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## MODERN DIRECTIONS OF INCREASING OF POWER SUPPLY SYSTEMS "INTELLECT" FOR THE MONITORING OF OVERHEAD POWER LINES

The new capabilities of existing information technologies make it possible to move to more efficient management and operation of electric networks by monitoring data on environmental parameters that significantly affect the short-term forecast of electricity consumption, the energy loss in grid elements, icing accretion on power lines (PL). This requires to include additional environmental monitoring blocks in the automated monitoring system of the overhead line parameters. The observational data generated in the relevant database will be used for their analysis, assessment and prediction of the meteorological situation with the aim of correcting the management of the system.

Among the main tasks that are solved by the automated monitoring system for the parameters of PL and meteorological parameters should be:

- tasks of automatic periodic measurement of meteorological parameters;
- tasks of receiving, processing and storing parameters in the database;
- analysis tasks and generation of warnings;
- control of melting ice;
- tasks of real-time data transmission to the dispatcher's workstation.

The solution of these tasks should be carried out within the framework of a system for collecting meteorological parameters from meteorological stations [1].

The architecture of the software environment of the automated monitoring system of the overhead line can be viewed as shown in Fig. 1.

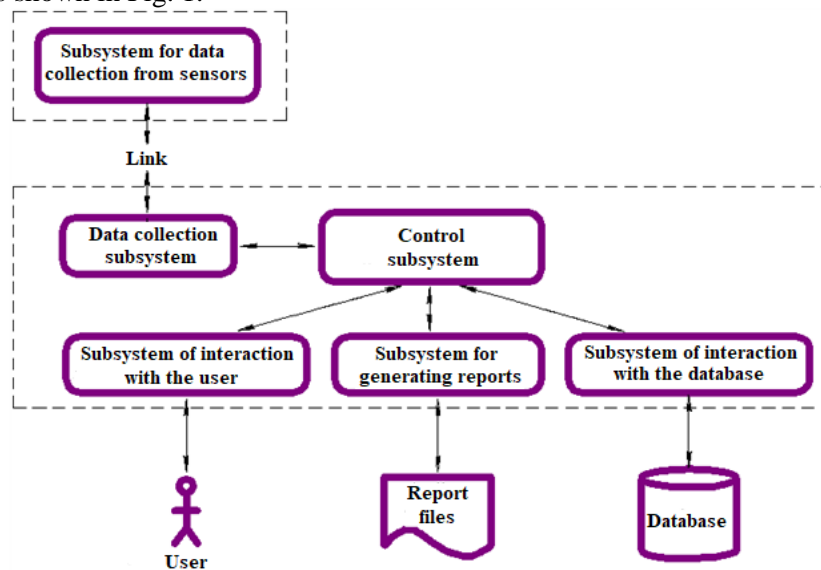


Fig. 1 Architecture of the monitoring system software.

**Conclusions.** The monitoring of overhead lines, taking into account real-time monitoring of meteorological data, will improve the efficiency of managing the operating modes of electric networks through short-term and long-term forecasting of power consumption, preventing accidents associated with the formation of ice on the overhead lines by timely alerting operational personnel to the possibility of ice, mode of melting sediments, increasing the accuracy of calculating the loss of electrical energy and finding places short circuits in problems of dispatching management.

### References

1. N. Titov, M. Dotsenko, S. Dotsenko "Formation of a departmental meteorological data collection system in an efficient wholesale electricity market", Institute of Electrodynamics of the National Academy of Sciences of Ukraine, Kyiv, pp. 41-48, 2009.