

FRI-ONLINE-1-EM1-18

ENVIRONMENT PROTECTION AS A MANIFESTATION OF CORPORATE RESPONSIBILITY OF “KOZLODUY” NPP EAD⁴¹

Chief Assist. Prof. Irina Kostadinova, PhD

Department of Management and business development

Faculty “Business and Management”

University of Ruse, Bulgaria

Phone: +359 885382300

E-mail: ikostadinova@uni-ruse.bg

***Abstract:** In the modern world, the energy sector occupies a key place. It is the basis of overall economic development. Without it, life is practically unthinkable. 16% of the world's electricity is produced by nuclear means. At the same time, it is the most significant direct consumer of non-renewable natural resources and a source of damage to nature and the environment. Last but not least, there are serious financial interests related to the energy sector, which influence the direction of its development. Nuclear energy is something we cannot give up, just as we cannot give up electricity, cars, ships and transport and industry in general, because this energy improves the quality of life.*

In this paper environmental protection as a manifestation of corporate responsibility of the only nuclear power plant in Bulgaria will be presented. The main goal of the paper is to present the results from an empirical study, aimed to identify specific needs of employees of “KOZLODUY” NPP EAD towards environmental protection as a manifestation of corporate responsibility if an industrial enterprise.

***Keywords:** Environment protection, Corporate Social Responsibility, Green practices*

***JEL Codes:** M14, Q56*

INTRODUCTION

Kozloduy NPP EAD is the only nuclear power plant in Bulgaria and is the largest producer of electricity in the country, providing more than one third of the national annual electricity production. This determines the strategic importance of the enterprise as a factor for economic stability at the regional and national level (Alanssari, S., Mihaylova, L., 2019). Kozloduy NPP produces the cheapest energy in the country, which ensures the maintenance of an affordable price of electricity for end users in Bulgaria. In recent years, the corporate policy of individual companies on a global scale has gradually grown from single "green" events to sustainable environmental behavior (Antonova, D., Kunev, S., Hristov, T., & Marinov, M., 2018).

In this paper environmental protection as a manifestation of corporate responsibility of the only nuclear power plant in Bulgaria will be presented. The main *goal of the paper* is to present the results from an empirical study, aimed to identify specific needs of employees of “KOZLODUY” NPP EAD towards environmental protection as a manifestation of corporate responsibility in an industrial enterprise.

Another task is to analyse the current system for environmental management and protection deployed in systems Koloduy NPP.

EXPOSITION

Investigation of Environmental Management Department

The implementation of the environmental requirements in the company is organized and controlled by the Environmental Management Department, which is in the structure of the Quality Department at the Safety and Quality Directorate. The heads of the structural units are responsible for the organization and control of the environmental activities in the units entrusted to them, within their powers and responsibilities. They designate persons responsible for the implementation of

⁴¹ Докладът е част от резултатите в изпълнение на проект 2020-ФБМ-01, финансиран от Фонд „Научни изследвания“ на Русенски университет „Ангел Кънчев“.

environmental activities, define their specific responsibilities and delegate the necessary powers to them. Each employee is responsible for compliance with environmental requirements in the performance of the assigned functions and tasks and has the right to report in writing to his/ her direct supervisor with a copy to the “Environmental Management” department for observed problems and discrepancies related to with the environment. The important issues raised are discussed at meetings of the advisory bodies at Kozloduy NPP EAD.

- technical council, economy and finance council, safety and quality council.

To reduce the negative impact of waste on the environment, since 2000 a company depot has been built and is functioning for disposal of non-radioactive and unusable household and industrial waste from Kozloduy NPP.

Environmental Policy and Objectives

The environmental management policy of Kozloduy NPP EAD in this area is aimed at achieving the following goals:

- Protection of the atmosphere and the purity of the atmospheric air;
- Water protection and management in the area of Kozloduy NPP EAD;
- Safe management, minimization and utilization of non-radioactive waste;
- Energy efficiency and assessment of the impact of the used raw materials on the environment;
- Minimizing the risk of environmental damage and accidents

In order to implement the Environmental Policy and Objectives, the company has established and maintains a system of activities, measures and facilities with which to effectively limit the adverse effects of Kozloduy NPP EAD on the environment. The management of Kozloduy NPP EAD is committed to maintain and improve environmental management as an integral part of the Company's Integrated Management System.

