

INSTRUMENTS OF ENVIRONMENTAL AUDIT IN SEKTORAL ENVIRONMENTAL MANAGEMENT SYSTEM

The importance of introduction of environmental audit into sectoral system of ekomanagement is emphasized. The set of developed instruments for introducing environmental audit was characterized and described by the example of forest sector of Ukraine.

Keywords: environmental audit, audit agreement, environmental passport, audit report, forest sector, model of environmental passport.

Introduction. According the we research conducte by us, whose results appear in [1], an environmental audit is an external complement to sectoral environmental management system and an integral part of the system at the enterprise level. Environmental audit is an integral part of the Eco provides the desired level of reliability. So for our country is a legitimate approach to international practice of nature to solve environmental and economic problems in a single system of environmental management and audit.

Statement of the problem. The purpose of this paper is to display the results of special research tools in the implementation of environmental auditing branch Eco businesses conducted using systemic, cybernetic approach to the problem, using the methods of induction and deduction, analysis and synthesis, abstraction and modeling study of processes.

Results. The study was conducted by the example of the forest sector of Ukraine.

According to Art. 12 of the Law of Ukraine "On Ecological Audit" [2] for the forest sector enterprises environmental audit is optional. However, concerned authorities, ie the customers of environmental audit, in our view, there may be central and local executive bodies, local governments that are interested not only in the stability of ecological situations, but also in improving ekolohorekreatsiynyh functions of forests. Interest in environmental audit enterprises as a stabilizing factor, which increases the reliability of environmental management system must identify their owners, the management of the forest sector of Ukraine. Moreover, increased system reliability is improving and environmental, competitiveness, increase the quota in the market of products, etc., that provide and improve the financial situation of enterprises. In addition, under the existing criteria for distribution of businesses by the risk of their business to the environment, forest sector enterprises belong to the group of subjects with high risk, for which action plans of state supervision shall be held annually [3]. The above, in our opinion, gives grounds to propose to make amendments to Article 12 of the Act [2] regarding mandatory for companies environmental audit forestry sector.

As noted in [see 1] at branch level should be carried out external environmental audit firms. Customers can be both authorities and, especially, sectoral leadership. Environmental audit may exercise a legal entity, the statute which provides this type of activity [2 Article 14]. Therefore, in our opinion, at the sectoral level should organize a powerful ekoaudytorsku firm with branches in places that would specialized in environmental auditing sector enterprises, while remaining independent and not subordinate to his superiors. Environmental audit conducted under a contract between the customer and ekoaudytorskoyu firm [2 Article 19]. Thus performers are defined by law and treaty responsibilities to the customer for the implementation of certain contract obligations for the accuracy of the conclusions of an environmental audit. Dates environmental audit determined by the contract.

We offer regular environmental audit commissioned by industry leaders. We believe that it should use the standard contract, a draft of which we have developed for the forestry sector enterprises. By contract offer Protocol (list of) an environmental audit, a draft of which we have developed as a typical also for these companies. Note that the list of necessary applications and tables we have included ecological passport business. The presence of environmental passport requirements provided environmental audit facility in Russia, and experience in conducting environmental audits in Ukraine. However, ecological passports of the former Soviet Union filled only industrial enterprises [4]. The company proved to be short term. Many companies have not finalized this passport Enterprises forestry sector of Ukraine left without such certification.

Therefore, we believe that preparation for the implementation of environmental audits in the field of environmental management should start with the environmental certification of all businesses. For this purpose under the direction of the author have developed environmental passports separately for forestry and timber companies that have already passed the practical testing [1-15].

The regulation of EC number 1836193 first review the concept of environment – the first full study of issues related to environmental businesses, the impact on him and his protection in conjunction with the activities in the area. However, for the same time, the goal of environmental certification is [4, 6-15]:

- identification of quantitative and qualitative characteristics of environmental pollution emissions, effluents, waste, radiation;
- acquisition of specific indicators of nature and environmental pollution now that allow you to analyze the use of technology and equipment now compared with the best domestic and foreign models, and information about losses zavdayutsya now.

As a result of ecological passport system [5-12]:

- assess the impact of waste, pollutant emissions on the environment and public health;
- determine the fee for natural resources and for pollution;
- establish the company limit is waste, emissions, discharges of pollutants, environmental planning measures and assess their effectiveness;
- make an examination of reconstruction projects of enterprises;
- monitor and evaluate the level of compliance now law, rules and regulations of environmental protection;
- implement measures to improve the efficiency of utilization of natural resources, energy and secondary resources.

