Tools for the Formation and Implementation of the Environmental Policy of Electric Power Enterprises

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Abstract: The article is devoted to the study of tools for the formation and implementation of the environmental policy of electric power enterprises. Global climate change, driven by the negative impact of industrial activities on the environment, can cause more damage to the economy, even if production processes do not change. This assumption implies that an optimal environmental policy can help reduce the intensity of environmental pollution. Power industry enterprises are sources of the following factors that affect the environment: emissions of pollutants into the air; discharges of pollutants into water bodies; disposal of production and consumption waste; electromagnetic radiation; noise. The need to develop and implement the environmental policy of power industry enterprises is due to the need to overcome the consequences of the negative impact of the production activities of energy companies on the environment. One of the main conditions for the development of an effective environmental policy is the analysis of tools for the formation and implementation of environmental policy by electric power enterprises. The article presents the main features and problems of the formation and implementation of the environmental policy of electric power enterprises in modern conditions.

1 INTRODUCTION

The functioning of the electric power industry is aimed at achieving human well-being and improving the quality of life, but at the same time, it is accompanied by the accumulation of the potential for danger to humans in the form of a negative impact on the environment.

The growing needs of the population for electricity entail a rapid increase in its production, which, in turn, leads to an increase in the negative impact on the environment.

One of the modern methods of regulating and reducing the negative impact of electric power enterprises on the environment is an environmental policy aimed at simultaneously increasing the environmental and economic efficiency of production.

The environmental policy of electric power enterprises is part of the corporate policy implemented by energy enterprises; a system of goals, objectives and measures to manage the system of interaction between enterprises and the environment.

The subjects of the environmental policy of electric power industry enterprises are state authorities, local governments, political institutions and organizations, electric power enterprises, organizations, institutions of all forms of ownership and their associations, which directly or indirectly participate in the development, discussion, implementation of decisions, in one or another degree affecting environmental issues.

The environmental policy of power industry enterprises is a system, which as subsystems should include: the policy of managing the impact on the water basin, the policy in the field of protecting the subsoil and soil from pollution, clogging and depletion; policy, policy in the field of air basin protection, guidelines for assessing the compliance of facilities of electric power enterprises with the requirements of environmental legislation, sanitary

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and hygienic criteria, substantiating the need and expediency of developing sanitary protection zones, etc.

2 MATERIALS AND METHODS

The theoretical and methodological basis of the study was the provisions of political management, management theory, ecology, monographs, materials and developments of the Institute of Energy Research of the Russian Academy of Sciences, scientific works of domestic and foreign authors on the problems of formation and implementation of environmental policy. The issues of formation and implementation of environmental policy are relevant for all industrial enterprises, but taking into account the pronounced dependence of the world economy on the energy sector, they become the most acute for enterprises in this industry.

Various aspects of the problem under study are covered in the scientific works of many scientists. Dan Zhang, Mingbo Zheng, Gen-Fu Feng and Chun-Ping Chang in "Does an environmental policy bring to green innovation in renewable energy?" explore the impact of environmental strictness on green innovation in renewable energy technologies (Zhang, 2022). Thomas Walker, Northrop Sprung-Much and Sherif Goubran, in their book Environmental Policy, examine the impact of various environmental policies on the global economy (Walker, 2019). Natalia Ciecierska-Holmes' Environmental Policy in India presents the historical trajectories and dynamics of environmental policy and governance in India (Ciecierska-Holmes, 2019)'. Christina P. Turtseva in the article "Stakeholders of Russian regional environmental policy" identifies four main groups of stakeholders (Turtseva, 2021)

Despite a fairly complete study of the impact of the content and tools of environmental policy, the studies practically do not show the features of the formation and implementation of environmental policy by electric power enterprises.

The methodological basis of the study was the methods of economic, statistical, logical, comparative analyses.

3 RESULTS

To improve the quality of activities in the field of formation and implementation of environmental policy and structuring of work in the field of environmental protection, reduce the risks of the negative impact of electric power enterprises on the environment and ensure compliance with international and national environmental law, energy companies develop and implement various local regulations, the main of which are:

- Manual “Organization of work in the field of protection of subsoil and soil from pollution, clogging and depletion;
- Manual “Organization of work in the field of air basin protection”;
- Guideline "Organization of work on assessing the compliance of objects with the requirements of environmental legislation, sanitary and hygienic criteria, substantiating the need and expediency of developing sanitary protection zones";
- Register of “Regulatory requirements in the field of environmental protection and rational nature management in relation to electric power facilities”, etc.

