

**ZENCHANKA S., ZENCHENKO A., BATYREU V. ENVIRONMENTAL
MANAGEMENT: FROM ENVIRONMENTAL MONITORING TO DECISION
MAKING**

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Анализируются проблемы управления окружающей средой, включая вопросы мониторинга, анализа полученных данных и принятия управленческих решений.

Environmental management is considered as mean for satisfaction of condition for sustainable development and national safety. Environmental monitoring, environmental modeling and decision making are considered as main preliminary parts of environmental management/ Chernobyl catastrophe and environmental management of enterprises are viewed as example of environmental management at its different levels.

Typically environmental management is considered as activity directed to conservation of the environment.

At the same time at the system of sustainable development and for national safety guaranty the environmental management must be understand wider and include such important preliminary stages as environmental monitoring, modeling of environmental processes, decision making and environmental management as it was defined above.

Environmental management starts from middle of the last century when negative consequences of human activity starts brightly arise (oil ejection in Saint Barbara Channel in 1969, USA; explosion at Chemical plant in Soveso, 1976, Italy; leakage of deadly gas at pesticide plant in Bhopal, 1984, India; explosion of Chernobyl reactor, 1986, USSR). Such catastrophes are continued in XXI century (leakage of oil in Gulf of Mexico, 2010, BP, USA). Arising problems demand taking an emergency measures, making of special decision because final consequences of catastrophe practically impossible to define and predict.

An environmental monitoring plays a remarkable role and supposes a creation of system of special observation for changing of environmental conditions and biota reaction for these changing. In a broad sense environmental monitoring is a system of observations, assessment and forecasting of environmental condition that permits to pick out a

changing of biosphere conditions above natural background under influence of human activity. Besides that monitoring includes periodicity of observation which provided by system of observation and such periodicity helps to get ecosystem dynamics and forecast the development.

For adequate description of processes in environment and analyses of information received at different stages and levels of environmental monitoring it is necessary to conduct the modeling of environmental processes. Such modeling can be conducted as in theoretical as in experimental manner. Theoretical models are based on analytical and statistical approaches and experimental models are based on results of physical, chemical, biological and mixed experiments.

Analysis of current state of environment and results of modeling permit to get the forecast assessment of situation development. In many cases one model is insufficient for example for estimation of radiation impact on living organism and prolonged investigations are demands to get correspondence to different models. On the bases of forecast assessment the decision is taking for management of infrastructure and environmental objects for decreasing of negative impacts of human activity and this is a direct function of environmental management. Environmental management systems are integral part of sustainable development of any state and its national safety. That is why environmental management systems are constructed as at state as at local levels.

Ideology of creation of environmental management system is based on international standards ISO series 14000 and includes such types of activity as “plan – do – check – act”. For a state level these types of activity are considered in documents on sustainable development and normative acts, for local level – in documents of environmental management system – policy, guidance, enterprise and organization standards, etc.

As examples a management of consequences of Chernobyl accident and an environmental management of enterprise on base of ISO 14001 are considered.