensure high quality and safe production. In the design process provides information about safety devices, information on personnel and environmental safety. Available relatively early version of an automated system AutoCAD for design of pharmaceutical production.

Keywords: Design, standard, computer graphics

Due to the development of scientific and technical progress, methods and methods of designing are being improved. Including, electronic computing machines in engineering experiments, development of projects at different levels of production, are the basis of an automated design system. Usually, the conception of designing means a set of technical documentation or data, that is, equipping the production area. The term of 'Designing' means the main purpose of the plan. Designing includes explanatory protocols, drawings, information on costs, information on the cost of production, information on processing of raw materials and removal of industrial wastes, disposal methods of managing technological processes, installation of the device and the connection to all production areas.

The project of a manufacturing enterprise (under broad scrutiny) is a fundamental principle, calculations, drawings, designs, installations, machines, instruments, etc., which are necessary for the creation, preparation or restructuring, which is intended for comprehensive technical documentation of models. Our area of the project is the pharmaceutical industry. When designing the pharmaceutical industry, the requirements of GMP must be taken into account. GMP ("Good Manufacturing Practice") is a system of standards, rules and production guidelines for ensuring high quality and safe production. The GMP standard reflects a complete initiative, regulates and evaluates production parameters and laboratory tests.

It creates the following pharmaceutical laws in the system: licensing, import, wholesale and retail trade, laboratory services (institutes, centers, non-production control and analytical laboratories), and pharmaceutical industry programs. It creates the following pharmaceutical laws in the system: licensing, import, wholesale and retail trade, laboratory services (institutes, centers, non-production control and analytical laboratories), programs for controlling adverse preparations reactions.

The main goal of designing pharmaceutical enterprises is to create a concept of pharmaceutical production in accordance with the rules of GMP. The development of modern industries is accompanied by the existence of complex technological schemes, the creation of a cycle of the energy cycle, equipment and machines of complex construction, workers working in an aggressive environment of high pressure and temperature. In this regard, it is necessary to ensure environmental protection, the use of new materials, the reliability of process units and the safety of the service staff's life. All this requires the implementation of design works, the high quality of project documentation, the normative cost of the documents of each section of the project phase.

in Kazakhstan, starting from the first January, 2016, a common market of medicines will be formed in accordance with the relevant standards of Good Manufacturing Practice (GMP). This agreement was signed in May 2014 by the Treaty on the Eurasian Economic Union, signed by the heads of states.

Until then, unique conditions and general conditions for medicinal product trafficking had been created in the territory of EEU(Eurasian Economic Union). For this purpose, rules should be developed and adopted, including appropriate rules of pharmaceutical practice, which are consistent with European requirements.

"Good Manufacturing Practice" (GMP) allows the quality control system for finished

products to pass through its quality and access to safe and effective medicines. The relevant standard of "Good Manufacturing Practice" (GMP) (standard) is used in preclinical (non-clinical) studies of the safety of substances and (or) medicines.

Our country's pharmaceutical industry is growing in number of industrial enterprises, which have recently been updated with innovative technologies. As you know, these are time requirements. When developing pharmaceuticals GMP requires the production of any product, that is, a drug, in both cases: inside the enterprise (before the designing) and its withdrawal (from the moment of consumption until the expiration date). Before creating this product, the designer must give him a predefined image. The output of the product is closely related to technical and creative science and production. The designer-constructor should be able to know and apply the basic physical, mathematical and other disciplines. This should be due to the technical creativity of the designer, because it must give a modern look at his product. When designing production, the designer must first know the rules for the development of graphic documentation must be the master of software for necessary work, have an idea of the composition and functions of the workstation. One of the most popular graphic systems is AutoCAD. Depending on the user's qualification, AutoCAD offers a wide range of tasks: drawing, assembling, styling, multimedia and slide movies, etc. Despite the large number of settings (in the latest versions there are more than 300 of them), AutoCAD has a convenient interface and has an effective system for communicating with the user.

Brief information about AutoCAD

AutoCAD is a program that has two decades of history. For this reason, many elements of the program, which were previously relevant, lost their current or partial significance, but remained in the program interface. The former, that is, AutoCAD 2007 is an example of the on-screen menu, in which there is no mouse on the computer. The command simultaneously represents a dialog and a user program. When the user calls the application (in the main program menu or on the desired panel), the command line automatically assigns the command name. The user should write all the commands himself, but for convenience, all commands are written to the main menu and panel. But the above does not exclude the use of the command line. In fact, each command has options or requests additional information (for example, the coordinates of the point). In this case, the user must read the question and respond accordingly to the command-line dialog. You must not run or exit a new command before this command is interrupted. In an earlier version of AutoCAD, if you exit the work with any command, an error message is displayed in the window. In newer versions of AutoCAD, you do not need to manually add commands to the parameters. The option to select command options from the context menu is performed by right-clicking the mouse. AutoCAD is an original system that allows you to automate graphic design. The AutoCAD graphics package is an original system that allows you to include everything you need to do for the designer. Hand tools include automatic graphic conventions (points, slots, circles, etc.), Commands that change them (erase, move, copy, etc.), Commands for specifying properties of simple objects (thickness, type and color of graphic objects). There are instructions for setting the appropriate graphics in the system to select the desired format and scale of the page size. It is enough to specify the sizes of the designer for their location. Dimension and output lines, as well as recording tracks and recordings are automatically performed, and in the latest versions of AutoCAD provides full automation mode. In an automated environment, the designer does not need to tighten the eye when performing some of the smaller parts of the drawing, because visual controls are rendered. Corresponding corners of AutoCAD allow to increase or decrease the size of the graphic image on the screen, and also to move the border of the visible part of the screen without changing the scale of the graph. In the system, the designer can combine graphic objects with a specific name and, if necessary, draw on any graphics, which in turn does not necessarily have to reproduce often repeatedly drawn sections of the drawing. The designer can also perform images of individual parts of the drawing or assemblies on separate layers. This allows you to track the compatibility of particles during assembly. By adding or removing floors, you can remove or add parts from the set, which will allow you to select different versions of the product. Using layers in simple graphics also makes drawing easier, the main ones are located on separate layers, this will open the way for individual changes. Lines, sizes, texts, tools, etc.

AutoCAD is an unclosed system. Then you can draw drawings in other file formats (for example, COMPASS GRAPHIC, CorelDraw). You can also copy other formats to AutoCAD. Bitmap images can be changed without

changing the file format. The AutoCAD system, created by AutoDesk and created on the market in late 1982, is very popular. AutoCAD has a unique development environment, which is constantly being improved. Developers of the system tend to support the overall structure and structure of tasks. As the version of the program changes, it is usually stored by the user, with the ability to perform a sequence of interviews, and to use commands and menus.

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