In our view, the above shows that in essence the first test of the environment and environmental certification companies are identical. Therefore, the process environmental audit the business should begin with ekopasportyzatsiyi that, in our opinion, appropriate to this model (Fig. 1). Working Group, which provides an environmental certification, must be specifically established by the company manager. In its composition, think, should include the heads of all functional services companies and to attract to its work of environmental auditors. In our view, it is appropriate that led a group of certified ekoaudytor, acting verifayer – officially accredited, independent of the company and its activities disinterested person who checks and certifies the likelihood and related amount of current legislation documents on environmental policy of the enterprise, programs, management systems, procedures preparatory environmental review and audit, and environmental applications [1]. Manager develops a plan of the group and division of functions between group members and linear units with drafting environmental passport. Approve the plan managers.

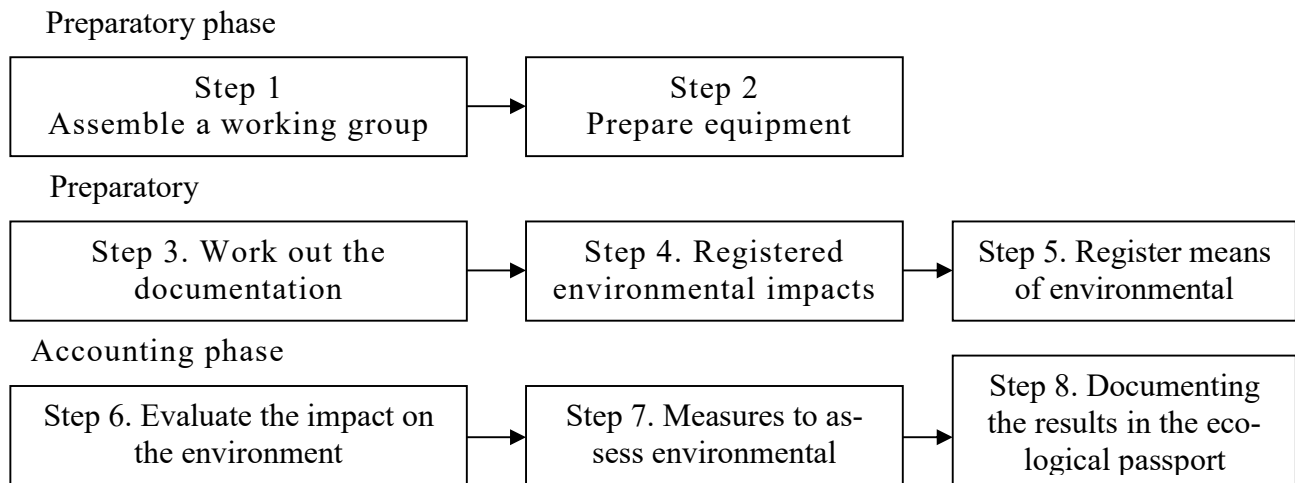


Fig. 1. Model of the environmental certification company

The second step is the preparation of all necessary means. First, at the disposal of the group should provide all the general documents, so you can make a preliminary review of the company. It should take care of office space and technical facilities, including computer, software, instruments for measuring environmental parameters, etc., as well as organizational support, including existing legislative and regulatory acts. We must consider all the details, including the involvement of external agencies and experts.

On the accounting phase (Step 3), above all, learn that the documentation was not provided the working group on the 2nd step. It is appropriate mapping schema enterprise applying to it the sources of pollution and purification of the atmosphere and surface water, waste stockpiles, vodozabyrachiv, the boundaries of sanitary protection, highway, recreation areas, monuments of architecture, post monitoring air pollution and wastewater discharges. Also, please make a brief description of the development schemes of material flows from all sources mic selection and treatment of pollution and their control points. It is necessary to process the many documents, including: applicable laws, statutes, regulations, instructions, departmental standards; general plan of the enterprise; plans vodovidnyh buildings, wells; reports on research work; plans warehouses; register of buildings and structures that require permission to use; register of materials hazardous to the environment and documentation for their preparation, storage, use, disposal; documents on basic environmental facilities; documentation of studies of wastewater; an initial permit for wastewater in accordance with applicable law; documentation of the measurements of the environment; documents on waste research, recommendations for their utilization, contracts for disposal; documentation on the use of resources (energy, fuel, materials); measures for environment; selection of methods to control the environment; work instructions for hazardous materials; directory extraordinary cases; plans for safety and protection against accidents; documentation of the fire; a list of companies with activities and special environmental ekologohorekreatsiynyh works; description of the job; existing records and reports on the environment.

