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INFLUENCE OF SUSTAINABLE DEVELOPMENT GUIDELINES ON DANGEROUS GOODS HAULERS

ABSTRACT

In more advanced countries, the sustainable development concept was accepted both by the politicians and the industrial sector as the underlying philosophy for the preparation of development strategies, practically in all fields. This means using the natural resources within the limits of their renewability, and seeing that the resulting emissions have no negative impact on the environment. The development of Environmental Management Systems (EMS) commenced as a response to global environmental issues and as recognition of awareness that sustainable development is prerequisite for keeping the natural system in proper balance. Road transport of dangerous goods is a very complex activity representing a major potential danger to people and environment. For that very reason, the introduction of certain system tools (standardization of operations), that was a step forward to a safer and more effective operation of the carriers of dangerous goods by road was so welcome. However, this policy requires adequate business environment to be prepared, which is based on transparency and smooth operations as an important marketing advantage that has a bearing on every company's economic performance.

KEY WORDS

sustainable development, road transport of dangerous goods, Environmental Management System (EMS), Responsible Care (RC), ISO 14001, Safety and Quality Assessment System (SQAS).

1. INTRODUCTION

Road transport is a very manifold business, consisting of various activities which are subject to different types of goods transported. Each specialization and operational execution of a given service involves dedicated equipment, distinguishes technical and technological characteristics of the means of transport, as well as the qualifications and capabilities of the staff involved in this branch of transport.

Dangerous goods transport is an important part in the road transportation subsystem. Due to its complexity and ample potential risks by which it affects the people and the environment, it has been regulated by

the legislation from both aspects, technical and environmental. Proper legal definition is the one and only acceptable and successful precondition in order to achieve safety of such transportations at the highest level. However, the fulfilment of this prerequisite is not sufficient unless it is assured that all the prescribed norms and rules of law are complied with and executed in practice by all the participants in the transport process. The government of each country finds it a very difficult task to manage and control such a complex subsystem and achieve the compliance with the laws and regulations on dangerous goods transport binding on all carriers.

Any carrier engaged in dangerous goods transport operates in a given environment that reaches beyond the carrier's employees, their wishes and interests, and also floats in an interplay of complicated interaction relations of the fleet holders, social environment institutions and civil society initiatives. Harmonizing such a diversity of interests is a great challenge for the carrier, especially when it wishes, with its pro-active involvement or conduct, to address the governmental authorities in order to direct the development of a specific business environment within the normativistic sphere of the law.

On the ground of different types of goods carried in conventional road transport and in dangerous goods transport, there is certainly difference in advertising of these services. The marketing and advertising of the dangerous goods transportation has to adapt to the complexity of its area and to the typical structure of the customers.

The research purpose is to recognize that the mere compliance with the laws on the part of participants involved in the process of dangerous goods transport is not sufficient to ensure the required level of safety and environmental protection. The efforts are directed towards introducing the required operating standards which are in fact an upgrade to this underlying requirement and enable the carriers to effectively control the adverse impact on the environment.

The key research guidance is the **scientific hypothesis** which runs as follows: "The implementation of sus-

tainable development guidelines in business environment is directly related to the level of social and economic development stage achieved of a particular country. In branches of industry involving a higher potential threat to the environment (such as road transport of dangerous goods), the implementation of these guidelines is assured only after they have been adopted as the baselines for the cooperation of economic entities in a business environment”.

A special approach of the research is the fact that during the period under study, the author was actively involved in the actual processes as a director of the largest company for the transportation of dangerous goods in Slovenia. He thus directly applies his personal professional experience to the science and evaluates them uniquely.

2. ADVERTISING IN ROAD TRANSPORT BUSINESS

The approach and mode of advertising in the road transport market, aiming to acquire new customers or just retain the share in their existing customers can vary from one carrier to another. It certainly depends on the characteristic of the service provided, but above all, it differs according to the target customer to be reached.

A carrier holding a large number of smaller trucks or delivery vans can post an advertisement offering to convey any goods of all sizes to any consignee, anywhere and at any time. Actually, this is not completely true, since there are certain restrictions in the height limit and weight, as well as the time limits depending on the local areas that regulate the hours when transport is (not) permitted. But in spite of all these limitations, such commercial advertising offering acceptable prices sounds persuasive enough to attract potential clients.

