

FEATURES FOR TRANSPORT AND AIR MECHANICAL SYSTEMS OF DANGEROUS GOODS

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***Abstract:** Transport of dangerous goods are regulated activities, they take place under the direction and control of the authorities and specialized bodies in an institutional framework determined by national and international law. Of economic, transport infrastructure is the crucial element without which both production and trade would become meaningless, it is an essential element of a civilization, is also a necessary accessory of other economic activities.*

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1.CURRENT STAGE MODE OF TRANSPORT AND AIR MECHANICAL SYSTEMS OF DANGEROUS GOODS

Development, diversification and modernization of transport of dangerous goods have been caused by expansion and intensification of production and circulation of goods, increasing international division of labor and not least the need for their specialization.

Transport of dangerous goods are regulated activities, they take place under the direction and control of the authorities and specialized bodies in an institutional framework determined by national and international law. Of economic, transport infrastructure is the crucial element without which both production and trade would become meaningless, *it is an essential element of a civilization*, is also a necessary accessory of other economic activities.

In the context of EU membership of Romania, the existence of a developed, connected to the European transport network, would allow significant development of economic competitiveness, and thus creating prerequisites rapid integration of the Romanian economy in the European market. We remember, so low road sector development until the year 1990, but with a sharp increase in recent years, development done, unfortunately, due to favorable reduction or similar rates of other modes of transport.

All these developments can be clearly evidenced by the situation of transport infrastructure, the current infrastructure was an evolution of development and modernization of the economy like the Romanian one of the main obstacles being reduced resources of financing transport infrastructure in Romania coming a number of key issues that define the most important changes that have occurred in the transport sector since 1990 till present. These include fundamental changes in the structure of transport sector in Romania, from a planned economy (economy) to a transportation-based economy driven by market demand, the decline of the industries most likely use of rail transport and regional instability in the neighboring Balkan countries , inheritance of inadequate investment in infrastructure maintenance, road and rail damage however led to a significant reduction in the number of tonne-kilometers of freight carried by rail, a change in the pattern of traffic flow and under-utilization of waterways, especially in the international transport of bulk cargo and container traffic.

Increased environmental degradation, so the effects of transport activity, but also by degradation of natural habitats by supplying network infrastructure, economically unjustified, in addition, there was a relatively slow uptake of innovative ideas and technology, which has

reduced opportunities to take advantage of alternative funding sources, and new modes of transport such as multimodal and combinat.

Toate these issues have led to 'unjust' development of the transport market in Romania, especially in terms of its competitive potential.

The current situation of the national transport system, characterized by a reduced number of highways and connections to the motorway or fast roads, the bypasses of large urban agglomerations, the freight vehicle parking and special parking needed to transport dangerous goods, the existence of naval facilities in an advanced state of decay and a railway network in the most part, have old and outdated rolling stock is, however, required major investments in a relatively short time in transport infrastructure, which must reach a level of development, enabling mobility needs in the best conditions so that, to ensure capacity, quality and safety required by European standards.

It is imperative that requires a balanced development of all modes of transport, road, rail, sea and air as well as quality services mainly to transport of dangerous goods.

The amount of freight transported is very important because it shows the intensity of economic activity, economist and businessman Warren Buffett even said to him, the evolution of the quantity of goods transported by rail is the best economic indicator.

Transport of dangerous goods is a specialization of transport of goods is an important part of material production and their function decisively influences the movement of goods and other branches of world economy, including international trade. Being effective means for marketing material inter-state economic relations, international economic transport can be considered as circulatory system of the entire world economy.

The advantages of monitoring the handling, storage and transport of dangerous goods lies and avoid accidents / incidents such as:

- Fireworks accident in Enschede, the Netherlands, in May 2000 highlighted the major danger posed by the activities of storage and manufacture of pyrotechnic and explosive substances.
- The explosion at a fertilizer plant in Toulouse in September 2001 has raised awareness of the accident potential arising from the storage of ammonium nitrate fertilizer or ammonium nitrate, in particular of material rejected manufacturing process or returned to the manufacturer materials "off-specs" (conformity with the specifications).
- Frequent Accidents that occur during transport of dangerous goods due to improper stowage of cargo, accidental spills, etc..

Examples of sins can continue, but these things need increasingly shows the importance of monitoring the handling, storage and transport of dangerous goods and developing policies to prevent accidents, major incidents and a coherent and comprehensive framework in EU countries States these international agreements. Currently in Romania dangerous goods legislation does not fully meet the needs of the Union are multiple European. Causes from simple ignorance and lack of political will by passing through the crisis of innovation in this area can reach even a financial crisis reflect on this area. Also lack of specialists in this relatively new field has a negative impact.