The environmental management policy is brought to the notice of all employees of the Company and each of them is responsible for the application of its principles in their activities to achieve the set goals. (Simeonova, A., Nedyalkov, A., 2018).



Fig. 1. The whole integrated management system of Kozloduy NPP EAD

Company‘ principles concerning protection and management of the environment

Kozloduy NPP EAD main principles could be grouped in the following order:

- Application of the requirements of the national and European legislation regarding protection and management of the environment;
- Maintaining compliance with the conditions of the permits issued to the Company by the competent environmental authorities;
- Systematic planning and reporting on the implementation of environmental policy, objectives and programs;
- Effective monitoring and control of the processes and activities that have/ could have an adverse impact on the environment;

- Periodic review of the condition and optimization of the existing infrastructure for environmental protection;
- Providing and maintaining the necessary resources to prevent and / or limit adverse effects on humans and the environment as a result of accidents and extreme natural conditions and events.
- Maintaining and increasing the competence and safety culture of the Company's staff with regard to environmental protection;
- Appropriate informing of the suppliers about the environmental policy of the Company;
- Maintaining public relations on the state and measures for environmental protection.

The result from stating clearly your principle is a better management of the risk when working with different stakeholders (Pavlov, D. 2020).

The results from an empirical study

Participants in the study were middle management staff from Kozloduy NPP EAD. The survey has been conducted in two phases during 2019, first we sent our questionnaire to the management of the company in May and second phase after getting an approval our questionnaires have been distributed via Kozloduy NPP EAD external network in June 2019.

In the study 58% female and 42% male were involved. At the age of 30 to 58 years. With secondary or education - 3, with secondary special education - 2, with higher education - bachelor - 3, with higher education - master - 4. Employees with different professions were interviewed: engineers, managers, and administrator. The hours spent working per week are from 35 to 52, of which the hours for solving strategic problems, from 10 to 30 per week and the hours for administrative work, are also from 10 to 30 per week.

The aims are to fill the void in CSR activities though presenting middle management' perception of their needs in regard of sustainable development; green jobs; social training, etc..

Descriptive statistics are presented on the results of a study and an Overview of employees Needs in CSR at organizational level.

The survey was conducted in order to establish correlation with environmental policy and the whole management of the only nuclear power plant in Bulgaria and specific needs of its employees towards environmental protection as a manifestation of corporate responsibility.

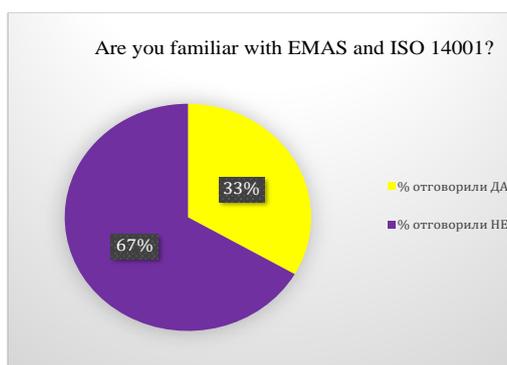


Fig. 2. Level of acquaintance of environmental protection programs - EMAS and ISO 14001

As it could be seen from Fig. 2 only 33% of employees answered positively to the question "Are you familiar with the environmental protection programs - EMAS and ISO 14001", and 67% gave a negative answer. I believe that all employees of the plant should be familiar with these programs.

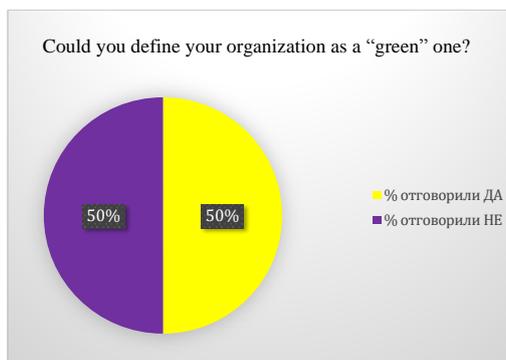


Fig. 3. Employees perception of "Kozluduy" as "green organization"

As it is shown on Fig. 3, the answers to the question "Do you define yourself as a "green" organization" are 50% to 50%. I think the percentages speak for themselves that there are gaps in the information that reaches employees. Here, as in the first question, it is noticed that the employees who are not in managerial positions related to environmental practices and activities are not familiar with this part of the company (Kunev, S., 2010).