In the course of their activities, enterprises of the electric power complex have the following types of impact on the subsoil and soil:

- waste management of production and consumption;
- operation of artesian wells of underground sources for domestic and industrial needs.

Waste generation occurs as a result of the following activities:

- new construction (reconstruction), maintenance, adjustment and repair of electric grid facilities;
- operation, maintenance, minor repairs of vehicles and special equipment;
- operation and maintenance of the premises and territory of the Company;
- functioning of the warehouse;
- staff life.

Since as a result of production and other activities of electric power enterprises, waste generation standards (hereinafter referred to as standards) and limits on their disposal (hereinafter referred to as limits) are established. Summarizing the norms of international and national environmental law, the above concepts can be defined as follows:

- limit on waste disposal - the maximum allowable amount of waste of a particular type, which is allowed to be placed in a certain way for a specified period in waste disposal facilities, taking into account the environmental situation in a given territory;

- waste generation standard - the established amount of waste of a particular type in the production of a unit of production.

The development and approval of waste generation standards and limits for their disposal includes the following main stages:

- waste inventory;
- obtaining a certificate of the hazard class of the waste, certification of waste I - IV hazard classes;
- carrying out calculations and drafting waste generation standards and limits for their approval;
- approval of the draft standards for waste generation and limits for their disposal in the state executive body authorized in the field of environmental protection, and obtaining limits.

Monitoring and production control in the field of waste management, as tools for implementing the environmental policy of power industry enterprises, include:

- the procedure for organizing monitoring work;
- the procedure for exercising production control in the field of waste management;
- organization of work on production control at electric power facilities.

Industrial control in the field of waste management is carried out within the framework of general industrial environmental control (Zhang, 2022). The production control program in the field of waste management may be developed as part of the general production environmental control program as part of it (section).

In general, industrial environmental control should be integrated into the internal technical control system.

The production control program should contain:

- list of objects of verification - places and units of waste generation and accumulation, as well as other types of waste management;
- list of officials responsible for waste management;
- description of the procedure for checking compliance with license requirements;
- frequency of checks;
- inspection criteria - established standards for waste generation and requirements for waste management at specific production sites;
- persons authorized to conduct inspections;
- instructions for documenting test results.

The activity of electric power enterprises involved in the transmission of electric energy involves the use of water resources for technical needs.

As part of the implementation of environmental policy in the field of water resources protection, electric power enterprises participate in state monitoring by carrying out the following activities:

- keep records of the volume of intake (withdrawal) of water resources from water bodies and the volume of wastewater and (or) drainage water discharge, their quality;
- conduct regular observations of water bodies (their morphometric features) and their water protection zones;
- submit (free of charge) to public authorities the information obtained as a result of such accounting and observations, in accordance with the established form and frequency.

An important tool for the formation and implementation of the environmental policy of electric power enterprises is industrial environmental control in the field of water basin protection, which includes:

- verification of compliance with the requirements, conditions, restrictions established by laws, environmental regulations, state standards and other regulatory documents in the field of water basin protection;
- maintaining primary accounting of water consumption and water disposal;
- control over compliance with the allowable volumes of withdrawn, used and returned water;
- control over the conduct of analytical studies of the qualitative and quantitative composition of waters, including in the background and control sections of water bodies that receive wastewater;
- prevention of elimination of harm caused to the environment by the activities of the divisions of the energy enterprise;
- control over the fulfillment of instructions of officials exercising state and municipal environmental control;
- verification of the implementation of plans and measures for the protection of the water basin, etc.

The purpose of the activities of electric power enterprises in the field of air protection is to ensure the reduction of emissions of pollutants into the atmosphere (Malakarab, K., 2021).

The main instruments for the formation and implementation of the environmental policy of electric power enterprises in the field of air basin protection include:

- inventory of stationary sources of emissions (organized and unorganized):

- certification of gas treatment plants;
- emission rationing;
- development of corporate instructions (on compliance with the requirements for the protection of atmospheric air during the performance of specific works; maintaining primary accounting; operation of gas treatment plants; measures to reduce emissions from NMU; monitoring; implementation of production control);
- training (instruction) of personnel, knowledge testing;
- calculation and making payments for emissions (as part of general payments for negative environmental impact);
- monitoring;
- production control over the protection of atmospheric air, etc.