Carriage by air of dangerous goods

The technical and economic features of air transport of dangerous goods include:

- **speed** - is the essential characteristic of air transport. This is evidenced by the speed of movement of aircraft that can not be matched by no other means of transport;

- **regularity** - is that air transportation is performed by a definite program at any time of year, both day and night;
- **opportunity** - is the fact that this mode of transport available to interested parties, whenever and wherever they are arranged endpoints, the most modern means of transport.

Airport development programs provide a platform for achieving intermodal transport (air, rail, road). Contribution of air transport of dangerous goods transport is marked by shortcomings such as:

- Airport services are still underdeveloped;
 - lack specific features leading to landing in special circumstances;
 - monitoring services and aircraft maintenance is not up to international standards;
 - investment for dangerous goods cargo terminals is insufficient;
- Development, modernization and efficiency of air transport of dangerous goods is possible by completing and harmonizing legislation in EU countries, improving security and increasing the level of training of staff is involved in transport. Proposals for the aircraft carrying dangerous goods and *how to transport dangerous goods are:*
- To increase safety on the transport of certain dangerous substances aircraft carrying dangerous goods must be equipped with advanced safety systems and certified to carry certain categories of dangerous substances to the danger presented by these
 - Providing aircraft carrying dangerous goods with very advanced safety systems to reduce the risk of incidents / accidents while increasing safety for them.

Dangerous goods transport networks

The technical state of Romanian infrastructure not fully complies with European standards, but need to mention a fact of utmost importance: Romania has a network of infrastructure (roads, railways, and waterways, sea and river ports, airports, airways) which ensures the connection of all localities to the national transport and international transport systems. Geographically and network infrastructure, Romania fulfills the role of undisputed hub of continental and intercontinental transport on main routes and geographical North West South East.

Air Network : consists of the Romanian airspace where air routes are defined according to traffic flows in Europe coordinated by EUROCONTROL. Romanian airspace, airways that are used both for overflight by ensuring service control and air traffic control and for taking off and landing at Romanian airports, which are so connected with airports around the world. The airports in Romania consists of 17 airports, of which 4 are open to domestic and international passenger traffic and cargo and 13 are specific to particular local interest.

2.CONCLUSIONS AND ORIGINAL CONTRIBUTIONS

Worldwide, European and national efforts are made to prevent any major accidents resulting in property damage, casualties or environmental pollution, because the human factor plays a decisive role in the development of transport operations. In terms of mechanical systems for air transport:

One of the most pressing contemporary problems of carriers is due to transport of dangerous goods issues raised especially in terms of safety for them. Interventions of the UN specialized agencies, and Member of the EU have shown the consistency and common mark

by developing content standards regulations specific to the transport of dangerous goods is reflected in national regulations in the field. **Mode of transport by air of dangerous goods** must be chosen according to the risk that it involves their transport, the type of hazard of hazardous substance. The main objective risk assessment of goods / hazardous substances is to provide a reliable database to decide safety / security measures (risk management) according to specific uses.

Risk assessment provides an estimate of the situation that if a substance used as defined by an exposure scenario could cause adverse effects. This includes a description of the effects and to calculate the probability that they occur, and an appreciation of their extension or size.

Currently closed body vehicles carrying dangerous goods have safety systems to avoid accumulation of gas in case of accidents or incidents and given that vehicles transporting dangerous goods type box (sealed) the transport of liquids dangerous (gasoline and so on) can in accidental situations such as incident / accident, capsizing due to climatic factors-wind, bad stowage, etc. skidding. are able to discharge the load compartment leading to the formation of vapor and liquid in a mixing proportion of oxygen increases the likelihood of fire or may flow on roadways increased risk of road accidents and accidentally pollutes the environment.

Proposals for the aircraft carrying dangerous goods and how to transport dangerous goods are:

- To increase safety on the transport of certain dangerous substances, all aircraft carrying dangerous goods must be equipped with advanced safety systems and certified to carry certain categories of dangerous substances to the danger presented by them and to reduce the risk of incidents / accidents while increasing safety for them.
- aircraft carrying dangerous goods must be equipped with all types of intelligent transport systems to be responsive to all situations that appear to limit reduces the number of accidents, casualties and avoid accidental environmental pollution.
- Type of aircraft used to transport dangerous goods must be chosen according to the risk that it involves transportation. The main objective of the goods and hazardous substances risk assessment is to provide a database for groups of substances to decide safety / security measures (risk management) .

Shares transport of dangerous substances according to the state of aggregation, risk factors presented by these classes of risk and appropriate identification of each type of vehicle transport.

Completion of legislation on dangerous goods following:
-a law must not be dense but clear and to the point answer to the problems faced by the shipper, carrier and consignee of dangerous goods.
-a policy point of view Romania has to continue the compatibility of national legislation with the *acquis communautaire* which includes laws and international agreements to which Romania is part and must participate actively in the development of law by creating and sending experts to the Commission Economic Commission for Europe (ECE) from the United Nations.

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