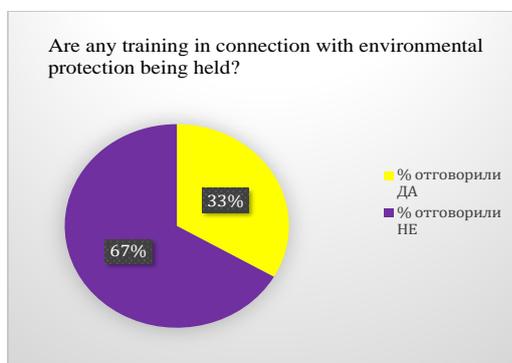


Fig. 4. Employees involvement in company's training

About the employee's involvement in company's training, we had the following results: as it is evident from Fig.4 67% of the surveyed employees don't know about training related to environmental protection, and only 33% show interest in such kind of activities. It is strange to apprehend that only 33% of the employees claim that trainings related to environmental protection are conducted, and 67% of them that such trainings are not conducted. Once Kozloduy NPP has accepted to be a "green" organization, it must strive to disseminate and transmit this mission (Vitliemov, P., 2016). An event can be held for this purpose, such as making various specialized games with a focus on environmental training. Because children are the ones who teach us the really important things in life. In this way, the company will do something fun for the children of its employees and thus will arouse their interest (Todorova, M., Ruskova, S., et al. 2011).

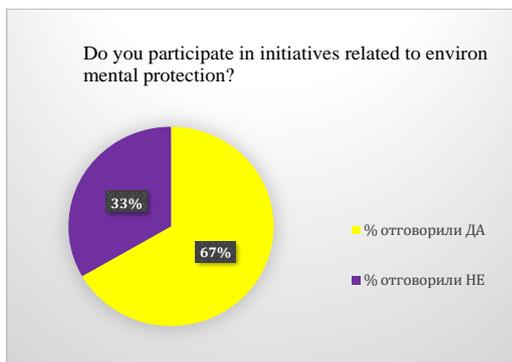


Fig. 5. Participation in initiatives related to environmental protection

As it is shown on Fig. 5, the majority 67% of the surveyed employees participate in initiatives related to environmental protection, and only 33% do not participate. This question is a good comparison of how an initiative that is not organized by Kozloduy NPP reaches a larger number of people, which proves my thesis that the company does not share well enough information about the practices and projects the organization is involved with it. Lack of motivation is another conclusion that could be drawn from these results as in (Ruskova. S., Ruseva, I., 2018).



Fig. 6. Employee's involvement in active zones

The results from fig. 6 add some valuable information about the profile of the respondents. According to the answers 58% of employees answered positively and 42% gave a negative answer about their involvement in the active zones of Kozloduy NPP which means that they have different perception of the environmental protection as part of CSR.

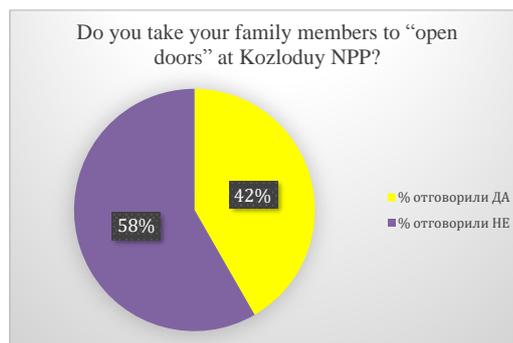


Fig. 7. Participation of family members in "open doors" days at Kozloduy NPP

As it is shown on Fig. 7, the majority of respondents - 58% of the employees answered in the affirmative way to the question "Do you take your family members to open doors at Kozloduy NPP", and 42% did not. I think that employees working at the company do not show higher interest in open doors, because they are part of the company and not everyone would like to spend their free time to attend this event.

