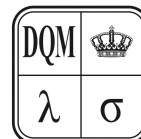


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THE ROLE OF ENVIRONMENTAL MANAGEMENT SYSTEMS IN BREF DOCUMENTS AND BAT SELECTION PROCESS

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Summary: *The Law on Integrated Pollution Prevention and Control (which heavily relies on IPPC/IED directive), as well as a series of regulations and by-laws that accompany this law, define the conditions for obtaining an integrated permit, as well as the conditions for applying the best available techniques (BAT) concepts adopted by the European Commission. These regulations also establish measures planned to prevent or, where this is not possible, reduce the emission of harmful substances, in order to achieve a high level of protection of the environment as a whole. These effects are to be achieved by applying the best available techniques (BAT) described in the reference documents (BREFs) where a special challenge for operators is the analysis of complex and extensive BREF documents and the selection of the appropriate BAT. In this sense, this paper analyses the role of the environmental management systems in BREF documents, with special reference to techniques to be considered in BAT selection process. The main conclusion of the paper is that the established system of environmental management, in addition to being often BAT, has an additional role because it allows the identification of significant environmental aspects and their connection with the appropriate BAT.*

Key words: *BREF documents, BAT selection, environmental management system (EMS).*

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1. INTRODUCTION

The EU has so far adopted more than 200 individual regulations relating to air, water and soil pollution, waste management, protection measures in the chemical industry and biotechnology, product standards, environmental impact

assessment and marine protection. With the development of technology and the fact that many emitted polluting components do not remain in one medium of the environment, but are transferred from one medium to another, there is a need for an increasing number of regulations in the field of integrated pollution control. Thus, in September 1996, Council Directive 96/61/EC on integrated pollution prevention and control was adopted, with the aim of achieving integrated pollution prevention and control arising from industrial activities [1]. The IPPC Directive is one of the first directives to be fully transposed into the legal system of the Republic of Serbia, with the adoption of the Law on Integrated Prevention and Control of Environmental Pollution in December 2004 (Official Gazette of the RS, No. 135/2004). The implementation of these regulations enables an integrated approach to pollution control, which means minimizing the consumption of raw materials and energy, preventing or reducing emissions to air, water and land, waste management and taking into account the transboundary context [2].

2. METHOD

An integrated permit is a decision of the competent authority issued in the form of a decision approving the commissioning of a plant or its part, i.e. performing activities whose integral part consists of documentation with established conditions guaranteeing that such plant or activity meets the requirements of the Law on Integrated Pollution Prevention and Control and associated Environmental Quality Standards (EQS). Also, integrated permit is a document required to obtain by a plant that is considered to be a potentially major polluter. This category includes plants for energy production, production and processing of metals, mineral industry, chemical industry, waste management and other activities, including industrial production plants, food processing plants, farms and others. The competent authorities for issuing the integrated permit are the Ministry of Environmental Protection, the Provincial Secretariat for Urbanism and Environmental Protection, as well as local self-government units. The purpose of issuing this permit is to minimize the consumption of raw materials and energy, as well as to completely prevent or make reduce emissions that may have a negative impact on water, air and land and waste management. At least 227 operators must obtain the integrated permit in order to operate in accordance with the law, according to the 2018 list of the Ministry of Environmental Protection [3]. Since most operators have not obtained an integrated permit by the deadline defined by law, the deadline is expected to be extended. One of the reasons for the slow process of issuing an integrated permit is the insufficient knowledge of BREF documents and the adequate choice of BAT technique, which can be improved by applying an environmental management system.

3. BREF – BAT – EMS

The BREFs are a series of reference documents covering, as far as is practicable, the industrial activities listed in Annex 1 to the EU's IPPC Directive.

They provide descriptions of a range of industrial processes and for example, their respective operating conditions and emission rates. Member States are required to take these documents into account when determining best available techniques generally or in specific cases under the Directive. Some of the representative BREF documents are presented in Table 1.

Table 1. Representative BREF documents [4]

	Acronym	Description
	BREF	ROM
ECM		Economics and Cross-media Effects
WI		Waste Incineration
WT		Waste Treatment
SA		Slaughterhouses and Animals By-products Industries
LCP		Large Combustion Plants
ENE		Energy Efficiency
CWW		Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector
EFS		Emissions from Storage
ICS		Industrial Cooling Systems
FDM		Food, Drink and Milk Industries

In the context of all BREF documents, Best Available Techniques (BAT) is the most effective and advanced stage in the development of certain activities and the way in which they are performed, which enables more appropriate application of certain techniques to meet emission limit values (ELV) designed to prevent or if that not feasible, reduces emissions and the impact on the environment as a whole. From this definition it can be seen that the application of the best available techniques is demanding for several reasons - investment, maintenance, hiring and training of employees, etc. In numerous BREF document, in order to improve the overall environmental performance, BAT is to elaborate and implement an environmental management system (EMS) that boosts the environmental performance at the operator's level. The environmental performance of an organization is becoming increasingly important to internal and external stakeholders [5]. Achieving the correct environmental performance requires the organization to accept the obligation to systematically approach the introduction of the environmental management system and its constant improvement [6]. Environmental management is the management of an organization's activities that affect, or may affect, the quality of the environment. An environmental management system at the level of one organization is based on a set of activities and management tools for efficient and effective environmental protection. Management and governance activities are interdependent and aligned with the basic goal: protection and continuous improvement of environmental quality. EMS is a continuous cycle of planning, implementation, review and continuous

improvement of environmental performance by an organization. It helps in the development and implementation of environmental management in all areas. EMS enables an organization to determine the order and consistency of environmental issues by allocating resources, determining responsibilities, and continuously evaluating practices, procedures, processes, and procedures. These guidelines provide, in outline, elements of EMS and practical advice for implementing and expanding these systems [7]. They also provide advice to organizations on how to effectively start, improve or maintain an environmental management system. Such a system is essential for the organization to be able to anticipate and achieve its general environmental objectives and to ensure continued compliance with national and/or international requirements [8].

4. CONCLUSION

Proper application of the Law Integrated Pollution Prevention and Control would ensure the integral protection of the environment, and the impacts of plants that may have a negative effect on it would be reduced to a minimum and could be prevented. However, it is necessary to work on improving its practical application, such as increasing the capacity of the competent authorities and operators, especially at the local level. The expected new, revised Law on Integrated Prevention and Control will probably define the deadline by which plants must acquire integrated permit (according to the current law it is by the end of 2020), because the new law will also carry obligations in accordance with the new Industrial Emissions Directive 2010/75/EU. The best available techniques (BAT), prescribed by the new, revised EU reference documents (BREFs), will be binding on the industry. In that sense, it is necessary to strengthen the application of the environmental management systems, because they can significantly improve the capacities of operators who have to prepare documentation-application for the issuance of an integrated permit.

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