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MŰSZAKI KATONAI KÖZLÖNY

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Environmental and Industrial Safety Aspects of International Regulations Relating to the Operation of Energetic Systems

Az energetikai rendszerek működésével kapcsolatos nemzetközi szabályozás környezet- és iparbiztonsági aspektusai

An appropriately developed legal system and enforceability of obligations specified by laws form the indispensable conditions (sine qua non) for safe operations of the key energy systems. Risks relating to the operation of energy infrastructures and the already occurred accidents often lead to transboundary consequences. This is why the development of an international regulatory system that can comply with the current requirements for environmental and industrial safety and can contribute to the safe operation of these systems is so important.

Keywords: *energy system, industrial safety, international treaty*

A létfontosságú energetikai rendszerek biztonságos működésének elengedhetetlen feltétele a megfelelően kidolgozott jogszabályi rendszer, valamint a jogszabályokban foglalt kötelezettségek kikényszeríthetősége. Az energetikai infrastruktúrák működésével összefüggésben meglévő kockázatok, valamint a már bekövetkezett balesetek gyakran országhatárokon átívelő következményekkel járnak. Ebből kifolyólag különösen fontos az olyan nemzetközi szabályrendszer kidolgozása, amely megfelel

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az aktuális környezet- és iparbiztonsági követelményeknek, és képes hozzájárulni e rendszerek biztonságos üzemeltetéséhez.

Kulcsszavak: *energetikai rendszer, iparbiztonság, nemzetközi egyezmény*

Introduction

Ensuring the appropriate operation of the essential crude oil, natural gas and electric energy systems (hereinafter: energy systems) represents a concept that can in itself have a fairly wide range of interpretation. The question will arise: what can be qualified as appropriate operation? If we analyse this issue from economic, energy and cost efficiency aspects, we need to evaluate the operation of these systems through an economist's eyes. If we are looking for an answer to whether the energy systems can fulfil their primary role, i.e. whether they are able to deliver the public utility services for the population, then we need to apply the methods and tools of totally different sciences.

The goal of the present study – using a few treaties of outstanding significance, as examples – is to evaluate the role of international legal instruments as guarantees for safe operation of energy systems through, on the one hand, the practical enforcement and legal power of these international treaties, and, on the other hand through the analysis of the liability for damages. The law of international environmental protection and industrial safety is quite a young branch of law, and due to this law, significant results have been realised in the field of environmental safety since the second half of the 20th century, however – partly due to immaturity – it is still unable to completely fulfil its original intention. In this study, the author provides a summary of the timely challenges that can at present best describe this area in respect of energy systems.

Enforcement of International Laws that Regulate the Operation of Energy Systems in Practice

Laws relating to industrial safety – treaties and "soft law" documents

The operation of energy systems is typically regulated on an international level by bilateral and multilateral international treaties or conventions relating to industrial safety, and they form parts of a widely scattered set of environmental protection law. From a global aspect, we may say that development tendencies of the international environmental protection law determine the main directions for the legal regulation of industrial safety. Nevertheless, we must emphasise that environmental protection can cover several smaller parts and international treaties regulating such smaller parts may have provisions relating to industrial safety or other issues which have effect onto the operation of energy systems. As an example, Article 194 of the United Nations Convention on the Law of the Sea can be mentioned as it covers prevention, mitigation and control of pollution to the maritime environment.

During the past decades, more than 300[4] international treaties have been adopted relating to environmental protection, and several of these contain provisions relating to the management and mitigation of industrial safety risks. These treaties, however, impose obligations only on the states that ratified them – i.e. on the states that incorporated the treaties into their national legal system – consequently the practical enforcement is fairly limited in this respect. There is also another difficulty or obstacle, namely, that the states as signatories of the treaties quite often raise various reservations about certain provisions or articles. This is absolutely not surprising since the obligations specified in these provisions can impair the sovereignty of these states and as a consequence, these countries very often show relatively little willingness towards joining these treaties.[5]

In addition to the treaties, there are also other so-called "soft law"-type documents, which contain only international recommendations, i.e. they have no binding power from a legal aspect and the states, authorities and operators are free to decide whether they voluntarily follow these rules. We may refer to – including but not limited – the procedures introduced by the International Atomic Energy Agency for the transboundary movements of dangerous radioactive materials, the guidelines issued by the Organisation of Economic Cooperation and Development (hereinafter: OECD) for the prevention of and preparation for chemical accidents,[6] as well as position papers, opinions, declarations, statements and programs issued by other international organisations.

Appreciation of the environmental safety aspect

During the 1950s, there were international treaties concluded with provisions relating to the industrial safety regulation of energy systems (e.g. the 1958 Geneva Convention on High Seas), however, the aspect of environmental safety started to show a more explicit appreciation in the 1970s. This was the period when significant treaties and conventions were concluded relating to nature conservation, protection of endangered species and prevention of pollution to the seas and the atmosphere.[7] Due to the latter treaty, the emission of air polluting gases has significantly dropped in Europe and North America, however, there are only 51 signatories of the referred treaty.

