

VOLODYMYR DAHL
EAST UKRAINIAN NATIONAL UNIVERSITY
Department "Logistics management
and traffic safety in transport»

PJSC «UKRZALIZNYTSIA»
Regional branch «Donetsk railway»

MANAGEMENT UKRTRANSBEZPEKA
IN LUHANSKAYA REGION

**GLOBALIZATION OF SCIENTIFIC
AND EDUCATIONAL SPACE.
INNOVATIONS OF TRANSPORT.
PROBLEMS, EXPERIENCE, PROSPECTS**

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of mathematical and information modeling to improve the technology of process of transportation of passengers in cities renewed through the high complexity and magnitude of these processes and the growth of requirements to quality management.

The peculiarity of the tasks of improving the technology of process of transportation of passengers in cities is the need of the formation of dynamic models for estimating the time of use of public transport. Analyzing some economic appearances can be distinguished system of operation which meet the mass random flow requests of the same type of action (for maintenance). Such systems are called queueing systems.

In the middle of characteristics, which are investigated in queueing systems are of particular importance to the characteristics of the incoming stream of requests (service calls); the characteristics of the system that serves the requirements coming from which is often called the service mechanism (for example, the structure of the maintenance mechanism, the duration of the individual maintenance requirements of certain elements of the mechanism); the adopted service requirements or the service discipline.

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THE EFFECTIVENESS OF COMBINED STORAGE OF ELECTRICAL ENERGY ON SHUNTING LOCOMOTIVES

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To determine the energy efficiency of the combined energy storage during operation of the locomotive CHME3 shunting work was the development of simulation model for a given mode of operation locomotive to determine the required power of the heat engine and to estimate the value of fuel savings resulting from the use of energy storage.

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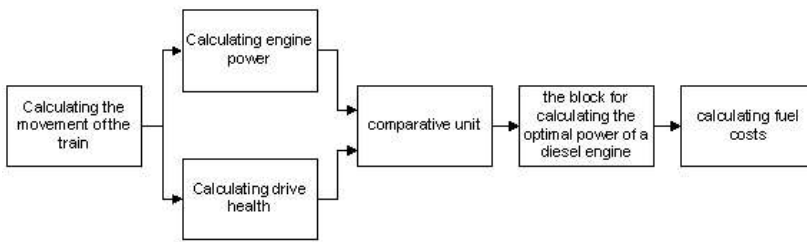


Fig. 1. Structural scheme for calculation of efficiency of use of energy storage

Scheme of mathematical models for calculation of efficiency is shown in Fig. 1. It presents six blocks.

In the first block is calculated tractive power of the locomotive on the rim of the wheel pairs according to the known dependency of the velocity from the path and tractive (braking) performance, or a given mode of reference of the train (position controller, the position of the brake valve driver).

The second block is used to determine engine power, which takes into account losses in the power transmission and the power consumption for K-pain load.

A third block determining the drive status (degree of charge, stored energy).

The compare unit is used to adapt parameters of the energy Ministers of all components of the power plant of the locomotive. This block contains all the constraints on the parameters of engines and energy storage. Depending on the power at the wheel rim and their condition (degree of dawn-genest) drive, or collects or releases energy.

Next is optimization of modes of power set key of the locomotive at a minimum fuel consumption, which is carried out in the block selection of the optimal power diesel and modes of its work. This unit is associated with a block definition consumption fell Islands, which use-able analytical relationships you waste fuel from the power and frequency of rotation of the motor shaft.

The method of the gradient determines the optimal charge level of the drive before leaving the train at the station. In the analytical models, the optimal values of the power of a diesel engine, not the bypass for charge storage in the partial modes of traction, coasting and regenerative braking.

In the simulation with the experimental da-regimes work of the locomotive is selected the working position of the controller that provides the minimum fuel consumption for the trip in comparison with other modes taking into account the possibility of charge storage in the recovery mode.

The study of the modes of operation of the diesel storage ene-l models allowed us to determine the energy efficiency of the wreck operativnih power plants and to assess the economic effect of their implementation.

Thus, the combined use of energy storage in the power circuit shunting locomotive allows you to reduce costs of fuel for shunting work

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DEVELOPMENT OF INFORMATION SYSTEM CONCEPT FOR MONITORING THE MOVEMENT OF PUBLIC TRANSPORT

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At present, the provision of public transport services in most cases do not meet the requirements of today. This applies both to the comfort of the vehicle and charting his movements. The lack of controls and account-

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