On the other hand, there are carriers which operate mainly in the transport of liquid chemicals. It would certainly not be smart to advertise their services through mass media and in the manner as stated above. Their current clientele, as well as potential prospects, operate in chemical industry or petroleum products distribution; therefore their approach to advertising in the business-to-business marketing is more demanding and based on highlighting their strengths (advantages) over other providers that promise benefits for all participants in the business involved. Their advertising aims to present these benefits so that they are perceived by the social environment on the larger scale, which should in turn encourage the carriers to maintain and improve their good organization and transparent operation as an important contribution to higher safety of such transports

and therefore to higher safety of road traffic in general.

In order to present an individual carrier of dangerous goods to the target segment in a given environment properly, appropriate communication has to be established with all levels of public and with all entities cooperating, by establishing an adequate public relations service (PR). Such approach is based upon the policy expecting any public addressed by advertising (customers, suppliers, supervisory authorities, employees, local communities and others) get a favourable opinion on the advertising company. “The company must put an effort to present itself as a good, reliable partner, possessing numerous additional qualities beyond those required for the implementation of their core services on the market. Each carrier shall clearly express its concern for environmental issues, aiming to minimize the environmental pollution and emissions to the atmosphere and watercourses; it shall express the care for adequate and well-organized parking facilities instead of just leaving their fleet at any place that is big enough to accommodate the vehicles; it shall express an aspiration for transparent operation and clear goals for the future.” [1]

The company shall present its intentions factually and objectively to the public and thereby convince the public of their sustainable work and good care for common social values. In practice, the best way for communicating that the carrier has regulated its operation in line with these requirements is by adopting appropriate standards, and getting certification according to them. These standards are quite numerous, but only the well-established standards, broadly accepted by our carriers of dangerous goods will be addressed here.

3. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) IN THE FIELD OF DANGEROUS GOODS TRANSPORT

The content of laws that regulate the road transport of dangerous goods varies greatly. This is why the holistic management approach to the operations of an individual carrier needed a tools to gain effective control over the business functions within the company, and concurrently enables a transparent enough presentation of the company operation to external public, both the commercial partners and supervisory institutions.

The Environmental Management System (EMS) is one of the possibilities which satisfy the demands referred to above. The system is a mix of organizational structure, responsibilities, procedures, routines and resources for the management of a company. The ISO 14001 standard is just one of the international stan-

dards prescribed by the International Standard Organization (ISO), whose primary aim is to co-ordinate the operation of individual companies according to the key environmental aspects which may have an adverse impact on the environmental pollution.

Important for the European space is the EMAS Directive (Eco Management and Audit Scheme). It was derived from the EU Regulation (EEC 1834/93) that was put into force in April 1995 in all Member States at the time, governing the implementation of the EMS. Companies from non-member states (at that time) acquired the EMS system in accordance with the previously mentioned international standard ISO 14001.

The development of Environmental Management Systems started as a response to global environmental issues and as awareness recognising the necessity of the so-called sustainable development to preserve the natural systems properly balanced. In more advanced countries, the sustainable development concept was accepted by the politicians and the industrial sector as the leading philosophy when it comes to the preparation of development strategies. "The underlying idea of sustainable development is to live on the profit generated by prudent management of the material goods and not by exhausting the natural capital. In practice, this means to exploit the natural resources within the limits of their capability for renewal, and manage them in an appropriate way so that they are available to the future generations at a suitable quality." [2]

The motivation leading a company to decide for the demanding and difficult path to acquire an ISO certificate can be very diverse. The certification in accordance with the ISO 9000 standards mainly focuses on how to cope with the company organizational structure and manage the business processes in order to achieve the highest quality of the product or service possible. The customers and their demands are in the forefront. The Bidder shall respond in such a way as to bring the quality of the product/service as close to the criteria of compliance with the requirements as possible. With the acquisition of this certificate, the holders can get included into the supply chains on the ground of favourable audit led by individual customers.

The reasons for the decision to acquire the ISO 14001 quality certificate rely on a slightly different basis. Namely, the standardization of operation under this standard does not directly influence the improvement of quality in a given product or service. It rather aims at improving the attitude of a particular company towards the environment and above all, to control the impacts on the environment and maintain the compliance with the laws on environmental protection. In well established social environments, companies adopting these principles of sustainable development should be able to achieve additional marketing advan-

tages. A company presenting its impacts on environment in such a way does no longer worry about inspectors, but is rather concerned with the never-to-be resolved issue: are there possibilities to improve the management of the environment and if so, how to approach to resolving?