In the second half of the 1980s and during the 1990s, treaties with more general scope were concluded, and among them we must specifically mention the Montreal Protocol (1987) on the protection of the ozone layer, the United Nations Framework Convention on Climate Change, the agreement on the protection of biodiversity and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.[8] In connection with the Basel treaty, we must highlight that the document contains only restrictions and limitations

4 Ta Thi Minh 2012.
5 Rosencranz et al. 1999.
6 OECD 2011.
7 Bándi et al. 1994; The 1979 convention on long range transboundary air pollution.
8 Bándi et al. 1994.

for transboundary movements and disposal of dangerous wastes and not a total prohibition.[9] Further, the states are free to define what they qualify as dangerous waste.[10]

Several treaties relating to industrial safety were concluded at the end of the last century, and among them we must highlight the treaty adopted in 1992 in Helsinki regulating the transboundary effects of industrial accidents, with the purpose of promoting and enabling cooperation and mutual assistance among the affected countries in case of major industrial accidents so that negative effects can be prevented and mitigated.[11] The shortcoming of this treaty is that nuclear accidents and incidents in military facilities and catastrophes relating to water dams were not covered by the regulation.[12] The other problem is that the document fails to identify legal consequences for the member states in case of unacceptable performance and this significantly reduces the biding power of the document.

The treaty on the analysis of transboundary environmental effects signed in 1991 in Espoo (Finland) was also a document of a milestone significance in respect of the development of laws relating to international environmental and industrial safety, as it enables countries affected by projects planned near national borders to get acquainted with the plans of the future infrastructure element, offer their opinion, and discuss their position with the decision-makers. The foreign authorities responsible for approving the project implementation should consider the opinion and position of the population and authorities of the affected country relating to the project during a process specified by the treaty, but the affected countries have no veto right.[13]

Considerations relating to climatic protection and sectorial international treaties

Keeping in view the fact that carbon dioxide emission of energy systems is significantly higher than the relevant emission rates of other carbon dioxide sources, concerns relating to global warming and depletion of the ozone layer are definitely highly relevant regarding these infrastructures.[14] Major results could be realised in managing the risks that emerge relating to climate change through the United Nations Framework Convention on Climate Change (Rio Summit 1992), and later by adopting the Kyoto Protocol in 1997, however, the problem of global warming is still a burning issue. The primary goal of the Paris Climate Agreement (entered into effect on November 4, 2016) is also the mitigation of the emission of greenhouse gases (including carbon dioxide) to slow down global warming.[15] Article 28 of the Agreement provides an exit option if the Agreement was adopted in the given country at least three years before.[16] This provision can significantly decrease the probability of implementing the target set out in the Agreement.

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9 Wolters Kluwer 1996.
10 Schweickhardt 2014, 41.
11 Kátai-Urbán 2006.
12 Bándi et al. 1994.
13 KVM (s. a.).
14 Riley 2017.
15 UN Treaty Collection 2015.
16 UNFCCC 2015.

High-level fragmentation and multiple modifications are characteristic to the international treaties and conventions on the protection of sectorial environment – particularly conventions on the prevention of oil pollutions at sea and international regulation on the movements of dangerous goods.[17] Typical tendencies in the field of international treaties on nuclear energy include failed or delayed date of effect, suspended application and enforcement and missed joining the treaty.[18]

International Regulation on Compensation for Damages that Emerged Relating to Operation and Its Enforcement in Practice

Liability of the state – draft document

Regulations on the international legal responsibility have been developed through the common (customary) law, and the UN International Law commission prepared a so-called draft on the liability of the state by 2001. Though the draft cannot be qualified as an international treaty or convention, its authority is unquestionable.

Conjunctive conditions for establishing the liability of the state:

- existence of an international obligation between the states (including international treaties, common law, unilateral statements issued by states, resolutions adopted by international organisation, obligations imposed in verdicts of international courts)
- behaviour attributable to the state (delinquency [or default] or act)
- and anything that may harm or breach the given international obligation (i.e. that is unlawful).[19]

Accordingly, causing damages does not belong into the conditions for liability of the state, as breaches of law might happen when no damage is caused, for example failure in performing the obligation of notification prescribed in the environmental protection law. However, it must be pointed out that breaches of international law committed relating to the operation of energy systems are typically accompanied with damages. With respect to imputability, it must be emphasised that the state is able to act through its civil servants (representatives), thus the actions of these organisations and officials performed in such quality can be exclusively regarded as state actions, whereas private actions of private persons usually only if the state acknowledge them as its own, or in the event the state failed to implement the supervision or inspection/control required for prevention.[20] In cases relating to international environmental

[17] Kecskés 2012; Kátai-Urbán – Vass 2014.
[18] OAH 2019.
[19] Molnár 2014, 433–452.
[20] Ibid.

protection, there is a typical and general tendency to divert the legal dispute from the field of international public law onto the field of international private law.[21]