All the instruments of the environmental policy of the electric power industry enterprises listed above should be described in the relevant documents that form the basis of the environmental policy of the energy enterprises.

4 DISCUSSION

Despite the extensive list of tools used by electric power companies in the process of formation and implementation of environmental policy, it, being the only document available to the public, is too general.

In addition, there are problems associated with the regulation of the harmful effects of energy enterprises on the environment by the state (Efremenko D., 2008). For example, for electromagnetic radiation and noise, the levels of permissible environmental impact have not yet been developed, only sanitary standards have been established for the residential area. Accordingly, many electric power companies do not seek to reduce this type of environmental impact of their production activities.

Reducing the man-made impact on the environment is achieved in the following ways:

- implementation of industrial environmental control over the strict implementation of existing rules for the operation of equipment and rules and measures in the performance of work on the operation and distribution of electricity;
- carrying out special production and technical measures.
- The next problem in the formation and implementation of environmental policy by power industry enterprises is motivation. Often the environmental policy is very formal for the sole purpose of certification. Many entrepreneurs do not even suspect the existence of such tools and documents. The reasons for this are determined by the following provisions:
- the mentality of the top management and owners of the old Soviet bookmark, accustomed to strict centralized administrative management with a consumer attitude towards the natural environment and not ready to consider alternative methods;
- lack of any real support from local authorities for non-governmental organizations (with the exception of a number of pilot projects in several regions);
- low activity on the part of the public and the end consumer. Today, only the desire of the direct manager of the electric power enterprise and / or the owner to use all available resources to improve production activities can serve as an impetus for the real formation and implementation of environmental policy.

It is also necessary to consider possible problems after the formation of an environmental policy by the electric power enterprise:

- insufficient awareness of the management of the need for continuous improvement of environmental policy instruments. It is similar to the situation: the document has been formed, they have declared themselves and that is enough. In such energy companies there is no chance to achieve stable performance, they are closed to the public. This means that the environmental policy system is not viable;
- lack of focus on the declared development strategy and the actual actions of the staff. Two reasons are possible here: incorrect definition of expectations and unconsciousness in the actions of staff to achieve goals. In both cases, the successful formation and implementation of environmental policy, and hence the organization as a whole, is impossible. When setting goals, it is necessary to determine the stages of their achievement;
- lack of team cohesion in relation to the achievement of goals, which leads to the fact that everyone is closed on the performance of limited functions. At the same time, each department has detailed plans, and this allows you to see the contribution of each employee.

The table lists the most common opinions of opponents of the formation and implementation of environmental policy at electric power enterprises, as well as their refutation.

Table 1: Major misconceptions about environmental management systems.

Delusions	Rebuttals
The formation and implementation of environmental policy is of a secondary auxiliary nature in comparison with the production problems of the enterprise	Environmental policy is built into the overall management structure of the enterprise, becoming one of its main priorities.
The formation and implementation of environmental policy is very laborious and very costly.	The formation and implementation of environmental policy can start with small achievable goals, gradually complicating them
Activities for the formation and implementation of environmental policy are irrelevant for Russia, since there are a lot of more urgent practical tasks	If efforts are not made today to develop environmental policy, this will lead to even greater losses and missed opportunities.

In order to achieve maximum efficiency in the implementation of the environmental policy of electric power enterprises, it is necessary to implement those measures that ensure the maximum achievement of the specified indicators and satisfy the condition of limited resources of enterprises.

5 CONCLUSIONS

In order to ensure effective interaction between the enterprises of the electric power industry and the environment, it is necessary to indicate in the environmental policy the main planned directions of the environmental activities of the energy enterprise, which must correspond to the set environmental goals. Planned areas of environmental activity, which are then not disclosed for environmental purposes, should not be included in the policy, this can be regarded as non-compliance with the requirements of the international standard ISO 14001.

The environmental policy must be documented and approved by the management of the electric power company. All employees of the power company should know its main provisions, while they are not required to know the policy by heart, but it is necessary that the staff understand the environmental policy tools in relation to their activities.

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