

Cséplő Zoltán¹ - Kátai-Urbán Lajos²

INDUSTRIAL ACCIDENT'S PREVENTION IN HUNGARY (IPARI BALESETEK MEGELŐZÉSE MAGYARORSZÁGON)

In our days it is especially important and a complex task at the same time to protect the public on high level. Industrial safety embraces amongst others the supervision of dangerous establishments. The authors of this article analyse the international regulation in the field of the prevention of major accidents, their application in Hungarian legal system for industrial safety.

Keywords: *major industrial accidents; dangerous establishments; disaster management, Seveso III. Directive, Hungary*

Napjainkban a lakosság védelme egyre fontosabb és komplexebb feladattá vált. Az iparbiztonság többek között foglalkozik a veszélyes tevékenységek felügyeletével. Jelen cikk szerzői cikkükben átfogó módon elemzik és értékelik a súlyos balesetekkel foglalkozó nemzetközi szabályozás, valamint annak hazai jogrendben való érvényesülésének eredményeit.

Kulcsszavak: *súlyos ipari balesetek; veszélyes üzemek; katasztrófavédelem, Seveso III. Irányelv, Magyarország.*

INTRODUCTION

In our days it is especially important and a complex task at the same time to protect the public on high level. Industrial safety embraces amongst others the supervision of dangerous establishments. The community-level integration of the prevention of industrial accidents looks back to a history of more than two decades, the Seveso II. directive undergoes smaller or bigger modifications and getting stricter and stricter every five years. In line with the European integration activity and the international obligations of the country the Hungarian Parliament and government has prepared the regulations about the prevention of major industrial accidents. The effective date of the Hungarian regulation is January 1, 2002 and has been modified significantly two times (2006 and 2012).

The most important national rules of the subject are in Act CXXVIII. of 2011 on Disaster management [1] and in 219/2011. (X. 20.) Government Decree on management of major accidents involving dangerous substances [2]. These two public acts are the so called regulation of dangerous establishments (hereinafter: dangerous establishment regulations) that serve national compliance of the 2012/18/EU on control of major accident *risks concerning dangerous substances* (Seveso III.) directive of the committee [3].

¹ Tüzoltó alezredes, iparbiztonsági főfelügyelő, Fővárosi Katasztrófavédelmi Igazgatóság, e-mail cím: zoltan.cseplo@katved.gov.hu ORCID: 0000-0002-8920-3095

² Tüzoltó ezredes PhD, habilitált tanszékvezető egyetemi docens, Nemzeti Közszolgálati Egyetem Katasztrófavédelmi Intézet Iparbiztonsági Tanszék, e-mail cím: katai.lajos@uni-nke.hu, ORCID: 0000-0002-9035-2450

The UN ECE Industrial Accidents Convention introduced simultaneously with the Seveso regulation [4] handles also the transboundary effects and consequences of industrial accidents potentially occurring in upper tier establishment using dangerous substances identified according to the Seveso III. Directive.

The authors of this article analyse the international regulation in the field of the prevention of major accidents, their application in Hungarian legal system for industrial safety.

INTERNATIONAL AND NATIONAL LEGAL REGULATION OF THE PREVENTION OF MAJOR ACCIDENTS IN HUNGARY

One of the triggers of the changes in legal regulations between 2010-2011 serving for the improvement and development of the disaster management system was the strengthening and establishment of more efficient protection against major accidents involving dangerous substances. Recent events, like the industrial catastrophe caused by the damburst of the mining waste reservoir in the outskirts of Ajka on October 4, 2010 or major accidents that happened in establishments processing dangerous wastes, in meat processing establishments, in establishments using chlorine and in establishments handling pyrotechnic products have contributed to the changes of the disaster management regulations concerning the legal field of industrial safety.

Act 2011 CXXVIII. on disaster management and the regulation 219/2011 (X. 20.) on the protection against major accidents involving dangerous substances (hereinafter: implementation regulation) - in line with the Seveso II. Directive - clearly define the scope of activities covered by the regulations, the tasks of the authorities related to the activities, the tasks of the operators of dangerous establishments, of the government and municipalities related to the prevention of and preparation for major accidents, and to the emergency management of the same and also the obligations related to the information to the public.

There are new tasks and competences of industrial safety specified in the disaster management act and in the implementing regulations listed below:

- Extension of the rights of the disaster management authorities (licensing, supervision, inspection) over establishments below the lower threshold level,
- Introduction of new legal institutions (emergency management fine, administration service fee);
- Disaster management tasks of the protection of critical infrastructure;
- Making the authority activities and procedures more simple and efficient;
- Extension of the controlling and fining authorisations of the disaster management authority with regard to the transportation of dangerous goods by rail, air and inland waterways. [5]

These new tasks and competences and their efficient and successful implementation requires the extension of the previously operated structure of industrial safety and the establishment of an organisation for industrial safety and code of procedure.

