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Legal requirements for certification of materials, machinery and equipment used in underground mine works, and problems in purchasing practice – a case study

Wymagania prawne związane z certyfikacją materiałów, maszyn i urządzeń stosowanych w podziemnych wyrobiskach górniczych a problemy w praktyce zakupowej – analiza przypadku

The article presents issues related to the certification of materials, machinery and equipment used in underground mine works from the point of view of legal requirements, and practical issues encountered in purchasing practice, with particular emphasis on the procedure of circumventing legal requirements. Two examples of difficulties related to the interpretation and practical application of formal requirements for the certification of products used in underground mine works are presented.

Keywords: product certification, mining company, legal and practical aspects

W artykule przedstawiono problematykę certyfikacji materiałów, maszyn i urządzeń stosowanych w podziemnych wyrobiskach górniczych w kontekście wymagań prawnych oraz praktycznych problemów w praktyce zakupowej, ze szczególnym uwzględnieniem przypadków omijania wymagań legislacyjnych. Omówiono na dwóch przykładach trudności związane z interpretacją i praktycznym zastosowaniem formalnych wymagań dotyczących certyfikacji wyrobów stosowanych w podziemnych wyrobiskach górniczych.

Słowa kluczowe: certyfikacja wyrobów, przedsiębiorstwo górnicze, aspekty prawne i praktyczne

1. Introduction

The objectives set forth by the European Union are achieved through different types of legislation. Some are binding, while others are not. Some apply in all EU countries, others only in a few. A directive is a piece of legislation that sets an objective that all EU countries must achieve. However, the way in which it is achieved is determined by each country through its own legislation. The way in which directives are transposed into national law, and therefore their scope and duration, also varies. The transposition of EU law

into Polish law is therefore not an easy task and requires imagination and professionalism, as well as the development of an appropriate legislative approach. In short, transposition is the process of effectively putting a legal act into practice. Accordingly, the transposition of a directive includes all the measures taken at national level to transpose the requirements of the EU regulation into the internal national legal system, taking into account its specificities.

Certification is a strictly legal procedure whereby a third party (independent by definition) issues a written attestation in the form of a certificate that a product (service), process or person meets

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certain requirements. It is part of the conformity assessment process. The market also uses the term CE certificate. Market players using the term CE certificate are usually referring to the EC Declaration of Conformity, EU Declaration of Conformity, EC/EU Declaration of Conformity or Declaration of Performance, which is not synonymous with certification [1, 2].

In general, CE certification activities consist of [3]:

- manufacturing a product that complies with the essential requirements,
- verification of compliance of the product with the requirements of the directives,
- preparation of relevant instructions (if necessary),
- preparation of technical documentation,
- development of a manufacturing quality control system,
- preparation of an EC declaration of conformity (EU declaration of conformity, declaration of performance),
- preparation of an appropriate plate or label with, inter alia, the CE mark, the basic data of the manufacturer/authorised representative, the classification/basic data of the product and other information required by law.

It is obvious that the certification process has a direct impact on the quality and safety of products, as EU directives require a certain minimum level of product quality to be ensured, below which the manufacturer, importer or authorised representative may not fall. In the Polish legal system, this “minimum threshold” is guaranteed by the Act on the Assessment of Conformity Systems and its implementing regulations, which, prior to the entry into force of a directive, often refer to Polish standards. These, in turn, are now only an aid to the process – apart from harmonised standards (standards adopted by the European standardisation organisations CEN, European Committee for Standardisation, or CENELEC, European Committee for Electrotechnical Standardisation). Machinery and equipment referred to in EU directives must meet this so-called “minimum threshold”, which is defined in harmonised standards.

In analysing the materials, machinery and devices used in underground mine works in the present context, taking into account, in particular, quality and operational safety, two directives [4, 5] were considered in particular:

- ATEX Directive 2014/34/EU, in force since 20.04.2016, concerning protective devices and systems intended for use in potentially explosive atmospheres, together with the national regulation implementing Directive 2014/34/EU (Journal of Laws of 2016, item 817), which should be read together with the Law on Conformity Assessment and Market Surveillance Systems (Journal of Laws of 2019, item 544). EU regulations stemming from the ATEX Directive define so-called essential requirements for devices and protective systems intended for use in potentially explosive atmospheres. However, a particular product may be subject to the provisions of up to several product safety acts.
- The Machinery Directive 2006/42/EC defining the so-called essential requirements for machinery, together with the national regulation implementing the directive, i.e. the Regulation of the Minister of Economy of October 21, 2008 on essential requirements for machinery (Journal of Laws of 2008 No. 199, item 1228). The National Regulation implementing the Machinery Directive 2006/42/EC should be read in conjunction with the Law on the Conformity Assessment System (Journal of Laws of 2019, item 155).

A directive is one of the most common legal instruments at the disposal of the European Union, which serves to introduce a uniform legal system into the community. EU directives serve the purpose of coordination, unification of legal acts that should strive to achieve Community goals, and thus have the power to repeal, or amend, existing state law. This is the reason according to which directives are referred to as acts that harmonize the law. In view of the above circumstances, the content of the directive, by its very nature, must assume a certain degree of generality so that its incorporation into the legislation of a state – a member of the European Union is possible at all. For this reason, the process of incorporating a directive into the legal system of a particular country often takes many years and is preceded (or runs in parallel) by consultations held by the European Commissions to allow for comments.

