ORGANIZATION OF TECHNICAL SERVICE STREAMING-PRODUCTION LINE BIOGAS PLANTS DIAGNOSTIC RESULTS

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The use of biogas plants can solve the problem of environmental, energy and agrochemical nature. Modern biogas plants are complex technological systems that consist of sub-main and auxiliary equipment, microprocessor-based control systems and software. Therefore, considerable theoretical and practical interest is the question of repair and service work in the service of modern enterprises.

Prediction of residual service life of equipment for biogas plants is important because one machine repair in most cases leads to a cessation of all lines.

The purpose of research - development of mathematical methods of determining the cost-effectiveness of repair and service work biogas plants based on a comparison intervals residual life of all components of production lines.

Materials and methods research. To improve the efficiency of electrical machinery and technological systems required to optimize recovery work on the basis of diagnostics that provide high reliability of HPV biogas plants and durability of all system elements.

Solving these problems is reduced to eliminate sudden and gradual failures.

Sudden failure can be prevented by improving design solutions and incremental - carrying out planned preventative maintenance measures.

Results. Block diagram of the biogas plant can be represented as a series connected devices.

If we consider only the sudden failure, the time of their occurrence and recovery can be described by an exponential distribution with parameters.

The efficiency of machines and equipment based on a comparison of the costs that are necessary to improve the reliability and the resulting economic effect.

Optimization of repair work on appropriate conduct an information criterion which divides the work into two types.

The first type of work are those in which a priori known information about the machine represented as a function of the distribution of uptime.

This type of strategy work to meet developments which provides for preventive work predetermined amount at fixed, pre-calculated intervals developments. Maintenance planning and preventive work is optimized based on the criterion of minimum operating costs.

Currently, studies are essential to obtain reliable statistics on manufacturing equipment biogas plants. But for qualitative planning of the required information on the current status of aggregates, which is represented as a function of changing parameter characterizes the main unit.

The strategy of preventive repair works out of the unit because of the difficulty of obtaining reliable information about the current state of the object investigated fully. As a result of improved diagnostic tools have the opportunity to obtain data on the parameters that characterize the state of objects without disassembly. Therefore, the control of the state of HPV biogas plants based on determining the optimal residual life of each element allows to plan preventive repair work using the principles of system analysis. It is helpful to have an immediate repairing of the production line and so the cost will be divided between them and thereby reduced repair cost of each unit.

For most modern biogas production line number is 4-6 units operation which determines the amount and nature of the repair. Restoration nominal parameter values aggregates causes overhaul or replacement.

conclusion

The problem of development of mathematical methods for determining the cost-effectiveness of repair and service work concerning technological systems requires the formulation of general principles determining the actual state of biogas plants in operation.

Therefore compatible repair units, timing and amount of which are determined by comparing the intervals residual life of all components of process line, economically efficient repairs of some individual machines.