TRAM'S ELECTRIC DRIVE

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When railways and tramways had been implemented, many problems associated with the efficient and convenient handling of this vehicle has arisen. How smooth was starting and traveling in a tram, how economically does it consume the electric energy, how long can operate the equipment that converts electrical energy into mechanical energy, how to control all processes as simple as possible and profitable? All these issues are still relevant today, because many of the trams stay in the depot and in need of repair as the equipment and cosmetic one.

What is electric drive?

Electric drive is operated electromechanical system, designed to convert electrical energy into mechanical energy and back, and to control the process. Modern electric drive is a composition of many electric machines, apparats and their control systems. It is a major consumer of electric energy (60 %) and the main source of mechanical energy in industry.

Why is electric drive is so popular?

Almost all of the processes associated with mechanical energy are carried out by the electrical drive. The only exceptions are the autonomous vehicles (cars, planes), using non-electric motors. So wide, almost universal distribution of the electric drive due to the peculiarities of electric energy — the ability to transfer it at any distance, constant readiness for use, ease of transformation into other types of energy.

Advantages of tram's electric drive

Using electric current as an energy source, tram compared to other transport vehicles has a very significant advantage. It does not emit products of combustion polluting the air that for cities has a great ecological impact.

The elements of tram's electric drive

Consider the electric drive as a system consisting of three main parts*: traction motor*, *gear mechanism* and, most importantly, *the motor control system*.

THE ADDITIVE TECHNOLOGY IN NUCLEAR POWER PLANTS

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The additive industry development has began with the 3D-printers. Now plants are plan to produce metal details via additive technology.

In RF this technology is at a low level. The main problem, that has appeared after the Russian ruble fall, is the foreign additive technologies high cost. For exam-