The essence of the issue to organize the company to be compliant with the principles underlying this certificate is clearly presented in the replies to the rhetorical questions.

What is not covered by the ISO 14001 Certificate acquired?

It certainly does not exclude the chance of adverse impacts on the environment during the operation of that company. On the other hand, it means that the company is aware of its actual and potential risks and is ready to undertake the commitment for management in a sustainable way and improve the issue. In no case will such a company leave an individual area to a mere coincidence, which is a safe way of preventing negative impacts on the environment.

What should an ISO 14001 Certificate not mean?

The certificate acquired is not just another occasion for celebration at the time of awarding. That is in fact a public act by which the company announces its determination and capability of qualifying for the contemporary management principles open to communication with the public (accepting their initiatives, critical comments, etc.) and changes consequently. Such sample companies with a pro-active operation are entitled to expect from the State to re-establish such conditions in the business environment that will encourage pro-active conduct in a number of business entities. The transport of dangerous goods by road is a good example of a complex area that appeals to all the parties involved in dealing with this issue in a responsible way, in view of protecting the entities participating in this process and as result, assuring better safety in general.

The EMS-compliant operation is successfully gaining ground in the environments where the rule of law has become established and respected, in practice reflecting the efficiency in general. The underlying factors for maintaining such a condition range from the level of development and maturity of the entire administrative structure in the given country to the properly designed legislative baselines. In other environments lacking the efficiency on the part of the State, the interest and commitment of the businesses for regulating their operation in line with these guidelines is at a much lower level.

Figure 1 shows the segments and benefits brought by the EMS establishment, or the ISO 14001 certificate award respectively. The advantages range from the internal position of the company and contribute to

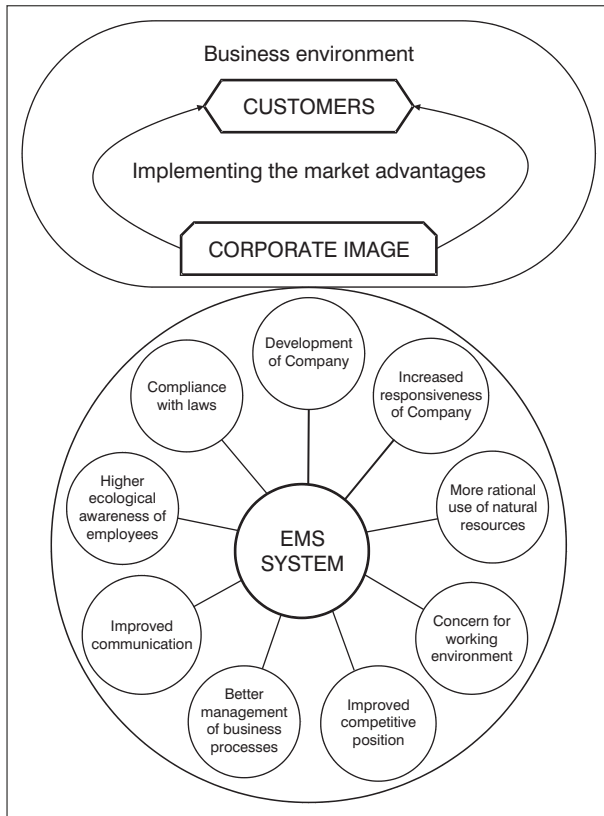


Figure 1 - Benefits of establishing environmental management system in a company

Source: Author

the improvement in performance up to the external corporate image as perceived by the customers, which should yield advantages over the competitors. The prerequisite for such an achievement is the underlying positive business environment that rewards the efforts of businesses for safety and achieving compliance with the environmental issues.

4. IMPLEMENTING OPERATING STANDARDS AMONG THE SLOVENIAN COMPANIES

In the early 1990s, many Slovene manufacturers started to introduce standardization into their operations, mostly opting for the ISO standard series 9000. As a rule, the Slovenian companies followed their customers' requirements or preferred standards, according to which they selected their own suppliers. In most cases, the Certificate became a pre-condition for the continuation of business co-operation, which was confirmed by the audit of individual customers. That had an immediate impact over the operating volume and brought direct advantages in the markets, placing the 'certified' companies ahead of competitors.

The ISO Standards started gaining ground among the Slovenian carriers in the second half of the 1990s

as response to the customers' demands for standardization of suppliers in the field of logistics. The automotive industry took the lead in this trend, as a result from the practices of cutting the costs by streamlining the logistical processes, in which road carriers had an important role.