Responsibility in case of operation with high-level danger

Relating to legal consequences of the liability of the state, we should analyse cases of the breaching state's voluntary compensation as enlisted in the draft of the liability of the state. In this respect we may mention inter alia the abandonment, further performance of the obligation, providing guarantee for non-repetition of the breach of law and (financial) reparation. Nevertheless, general rules of the liability of the state shall be applied in cases relating to operations with high-level danger with the deviations specified in the relevant provisions of legal liability. Operation of energy systems is undoubtedly qualified as operation with high-level danger. The UN International Law Commission in 2006 adopted the guidelines for sharing transboundary damages arising from dangerous operations, which is – similarly to the draft of the liability of the state – not a statutory document with binding power.[22]

Objective responsibility and the "polluter pays principle"

Enhanced liability is in fact secured by restrictions or limitations in excuse options, as the aggrieved state is not obliged to prove the culpability (gross negligence or wilful misconduct) of the wrongdoer state – i.e. the liability is in this case objective – and only the causation between the act causing the damage and the occurrence of the damage, as well as the size or amount of the damage need to be proven.[23] Accordingly, the occurrence of the damage is sufficient for establishing the liability, if the cause and effect relation exists. Liability from a lawfully performed dangerous operation may emerge only if the state has explicitly assumed a specific obligation covering this eventuality,[24] because in the absence of a breach of the international law any damage arising from any operation may in fact lead to a reparation or restoration obligation, which would entail serious dilemmas in respect of legal uncertainties.[25]

The basic guideline of the environmental protection regulation is the so-called polluter pays principle – prepared by the OECD – prescribing that the polluter should pay the cost of measures and actions aiming at the mitigation of pollution.[26]

Difficulties in applying legal consequences

Certain difficulties emerge when we analyse the consequences of environmental damages caused by the operation of energy systems and they make the application of legal consequences

[21] Bándi et al. 1994.
[22] Rao 2006.
[23] Szilágyi (s. a.).
[24] Nagy 1997, 278–304.
[25] Kecskés 2012.
[26] OECD 2001.

difficult or even impossible. The first problem in this respect is related to the harm or injuries caused to human health, as these negative consequences frequently appear not right after the harmful or injurious act or behaviour, but only years later and proving the cause and effect relation between the act or behaviour and the harm or damage to the health is quite often impossible. Identifying the person behind the pollution or damage may also face difficulties keeping in view that pollution might be influenced by several factors, and this is why the identification of the primary or exclusive polluter is not always unambiguous. There is a further fact aggregating the clarity, namely in most cases pollution can often cover huge geographic regions, and this can cause serious difficulties in identifying the source of pollution.[27]

There is a fundamental legal problem whenever global damages occur to the environment, namely that in most cases we cannot or cannot unambiguously identify any specific party as responsible or as the injured party.[28] Identification of a pollution can be difficult also on the time horizon, because such pollution can be demonstrated only in the environment of future generations. The factors mentioned can cause major difficulties in surveying and measuring environmental damages and presenting and verifying them in front of a court. Separating the positive and negative environmental impacts may create further difficulties as the same thing might cause negative (harmful) effects in a certain environmental factor, whereas it might lead to positive results in another; moreover, remediation and restoration/recultivation actions might also have negative effects.[29]

It must be highlighted that no standardised concept of damage can be used due to the specific or individual nature of the protected values. No document has so far been prepared that can contain the summarised rules of international law relating to special liability for damages arising from industrial accidents.[30]

International law enforcement may also face various obstacles, as even in case of a verdict condemning the respondent (defendant), it cannot be taken for sure that the aggrieved party can enforce his rights, because the possibility of enforcement – partly due to the chance for applying the sanctions or because these sanctions have very poor deterrent power – cannot be always fully implemented.[31] Consequently, though the international liability for the damage caused to the environment was established and announced, none of the international documents so far prepared can provide a thoroughly developed method for resolving the problem.[32]

Conclusions

International treaties and conventions relating to the operation of energy systems – several of these have fairly low number of signatories, and not each of them contains specific and

[27] Kecskés 2012.
[28] Bándi et al. 1994.
[29] Kecskés 2012.
[30] Kecskés 2012.
[31] Rosencranz et al. 1999; Kirgis 1996.
[32] Bándi et al. 1994.

enforceable obligations – make the regulation too fragmented. As a consequence of such high degree of fragmentation, the practical application and enforcement of environmental safety regulations, the willingness for implementation and the execution by the relevant states, and the binding power of the treaties and conventions fall quite short from expectations and targets.

As there is no statutory regulation on liability with binding power, this creates a problem relating to the regulation on liability for damages. Application of provisions of the traditional liability for damages would be in several cases unlawful, so there is a chance that persons would be held liable and responsible who did not commit any breach of law, or just the contrary, the potential culprits – being confident in saving their faces and not held liable – fail to properly focus on and ensure safe operation of their systems. Identifying the party behind the damage is often difficult due to the large geographic extension of the damages.

The above mentioned difficulties would justify and require the clarification of regulations on liability for damages covering the respective infrastructures, and the harmonisation, consolidation and standardisation of the regulation of environmental protection and industrial safety.

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