In Polish legislation, there is one legal act regulating the issues related to the subject described above. It is the Act of June 9, 2011, the Geological and Mining Law (Journal of Laws 2011 No. 163, item 981, consolidated text of the Journal of Laws of 2019, item 868). It represents a whole body of legislation which is linked to many other legal acts and regulates the ownership of minerals, the management, supervision, execution and monitoring of mining operations, geological works and activities, and much more. On the basis of the legal delegation provided for in Article 11(8) of the said Act, the Ordinance of the Council of Ministers of 30 April 2004 on the approval of products for use in mining plants (Journal of Laws of 2004 No. 99, item 1003) was adopted, with two significant amendments:

- Ordinance of the Council of Ministers of April 26, 2005, amending the Ordinance on admitting products for use in mining plants (Journal of Laws 2005 No. 80, item 695);
- Ordinance of the Council of Ministers of December 20, 2007, amending the Ordinance on admitting products for use in mining plants (Journal of Laws 2007 No. 249, item 1853).

All these legal acts are universally binding. On their basis, the President of the Higher Mining Authority can issue a decision authorising the use of a specific device, machine or product in underground mines. However, neither the above-mentioned law nor the above-mentioned regulations refer directly to the EU directives (which are also binding).

The act transposing EU directives into Polish law is the Act of 30 August 2002 on the system of conformity assessment (Journal of Laws of 2002 No. 166, item 1360, consolidated text of the Act on the system of conformity assessment and market surveillance Journal of Laws 2019, item 544) [6]. This Act implements, within the scope of its provisions, a number of EU directives, including, among others, the directive of fundamental importance for the subject under discussion, i.e. Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to devices and protective systems intended for use in potentially explosive atmospheres (OJ EU L 96, 29.03.2014, p. 309) [7]. The diversity of the subject matter and the wide range of equipment used in underground mining makes it impossible to incorporate all the EU directives on the requirements to be met by machinery, equipment and other products into a single piece of legislation.

The so-called Machinery Directive, introduced into the Polish legal system by the Ordinance of the Minister of Economy of 21 October 2008 on the essential requirements for machinery (Journal of Laws 2008 No. 199, item 1228), is also important in

relation to the subject under discussion. Both this regulation, as well as many others relevant to the subject, as executive acts, constitute a statutory delegation pursuant to Article 9 of the Act of 30 August 2002 on the Conformity Assessment System, as well as the Regulation of the Minister of Development of 6 June 2016, which constitutes an executive act pursuant to Article 12 of the Act of 13 April 2016 on Conformity Assessment and Market Surveillance Systems.

All of the above-mentioned regulations (which are only a small part of all that exist) have the characteristic of being universally binding, and many of them have equivalent force. Only a thorough comparative analysis of the regulations in place makes it possible to determine which machines, equipment or materials used in underground mining need to be certified for use, in what form, by whom, and which do not. The above-mentioned circumstances pose a great challenge for the contracting authorities as defined in the Act of 29 January 2004, i.e. the Public Procurement Act (Journal of Laws of 2004 No. 19, item 177, i.e. Journal of Laws of 2018, item 1986, 2215, Journal of Laws of 2019, item 53, 730), which are responsible for ensuring not only the proper functioning, but above all the safe operation of the mining enterprise.

The analysis required to fully identify the problem at hand also included the internal rules of a selected mining company, in the form of regulations, instructions, orders and resolutions issued by the Board of Directors and the Chairman of the Board of Directors, which must themselves be in compliance with generally applicable law. They should be detailed enough to best protect the interests of the buyer in the aspect described, to ensure that a product is purchased not only at a good price but also of good quality and, above all, one that is safe to use.

As indicated in the previous analysis, the complexity of the subject matter in question leads to strong tendencies to look for ways to "bypass" the law, both at EU, national and internal company level. The assumed universality of EU law, the need to incorporate it into internal legislative systems and the lack of precision in elaborate national systems make it practically impossible to effectively verify the compliance of offered products (materials, equipment, etc.) with universally applicable law. This is often exploited by contractors whose main objective is to sell a product at the best possible price. Such a product often lacks the necessary quality and safety when used in the operating conditions of a mine.

2. Case study

For the purpose of these analyses, a typical situation has been characterised in which a company, in a so-called "circumvention" of the law, has introduced into underground mining operations equipment which is potentially dangerous in use and which could, as a consequence, lead to an accident or even a general disaster as defined in Article 165 § 1, 5 of the Criminal Code.

The contractor submitted a bid for the operating components used in the mining process. The tender was accompanied by a certificate issued by a foreign entity. This certificate covered a number of types and sizes of the ordered elements. In the detailed terms of reference (ToR), the contracting authority correctly specified the detailed technical requirements of the ordered products. In terms of regulatory requirements, it indicated, among other things, the need to provide a certificate if such was required by law. The items in question had to be ATEX certified due to the use of the product in potentially explosive atmospheres.