The new legal regulations impose requirements in addition to current regulations on those operators as well whose industrial sites are used for the simultaneous storage of dangerous materials which exceed one fourth of the lower tier limits but do not reach the lower tier limits set forth by the applicable legal provisions. Moreover it also concerns the operators of so called “high supervision priority establishments”. These dangerous establishment operators include those commercial sites where chlorine or ammonia are present in the quantity of at least 1000 KGs, those that deal with the neutralization of dangerous wastes by combustion, furthermore the establishments that involve the transportation of dangerous substances and dangerous waste materials by pipelines located outside of their industrial sites.

From amongst the group of operators newly introduced to official supervision by the authority those spa and bath establishments and waterworks sites that utilize chlorine may be highlighted as a result of their increased hazard threat, aside with the food processing industries commercial organizations using large amounts of ammonia gas. In the case of this new group of operators the significant developments achieved in operations safety culture as a result of disaster management official supervision has created a sufficient basis for the protection of residents living in the direct surroundings of the establishments.

The Disaster Management Directorates as first degree authorities can pose a requirement on any commercial organization for providing information to ascertain whether the specific establishment falls within the scope of the disaster management law, and the authorities may conduct an on-site supervisory inspection. Disaster Management Directorates have been devoting great attention to the inspection of commercial organizations not showing an acceptable behaviour in implementing the legal provisions as required, for which the Directorates may employ the available and legally instituted instruments of on-site official inspections, intermittent inspections, inspections regarding internal safety plan exercises, supervisory inspections, and official inspections subsequent to dangerous events.

The authorities have initiated more than 1400 identification procedures for establishments in accordance with the new regulations mandates in the year 2012. Throughout these procedures the disaster management authorities have conducted an on-site inspection in all cases, and if it has been ascertained that the operator did not provide an adequate amount of information to the authorities with regards to the applied dangerous substances and processes, the operator was sent a notification of discrepancy, whereby the operator has been obliged under an additional requirement to supply sufficient information.

The next picture shows the number of supervised establishments in Hungary by the industrial safety's authorities.

The disaster management authority makes a decision on granting the disaster management license on the basis of the demonstrated facts in the safety documentation and in the so called “major incident management plan”, or if the situation so requires a decision is made on the limitation or suspension of the dangerous activities.

In the course of the licensing procedure the authority conducts inspections on the site of each of the establishments and examines the accuracy of information describer in the safety

documentations, such as the safety reports, the safety analyses or the major incident management plans.

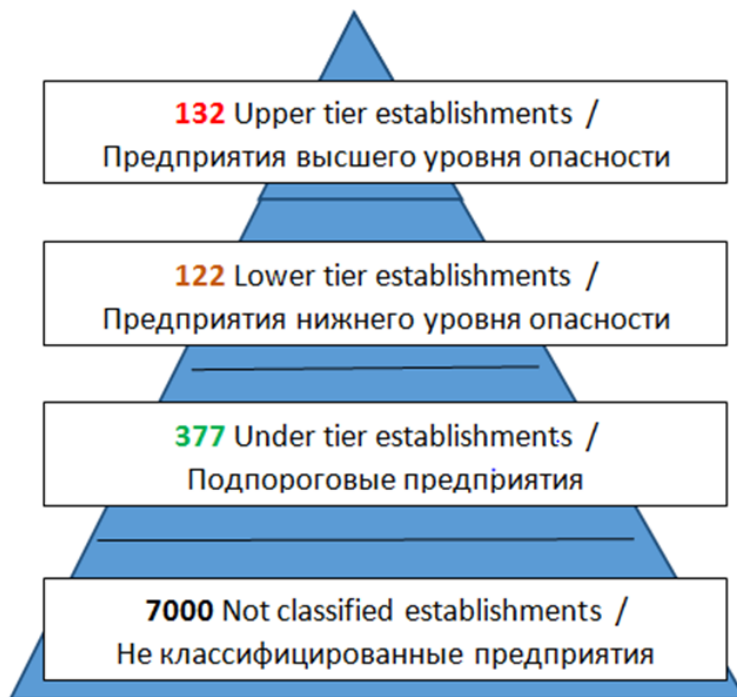


Figure 1: Number of dangerous establishments in Hungary, prepared by: Lajos Káta-Urbán. 2018., source: [6]

