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THE PRACTICAL REALIZATION OF ENGINEERING-ECOLOGICAL MONITORING

A powerful force in the development of modern society is the rapid global spread of information and communication technologies that help gather, store, analyze, and disseminate information.

Functional engineering and environmental monitoring includes two separate varieties: the first is environmental monitoring, as a system of observations of anthropogenic changes of the environment and prediction of its status; the second is geotechnical monitoring, as a system of assessment of anthropogenic source, and ecological risk in the process of functioning of the object. Currently, the practical realization of engineering-ecological monitoring can be performed using automated working place (AWP).

Automated working place of Ecologist is specialized software that constitutes the core of the environmental monitoring system. It provides a solution to the complex task of gathering, processing, storage, presentation and distribution of monitoring information between system users (user terminals).

AWP of Ecologist is a distributed data processing system operating in a local area network in real time. Distributed AWP of Ecologist can be combined by the united monitoring Centre (territorial, regional, departmental, sectoral).

As part of the basic software AWP of Ecologist provides specialized software systems, which are necessary for the functioning of the automated part of the system for environmental monitoring. Those systems are:

- Dispatching complex;
- Archival complex;
- Communication complex;
- Editor classifier.

The control system is designed for maintaining databases for environmental monitoring and operational monitoring of the parameters of the environmental situation in the controlled area. The input control and processing received information, formation and display of alarms and messages in case of exceeding the controlled parameters of normative values, or detection of extremely high pollution levels in real time are automatically produced in dispatching complex.

The archival system is designed to maintain databases and information services for users. Archive complex interacts with the database management system and can work only in dialog mode. Software for archive complex guarantees information search and interactive access to the accumulated results of environmental monitoring; supports communication interface with the database management system and provides reporting and information services for users.

The communication system is designed for data exchange between automated measuring units of the monitoring system through existing channels of communication. Communication and data exchange takes place via the operator or via a planned schedule (the exchange schedule data).

The editor of the classifiers is destined for running the tables of reference data bases of environmental monitoring. Those data are used during the operation of the automated part of the system. Software for editor of classifiers provides information search and interactive access to reference tables in databases that support a communications interface with database management systems for manually entering and adjusting data from the keyboard, and to view and display the regulatory reference data in the form of screen forms and output documents.