The standardization addressing the control of environmental impact (environmental management), was accepted among the Slovenian road carriers only after the year 2000. In that year, the first Slovenian transportation company (TIB Transport) succeeded in achieving such a Certificate.

The field introducing the standardization of operations is to a large extent profiled by various environments that encourage or impede such business practices. Figure 2 shows the impact by individual environments that guide, in a concerted action, the events and trends and the development of a business environment in a particular country. The integration of the EU countries and especially of their economies establishes a global environment with equal operation rules for all. For that reason, the social environments which were previously developed within the individual country are now changing in accordance with the rules that govern the global environment. The processes of harmonizing the legislation with each applicant State (candidate) for the EU accession have a direct bearing on the equalisation of the operating criteria in each country separately.

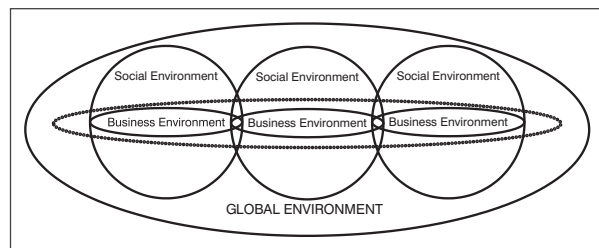


Figure 2 - Impact of individual environments on the structure of business environment

Source: Author

The characteristic of social circumstances in Slovenia and accordingly, the state of condition in road transportation in general, after Slovenia got independence until its accession to the EU, was that many fields lacked adequate legislation that was not ready in due time. Accordingly, the necessary pre-condition to regulate the individual area was not fulfilled. The next step, a consistent compliance with the applicable legislation in practice, that should have been encouraged and created by adequate competitive advantages of well-established providers, got the impulses only from the global environment impacts.

Certain ideas that should have influenced and encouraged the entities to integrate the principles of sustainable development into their business strategies,

were maturing over a longer period of time. Below, they will be presented in greater detail, as well as the way of asserting such ideas among the carriers of dangerous goods in road transport.

5. RESPONSIBLE CARE PROGRAMME (RC)

The Responsible Care is the international programme of voluntary initiative by the chemical industry. The initiative was born in 1981 in Canada and was gradually taken over by the chemical industry globally. In fact, the name already uncovers the aim of chemical industry which encourages responsible treatment of employees and the environment within the scope of the initiative and in its widest sense. It is about introducing good practices, usually through management systems and especially in the field of safety and health at work, protecting the environment, and careful and safe handling of the products of chemical industry. The aim is to continuously improve the achievements in all fields, which is measured by 16 parameters: three of them measure the results in the area of occupational safety and health, other parameters relate to the environmental management, including the efficient use of energy.

By joining the CEFIC (European Chemical Industry Council), the Slovenian branch association committed itself to promoting the RC programme among its members. The branch published its first joint report in 2000 on the status among members according to the given parameters. There are 15 major societies in the area of chemical industry, such as Cinkarna Celje (zinc-plant), Color, Helios, Jub, Krka, Mitol, Savatech and others who were awarded at home and abroad for their orderly organization and business performance. Due to market globalization and integration in the international economy did some of them take over certain underlying initiatives and trends for the development of competitors abroad. That is why the idea was adopted and made popular, and the RC became part of the Slovenian dimension as well.

The responsible care begins with the simple principle of strict compliance with the legislation applicable to the defined field. This simple formula for success to achieve progress is a kind of cover initiative accommodating other initiatives, among others:

- The ICE – International Chemical Environment – effective action in transport accidents involving chemicals (the European Emergency Response Network),
- The SQAS – Safety and Quality Assessment System – for chemicals transport.

5.1 ICE – International Chemical Environment

The ICE is derived from a similar system, developed in Germany. Within the German Federation of Chemical Industries (Verband der Chemischen Industrie, VCI) the Transport-Unfall-Informationen-und Hilfeleistung-System (TUIS) was established in 1982, in English translation: the Transport Accident Information and Emergency Response System. The European Chemical Industry Council accepted the idea and established similar systems all over Europe known as the ICE (International Chemical Environment). The ICE Project has two goals:

- The first goal is to establish the network that allows a rapid and efficient assistance of experienced experts in taking action, providing remedial action or giving instructions only, and in the implementation of measures to stave off the risk/ danger.
- The second goal is focused on introducing the programs reducing the risk against accidents involving dangerous goods (accident prevention).