The safety documentation must include the analyses of the establishments' dangerous effects, the prevention and response measures, as well as the deployment and implementation orders and conditions of actions taken towards the mitigation of the adverse effects of major accidents involving dangerous substances. Based on the identification and in-depth analysis of major accident hazards regarding dangerous substances within the documentation the operator determines the possibilities and adverse impacts of the release of dangerous substances into the environment. Along with this the dispersion of the dangerous substances or their physical effects and the damage impact indicators on persons, material assets and the environment are defined as well. Operators are also required to demonstrate the establishments' management and safety equipment systems dedicated to the prevention and management of major accidents involving dangerous substances and their effects which will ensure a high level of protection for health and the environment. [7]

The group of operators falling under the scope of the Seveso III. Directive henceforward is proved to be cooperating well with the authorities and has prepared their safety documentations with adequate content. In the cases of the below tier dangerous establishments the professionalism standards of major accident management plans are not always satisfactory, nevertheless a continuous development has been achieved in the aspects of cooperating with the authorities and in creating the proper safety culture for the establishments as well.

UNDER TIER establishments ¼ of the LTE threshold level	LOWER TIER dangerous establishments	UPPER TIER dangerous establishments
-	<u>Safety analyses</u>	<u>Safety report</u>
Major emergency response plan	Internal emergency plan	
	Eventually External emergency plan	External emergency plan
-	Land use planning /Планирование землепользования	
HU regulation	Seveso III. Directive	

Figure 2: System of documentations for major accident prevention and preparedness, prepared by: Lajos Káta-Urbán, source: [8]

The Disaster Management Directorates – in pre-determined time intervals (once a year in the case of upper-tier establishments, once every two years for lower tier establishments and once in every three years for below tier establishments) – control by on-site inspections whether the operation of dangerous activities falls within the specified framework of the disaster management regulations. With respect to high risk installations the authorities may perform more frequent inspections, and an out-of-schedule immediate priority inspection is performed for operational disruptions or after an incidents. On the basis of experience gathered in the course of the inspections the regional disaster management authority may require that the operator be under obligation to revise the safety documentation, furthermore if the operator is in a more serious breach of safety regulations even a penalty may be instituted or the operator's activities may be put under the threshold quantity level.

In the year 2012 regional authorities have detected maintenance systems problems and issues with the organized training for internal emergency plans on several occasions. Increased number of official inspections and authority revisions of the establishment' safety management systems have significantly contributed to the minimization of hazard threats in respect of these establishments.

Simultaneously with the periodic inspections performed in dangerous establishments usually fire prevention and dangerous goods transport control actions are also performed.

Moreover, the Disaster Management Directorates had experienced a new task, namely the on-site evaluation of the internal emergency plan exercise performed in lower and upper tier dangerous establishments. It has happened even during the course of the previous year that the authority had to disrupt the exercise and require that the operator shall be under obligation to organize a new exercise due to inadequate preparedness as well as for example the lack of use of individual protective equipment. The authority has dedicated special attention to the fact that

the performance and repetition of the internal emergency plan exercise be within the framework of the regulations. In case of an event the personnel detecting and/or responding, or even those responsible for the management of the on-site non-establishment personnel must solely carry out actions that have been specified in the safety documentation and that are suitable for ensuring effective response. The authority makes notice of useful experiences gathered on the occasion of emergency plan exercises and disseminates them amongst the operators of other establishments operating similar activities as well. [5]

The disaster management authority has created and operates an Industrial Supervision Database for the purpose of preventing major accidents involving dangerous substances in connection with making the dangerous activities disaster-, fire- and civil protection supervisory operations more efficient. The associate authorities have been granted access to this industrial supervision database.

It is a requirement for the operators also that a major accident or emergency incident involving dangerous substances shall be reported by written declaration within 24 hours of the occurrence or its acknowledged appearance to the disaster management authority.

The authority may issue a disaster management penalty for the operator in the case of the omission of reporting or for reporting the major accident or emergency incident not in the manner specified by the obligatory regulations. Subsequent to already occurred major accidents and in the case of repeating events the competent disaster management authority may – apart from issuing a penalty – even limit the operation of dangerous activity or may suspend the dangerous activity as well altogether.

CONCLUSIONS

An independent and uniform industrial safety authority was established in Hungary in 2012. The Hungarian industrial safety authority ensures professional supervision of the dangerous establishments and activities by creation of the most up-to-date risk-based quantitative risk analysis aspect, by employment of highly trained authority specialists, and by systematic performance of the authority and supervision tasks.

In summary we can state that the supervision of the dangerous establishments allows high level protection of the life and health, the environment and other assets in Hungary according to the requirements of the EU, the international organizations and the Hungarian Government, and it also promotes public safety in Hungary according to the Fundamental law.

The development of the legal, institutional system and tools of disaster management in Hungary in 2012 resulted in the standardization of higher education at the National University of Public Service and the adaptation of disaster management to the new administration system and to the new tasks. In this article, after a short international outlook, the course to be launched at the new department of disaster management and at the specialization of disaster management was presented. [9]

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