The bidder won the tender by offering the lowest price, and a contract was signed and deliveries commenced. During use, however, it was found that one type of element ordered broke during installation. A complaint procedure was initiated and detailed material tests were carried out. These tests revealed that one size type of the four variants of elements offered was made from a steel that was not designed for the heat treatment that these tools were subjected to. As a result, it was not flexible enough and broke during installation.

Further analysis of the documents required for the first delivery showed that the certificate submitted by the contractor did not apply to this size of ordered elements. This fact was therefore known to the contracting authority at the time of the tender. Nevertheless, the contractor won the tender and began deliveries using a certificate that did not cover the variant of the tool supplied. Thus, the contractor placed the material on the market without the certificate required by the Directive and its implementing legislation on conformity assessment systems. He failed to provide the certificate, even though the detailed conditions of the contract, drawn up in accordance with internal rules, required him to do so.

In the situation described above, therefore, the human factor failed, as such a tender should have been rejected at the stage of submission and the tender procedure should have been repeated. The warehouse worker should not have accepted such a delivery due to a legal defect (which he is obliged to verify) and, in the case described, he did not even have access to the content of the contract.

Thus, the contractor's actions met all the criteria for punishment under Article 165 § 1, point 5 of the Criminal Code, as he potentially created a risk of disaster in the operation of a mining facility, as well as under Article 286 § 1 of the Criminal Code – the crime of fraud against the company, as he misled the company's representatives about a legally significant circumstance, namely that he was in possession of a certificate for all sizes of the ordered element, when in fact there was no such certificate, and was motivated by a desire to obtain a financial gain.

It has not been possible to determine the cause of the contracting authority's failure, which may have been an error on the part of the employee who organised the tender, his carelessness, a lack of relevant knowledge, or perhaps some other instance of unethical conduct.

3. Summary

The above analysis, which describes only a selected problem arising from a certain type of legal ambiguity related to the certification process of materials, equipment and products intended for use in underground mines, leads to the conclusion that EU law, based on the directives analysed, often uses wording that is vague and general, leaving the user free a wide range of interpretations.

At the same time, however, such generalisations are necessary in order to achieve the purpose of the directives through their incorporation into the laws of the EU member states. Domestic law incorporates directives into the Polish legal system by means of the above-mentioned acts, which are specified by executive acts in the form of the previously mentioned ordinances. Such a state of affairs should be considered satisfactory, assuming that the EU directives are transposed in such a way as to enable dialogue between the members of the European Union and the relevant Euro-

pean Commissions, with the possibility of submitting comments and choosing the appropriate interpretative path. Poland is an active mandator of such processes.

Ultimately, however, it is the user of the products, machinery and equipment used in underground mining operations who is directly concerned. In order to meet his requirements, i.e. a competitive price, good quality and the required level of safety, it is necessary to establish a code of conduct that will adequately protect the potential user from products that do not meet these requirements. A procedure that will already be in place when the detailed essential terms of reference (ToR) are prepared, and which will:

- indicate the appropriate and optimal technical and legal requirements of a material, machine or device;
- indicate the principles, methods and tools for verifying the submitted bids in terms of technical, material, design and legal requirements;
- prepare the staff of the departments responsible for the preparation of the tender dossiers and for the conduct and review of the tender selection procedure itself, and indicate the minimum substantive requirements expected of the staff of these departments;
- enable customised quality verification of the supply of such materials, machinery and equipment at each of the purchasing stages, using Industry 4.0 tools and solutions, including maintaining, updating and accessing databases with the history of different types of orders and the most common non-conformities reported for individual suppliers;
- ensure that certified products, machinery and equipment are put into service and operation at the correct stage;
- indicate options for further action in the event of a dispute, including, for example, detailed material testing of delivered products;
- make it possible to realistically assert one's rights in the complaints process and will allow one to defend one's position before the National Board of Appeals in the event of possible appeals against tenders.

At present, the company does not have such a procedure; some aspects of it can be included in the purchasing procedure, some in the rules and regulations for the storage of materials, another part in the instructions for carrying out repairs or in the complaints procedure. However, as the selected examples show, such a selective approach to the subject and the embedding of regulations in various internal rules of a mining company does not adequately protect it from the purchase of materials, machinery or equipment that may be unsafe to use because they are of poor quality and do not meet legal requirements, even though they may appear to be cheaper overall.

It is a challenge for the production engineers working in the described mining plant to create the prerequisites for such a comprehensive procedure that covers all the stages of a product's life from the determination of its technical and legal requirements, through the call for tenders, tender evaluation, inspection of delivered materials, drawing up of a contract, to the acceptance of such a product in the warehouse using IT systems and data flows, i.e. Industry 4.0 tools, the transfer of ownership to the contracting authority, and possible claims for certified products, machines and devices used in underground mining operations. Only in this way will it be possible to meet all the requirements of the contracting authority, in particular those relating to the safe use of the certified material, equipment or machine.

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Grzegorz Moskal: Supervision, Methodology, Validation, Writing – review & editing.

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