At remedial action in accidents involving dangerous goods, the underlying feature of the ICE measures relies on the knowledge of the Manufacturers (chemical industry) who best know their products. They are ready to share their knowledge with the persons responsible for remedial action in accidents in the course of transportation.

The system of efficient action to address the accidents involving transport of chemicals (ICE) is a Europe-wide network of the so-called ICE centres that are mutually connected. On the national level, the individual ICE centres are linked to the chemical producers who have joined the network voluntarily and are willing to offer their expertise in the event of ADR transport accident, and even undertake an intervention on the site of accident, assist in safe salvaging and doing their best to restrict adverse outcome for the environment.

5.2 SQAS – Safety and Quality Assessment System

The Safety and Quality Assessment System (SQAS) is a uniform, internationally recognized system for the assessment of quality and environmentally friendly service providers, who supply the chemical industry in the first place. Within their commitment to the Responsible Care Programme, the major chemical plants as customers of these services are interested in safe transportation of chemicals to reach their buyers. Special means of transport are indispensable for such transportation, offered by specialized carriers only, so they were using their own evaluation systems. To be able to do that, they needed to employ specialists who

were working with audits of suppliers on a permanent basis. That meant additional cost in the production.

For the providers of transport services, that procedure was very time-consuming and expensive; after all, the need to prove the quality level of their services to each customer separately and accordingly, ascertains their eligibility as a provider in the logistic chain of ADR transports.

In order to avoid the above indicated operating and cost-related difficulties, the European Chemistry Industry Council (CEFIC) developed a uniform system for the assessment of suppliers within the standard issues defined. All the elements involved in the transport of chemicals (dangerous substances) and providers thereof are checked in this way. In addition, a detailed insight into the Provider's capability to assure the required quality and implementation of logistic services (transportation of chemicals), safe for the human health and environment, can be obtained. This in turn facilitates the chemical companies the selection of Contractors for placing orders for logistics.

Such an examination (audit) does not concern the issue of the certificate, as it is the case in the ISO standards series (ISO 9000, ISO 14001), but rather an in-depth report on the examination performed according to standardized questions, undertaken by an independent and qualified auditor. The report is sent to the entity being assessed (the auditee). Through the auditee, the report is available to the auditee's current or potential users of logistics services also in other channels available in the system. The takers of transport services need not check certain carriers whether they satisfy all the requirements for dangerous goods transportation, but only establish their eligibility on the basis of such certificate acquired.

On the basis of the audit questionnaire, an interested carrier who fills it out can obtain its self-assessment. In such a case, the assessment is the indicator of the factual condition and can be taken as the basis for selecting the critical points to be checked and improved. Moreover, this is also the groundwork for continual improvement of the condition within the Company. Having acquired the assessment under the SQAS criteria, the Company could increase its competitive profile. Customers gain an independent and comprehensive insight into the quality of the service of the respective carrier, which should encourage customers to work with such companies instead of those who cannot provide such an assessment. It should be noted that according to the SQAS criteria, only those carriers are audited who are in the business of dangerous goods transportation for chemical industry. There are no such audits in the conventional goods transport.

Since 1995, when this system was developed, until 2004 there were more than 600 European enterprises in the land transport business assessed under the

SQAS system. The first Slovenian carrier to acquire such a certificate under the SQAS was the a. m. company TIB Transport, the audit took place in September 2005.

In Europe, the demand for an adequate tool to assess, or check the adequacy of organization in carriers in road transport before their inclusion in the network of chemical industry for ADR transportation existed for a long time. Such an approach was a follow-up of the underlying goal, i. e. to build up the safest and best fit (environmentally friendly) transportation of dangerous goods from the Manufacturer to the customer. The prerequisite for the implementation of an efficient system for the assurance of safety is a consistent compliance with the rule of law. Such ideas were accepted in Slovenia only after the accession to the EU and integration into the global environment.

The introduction of the standardization of operations (ISO 14001, SQAS) is an upgrade of the underlying requirement for sustainable development in the area that allows for providing transport services in a safer way and friendlier for the environment.

Figure 3 displays how the development profile of the social environment influences the well-established condition and organization of the business environment and thereby increases the interest of enterprises for the standardization of operations.