Clearly from the presented-on Fig 8 result, the participants in this study are aware of the damage caused by radiation. The company has made sure to inform all its employees about the damage that radiation can cause. A key factor here is that people are also interested in being aware of the damage caused by radiation and there is two-way communication between employer and employee. Caring for the safety of personnel and the environment is a top priority of the Kozloduy NPP management. All measures applied in the field of radiation protection comply with the legislation in the country and the good practices imposed worldwide as a result of decades of experience (Kunev, S., et al. 2012).

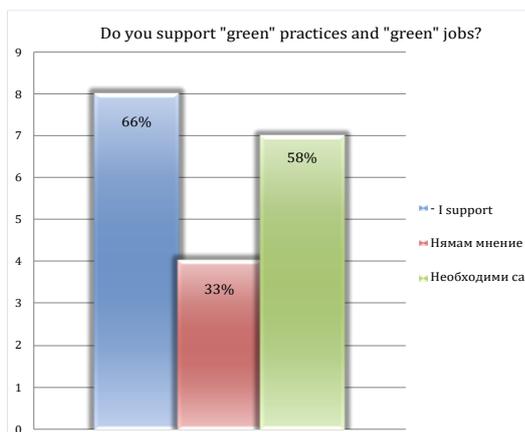


Fig. 8. Support for “green” practices and “green” jobs

CONCLUSION

The main goal of the management of Kozloduy NPP EAD is safe, efficient active and environmentally friendly electricity production with guaranteed quality of supply in accordance with national and international standards. To achieve this goal, management implements an integrated management system, part of which is the Environmental Management System (Stoycheva, B., Antonova, D., 2018). Human factor is of crucial importance in every business but if the management puts more effort to encourage its staff in "green" thinking, the benefits will affect the economy, environment and society in a foreseeable future.

REFERENCES

- Alanssari, S., Mihaylova, L. (2019) Corporate strategy tendencies – a case study on Kuwait Businesses. // Journal of Entrepreneurship and Innovations, No 11, pp. 34-38
- Antonova, D., S. Kunev, T. Hristov, M. Marinov. (2018) Concept of Online Distance Learning System on Sustainable Development in the Cross-border Region. // TEM Journal, No 7(4), pp. 915-923.
- Kunev, S. (2010) Using Case Study in Entrepreneurship and Innovation Education: Methodological Aspects. // Journal of Entrepreneurship and Innovation, year II, Issue 2, pp. 45-56.
- Kunev, S. et al. (2012) Algorithm for factor determination of innovation activeness of machinebuilding SMEs (the case of Bulgaria, example of Ruse region). //2nd International Conference on Logistics and Maritime Systems, University of Bremen, Germany, Imprint: University of Bremen, Faculty 7: Business Studies& Economics, Chair of Logistics, 2012, pp. 293-302
- Pavlov, D. (2020) Challenges to create “new generation entrepreneurs” by intergenerational family businesses at the University of Ruse “Angel Kanchev”. IN: 2020 7th International Conference on Energy Efficiency and Agricultural Engineering (EE&AE), Ruse (Bulgaria), doi: 10.1109/EEAE49144.2020.9278787., pp. 1-4
- Simeonova, A., Nedyalkov, A. (2018) Crisis Management: Is it Possible to Solve Organizations’ Problems by Lean Six Sigma? Challenges to Industrial Growth: Anniversary Industrial Growth Scientific Conference, Sofia, 2018, pp. 8-17.
- Ruskova. S., I. Ruseva. (2018) Empirical study on the impact of the conflicts on the motivation of the employees// Annals of “Eftimie Murgu” University Resita, No XXV, pp. 206-215.
- Stoycheva, B., Antonova, D. (2018) Investigating Factor Interactions in Formalising the Process of Developing New Products// Serbian Journal of Management, No vol 13, № 1, pp. 173-184
- Todorova, M., Ruskova, S. et al. (2011) Method for Studying the Students Needs of Training in Entrepreneurship. // Scientific Bulletin of Politehnica University of Timisoara, No5, pp.5-14, ISSN 1224-6050.
- Vitliemov, P., (2016) Innovation and sustainability transition in becoming an energy smart city, 55th Science Conference of Ruse University, pp. 61-67.
- Environmental Management Policy of Kozloduy NPP EAD, <http://www.kznpp.org/uf//deklaracii/Politiki/Politika%20po%20upravlenie%20na%20okolnata%20sreda.pdf> (Accessed on 16.08.2019).