At the 4th step includes: getting in the bodies of the nature of meteorological characteristics and coefficients of dispersion of pollutants in the atmosphere of the city (factor stratification of substances in the atmosphere, the coefficient of the terrain, outside air temperature, wind roses, wind speed); getting in organs Derzhhidrometu or local environmental protection characteristics of the environment on background concentrations of pollutants; in a local water management or water conservation characteristics of water quality and sewage receivers; identifying data on the use of land resources as a result of inventory. Characteristics of land use defined separately (buildings and constructions, auxiliary production, administrative office buildings and grounds, storage, landfills, sewage, landscaping, reclamation, sanitary-protective zone and other needs); identify the general and specific consumption of raw materials for each type of product, of forestry, and special lisovidnovlyuvalnyh ekologohorekreatsiynyh

work, based on material flows schemes; compilation of data on general and specific energy consumption by type of product and work on inventory data.

Annexes to this step is calculation of maximum permissible emission standards (HDV) or temporarily agreed emissions standards (MSW) in the atmosphere of harmful substances. It organized sources of pollution assign numbers from 0001 through 5999, and unorganized – from 6001 to 9999. Also, add water and sewerage schemes with reference to the costs and loss of water at each production within the hour. Along with indicators calculated specific consumption norms of water consumption and water per unit of output (work). Are given parameters and properties of the waste water, temperature, biological and chemical oxygen demand, pH value, suspended solids, salinity, toxicity. Indicate the characteristics of treatment facilities and vodooborotnyh systems, and characteristics of waste generated in the enterprise according to the inventory. This annex ecological passport business. At the 5th step should make an inventory of already implemented measures to protect the environment. There are organizational and technical measures. Registering technical measures, separate measures in specific areas and technical measures to reduce the negative impact on the environment in general. Registering arrangements should be mentioned tasks, place of deployment, units, functions and methods. It is important to note the existing arrangements for training and retraining for environmental protection. In the evaluation phase at the 6th step, to implement measures to improve the environment needs to be attached to the inventory data from assessment indicators. To do this, first of all, you should set criteria for assessment which should include: requirements of environmental legislation; potential risk; compliance with environmental policies of the enterprise; social acceptability.

In our opinion, they should consider, if possible, all or individually, giving preference first. At the 7th step should be to evaluate measures to protect the environment. In our view, technical and organizational measures should be evaluated with ABC / XYZ-analysis. At the 8th step should document everything done in 7.1 steps, ie fill ecological passport of all enterprise applications. This separate application must be a plan of organizational and technical measures businesses with nature. The model ekopasportyzatsiyi company tailored the current national regulatory framework, makes it possible to effectively conduct an environmental audit of enterprises, providing them with the system input, control points and basis of comparative analysis.

Conclusions. Thus, developed a number of implementation tools in industry-wide environmental audit system on the example of Eco Forestry sector of Ukraine. Thus, provided the necessary conditions for such implementation. The results of this research is the basis for further development towards the formation of an environmental audit methodology within industry environmental management system based on the modeling process environmental audit.

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Інструменти екологічного аудиту в галузевій системі екологічного менеджменту

Зазначено актуальність впровадження екологічного аудиту в галузеву систему екологічного менеджменту. Зазначено особливості визначення договірних зобов'язань аудитора, необхідність включення в перелік додатків і таблиць до договору на проведення екоаудиту екологічного паспорту підприємства. Охарактеризовано необхідність і суть екопаспортизації підприємств. Зазначено, що дозволяють забезпечити результати екопаспортизації підприємства. Надано розроблену модель процесу екологічної паспортизації підприємства, її характеристика. Зазначено перелік документів, які підлягають опрацюванню під час екопаспортизації. Зазначено критерії оцінювання показників у процесі екопаспортизації. Зазначена модель екопаспортизації підприємства враховує структуру чинної національної нормативно-правової бази, дає можливість ефективно проводити екологічний аудит підприємств, забезпечуючи його системою вхідних даних, контрольних моментів і базою порівняльного аналізу. Таким чином, охарактеризовано ряд розроблених інструментів впровадження екологічного аудиту в галузеву систему екоменеджменту на прикладі лісового сектору економіки України. Тим самим, забезпечено необхідні умови такого впровадження.

Ключові слова: екологічний аудит, система екоменеджменту, проект, договір на проведення екоаудиту, протокол екоаудиту, екологічний паспорт, лісовий сектор економіки, модель екологічної паспортизації.

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THE STUDY OF MYCOTROPHY OF SOME HERBACEOUS PLANTS GROWING ON THE SOILS OF PODOROZHNE SULPHUR MINE

Presented in this work are the results of a 3-year study of mycotrophy of *Tussilago farfara* L., *Trifolium pretense* L., *Platanthera bifolia* Rchb. – the plants that form pioneer successions on the dev-