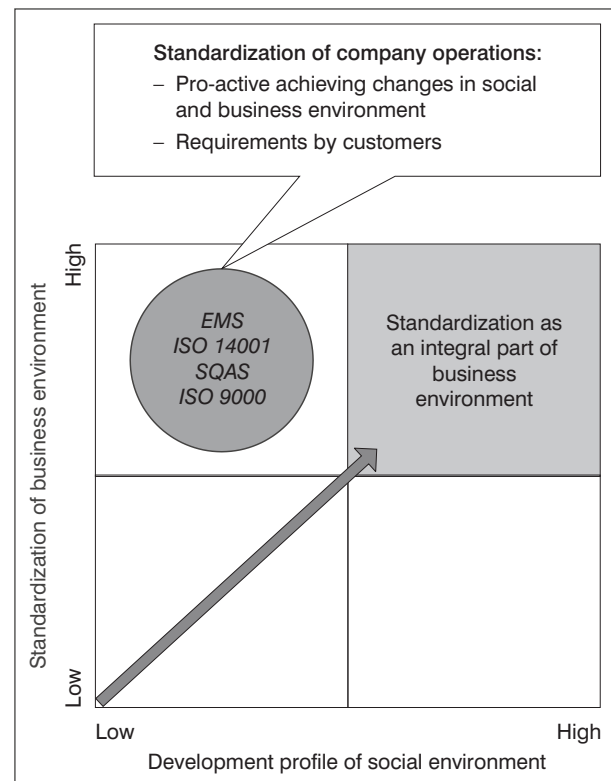


Figure 3 - Impact of development profile of the social environment on the standardization of business environment

Source: Author

In low-level social environments, the occurrence of enterprises interested in standardization is rather rare. Their efforts to achieve such a *modus operandi* are forward-looking in the long run and focused on pro-active policies or conduct, aiming to bring about certain shifts in their broader environment and create the conditions in which the organized state of business could grow into the criterion that would yield benefits in the market. If the broader environment does not support such trends, the attempts of individual entities are quite unproductive and despite careful planning and efforts, they yield little return. As the development profile of the social environment improves, the efforts for improved safety and enhanced concern in ecology and sustainable development rise, in general, and so does the standardization of operations as an integral part of the business environment. It brings economic benefits that are sufficient to raise the interest.

5.3 SQAS Report for washing facilities for ADR-carrying vehicles

An important segment of dangerous goods transport is the washing of tanks (of tank trucks) from the inside. Chemical industry produces new substances practically every day, which are then carried to the consumers by road, in tank truck superstructures. There is a large pallet of goods that are transport-sensitive or perishable if they get mixed with the remains of the goods carried previously. For sensitive goods, such a contamination can render the entire shipment practically useless, which may result in a great loss or damage. In addition, such contaminated liquid has to be destroyed in an adequate manner, which represents an additional financial and ecologic burden. In such cases, the tank interior has to be cleaned before loading another substance, which is an indispensable and demanding activity in the cycle of dangerous goods transportation.

Some chemicals are so sensitive to contamination that even the smallest quantity of admixtures of the substance carried before may remain in the discharging installations and discharge valves also after the tank interior has been washed. Such residue can be attributed to an inadequately selected technology of washing, or inconsistent interventions at the wash of the pipes and fittings. Unless it has undertaken the washing, the carrier cannot assume the liability for improper washing provided by the Contractor and possible residues in the tank. Given the objective liability pursuant to the law, the responsibility for the quality of the freight carried always rests on the carrier. In order to avoid such problems, the loading (filling) sites for chemicals started paying greater attention to the cleanliness of tank trucks, and the carriers were required to submit the cleanliness certificate for their

fleet and the Contractors for washing had to produce such certificates after the washing was performed. Without producing such a certificate, the carrier could not receive any freight for carriage.

The European Chemical Industry Council (CEFIC) and its relevant activity in designing and implementation of the Responsible Care programme (RC) have already been mentioned above. In the segment of truck washing providers, the EFTCO Association (European Federation of Tank Cleaning Organisations) was founded in 1999. The endeavours of that organization, supported by the European Chemical Transport Association (ECTA), both as a part of the Responsible Care programme, focus on promoting the continual progress in safety, environmental standards and quality standards in European tank-washing providers.

The EFTCO and the individual associations of washing facilities strongly endeavour to encourage the member contractors to acquire the ISO 14001 standard certificate, or a positive SQAS-assessment at the least, for the pursuit of their business. The possession of the certificate, or the report of inspection, respectively, is the minimum requirement for a membership in that organization.

The latest efforts of the organization (from 2005) lead towards the preparation of a single document ECD (European Cleaning Document), that would be issued by each Contractor – EFTCO member after the washing of the tank truck. This document should guarantee that the washing has been performed adequately and thoroughly by the Contractors who safeguard the environment from pollution. Apart from that, the document should be used as the cleanliness certificate for the tank truck. Such a document should be taken at the point of loading as a precondition for loading. Without possessing such a document, the tank truck should not be loaded with new freight.

The final goal pursued by the preparing of the uniform, clear and unambiguous (ECD- European Cleaning Document) document is that such a document should acquire the function similar to the control (status), as the CMR consignment note (waybill) has that accompanies the freight all the way in international transport by road.

The efforts by the EFTCO aim to reduce unnecessary trouble in the process of transport, at the same time highlighting the ecologic issues: the operators of wash facilities should perform their services under the procedure and with such technology that is compatible with the environmental protection requirements. In fact, it concerns the protection of all the participating parties, from the carrier, washing facility operator, the customer ordering the transport (sender) and the consignee of the freight, under the greatest concern for safeguarding the natural environment.

6. CONCLUSION

The paper presents the impact of sustainable development guidelines on the operation of haulers in dangerous goods transport. Ensuring the compliance of all the participants in the process of dangerous goods transport with the laws is no longer the basic goal ensuring the required level of safety and environmental protection. The efforts are now focused on the upgrading of this basic condition - the introduction of certain standards in the operation of enterprises. These are the tools that support the orderly organization of operations and effective control over the adverse impact on the environment. In well-established social environments, such guidelines bring market benefits sufficient enough to attract enterprises, and serve as the guiding principle for the protection of natural environment in accordance with sustainable development baselines.

The standardization of operations is not a self-serving goal, but it is rather dedicated to establishing an adequate control system over the business functions in a company and leading toward organizing the operations in the enterprise. By systemic solutions and transparency, it offers a display of the objective condition within the company for the interested public in the environment, which should contribute to the success of such an enterprise, in the long run.

The most important requirement for the implementation of such conditions is to organize the environment in an orderly condition, governed by clear and uniform rule of law binding on all entities. Without creating these pre-conditions, it is useless to expect that the enterprises would set out on the 'thorny' path leading towards the desired certificate or assessment and to an additional expense that would return no sufficient financial benefits.

The research, which was conducted as part of the author's Ph. D. thesis, illustrates the exceptional influence of the level of societal development within a specific country as the most relevant condition for implementation of the sustainable development guideline on dangerous goods haulers in practice.

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POVZETEK

VPLIV SMERNIC TRAJNOSTNEGA RAZVOJA NA CESTNE PREVOZNIKE NEVARNEGA BLAGA

Koncept trajnostnega razvoja so v razvitejših državah sprejeli politiki in industrija kot vodilno filozofijo pri pripravi razvojnih strategij praktično na vseh področjih. To pomeni izkoriščati naravne vire v mejah njihovega obnavljanja in hkrati poskrbeti da emisije, ki pri tem nastajajo, nimajo negativnih vplivov na okolje. Sistemi upravljanja z okoljem (EMS) so se začeli razvijati kot odziv na globalne okoljske probleme in kot spoznanje, da je trajnostni razvoj nujen za ohranitev naravnih sistemov v potrebnem ravnatežju. Prevoz nevarnega blaga po cesti je precej kompleksna dejavnost, ki predstavlja veliko potencialno nevarnosti za ogrožanje ljudi in okolja. Prav zaradi tega je uvedba določenih sistemskih orodij (standardizacija poslovanja), ki pripomorejo k varnejšemu in boljšemu delovanju izvajalcev cestnih prevozov nevarnega blaga zelo zaželena. Za takšno usmeritev pa je potrebno pripraviti primerno poslovno okolje, ki sprejema urejenost poslovanja kot pomembno trženjsko prednost, ki vpliva na uspešnost poslovanja posameznega podjetja.

KLJUČNE BESEDE

trajnostni razvoj, cestni prevoz nevarnega blaga, sistem ravnanja z okoljem (EMS), program odgovornega ravnanja (POR) - responsible care, ISO 14001, ocena varnosti in kakovosti storitev v zvezi s prevozom kemikalij (SQAS)

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