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OVERSIZE CARGO TRANSPORT IN ROAD TRANSPORT – PROBLEMS AND ISSUES

Summary. Transport of oversize cargo is a specific form of transport service. Specialised equipment is required for its implementation, while the number of people involved in the transport process itself is much higher than in the case of classic road transport form. This paper presents the problems related to permits and penalties that are used in the carriage of oversize cargo and the problems of transport safety in relation to the techniques of fixing oversize loads in road transport.

Keywords: transport, oversize cargo transport, permits and penalties in transporting oversized cargo, cargo transport safety, cargo securing techniques

1. INTRODUCTION

Over-standard cargo (oversized, non-standard, over-metric) is distinguished by its non-standard weight, size and shape that differs from standard loads. Special means of transport are needed to move this type of cargo, as well as handling machines that can carry the load. This form of transport requires special preparation as well as attention to the manner of its implementation. The basic documents regulating the carriage of oversized cargo in road transport are: Dz.U. 1986 no 27, position 133 [21] and the regulation on vehicles performing pilotage [18].

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In turn, the rules, guidelines and other regulations regarding the transport of oversize cargo are regulated by many other national legal acts, inter alia, Act on road transport [9], Act on public roads [10], regulation on detailed conditions and procedure for issuing permits for the passage of oversize vehicles [17], regulation on technical conditions of vehicles and their necessary equipment [16], regulation on road traffic control [19], regulation on road tolls [25], guidelines of the Road Transport Inspectorate [29]. Guidelines for the carriage of oversized cargo have also been formulated for air transport [12], sea transport [11], inland waterway transport [15] and rail transport [20, 23]. On the other hand, the regulation of oversize cargo transport in Europe is governed by Directive 2002/7/WE of the European Parliament and the Council of Europe of 2002 [22].

In the scientific literature on the subject, can be found numerous, multi-faceted works devoted to the problem of oversize cargo transportation (including [2-5, 7, 8, 13, 14, 26-28]).

This paper presents the problems related to permits and penalties that are used in the carriage of oversize cargo and the problems of transport safety in relation to the techniques of fixing oversize loads in road transport.

2. PERMITS AND PENALTIES BROADCAST IN CARRIAGE OF OVERSIZED CARGO TRANSPORT IN ROAD TRANSPORT

In order to carry out the carriage of oversize cargo, a special permit must be obtained for passage [6]. These permits are issued in seven categories. Licenses category I and II are issued for divisible loads. The permits for categories III to VII are issued for indivisible loads. According to the definition of undivided cargo specified in Art. 2 point 35b of the Road Transport Act [9], an undivided load is a load that without disproportionately high costs or the risk of damage cannot be divided into two or more smaller loads. In practice, the following types of permits issued for the carriage of oversize cargo are distinguished [24]:

- category I permit - this type of permit is issued to vehicles whose permissible total weight and dimensions do not exceed the limit values and to vehicles whose axle loads do not exceed one axle maximum of 11.5 tonnes. Permits of this category are issued by the road administrator, after which the vehicle is covered for a period of six or twelve months,
- category II permit - this type of permit is issued to vehicles whose actual total weight, length and height do not exceed the limit values. The axle loads are not greater than those permitted for the specified road. Permits of this category are issued by the staroste, within three days from the date of payment of the fee for the submitted application for a period of twelve months,
- category III permit - this type of permit is issued to vehicles whose axle loads and the actual total weight do not exceed the permissible standards. In turn, the width does not exceed 15 metres, length 3.2 metres for a single vehicle, 23 metres length for a vehicle combination and height up to 4.3 metres. Permits are issued by the staroste for six, twelve or twenty-four months. If the cargo is transported outside of Poland, consent from the customs office issued by the headman is also required,
- category IV permit - this type of permit is issued for vehicles whose actual total weight does not exceed the limit value, maximum length up to 15 metres for a single vehicle, up to 23 metres for a vehicle combination, width up to 3.4 metres, while the height does not exceed 4.3 metres, the axle loads are not greater than 11.5 tonnes. Permits of this category are issued by the General Director of National Roads and Motorways

(GDDKiA) for a period of six, twelve or twenty-four months. In the case of transport outside Poland, it is required to obtain a permit for the passage issued by the head of the customs office,

- category V permit - this type of permit is issued to vehicles whose actual total weight and axle loads do not exceed the permissible values. This applies to individual vehicles up to 4.3 metres high, up to 3.4 metres wide, up to 15 metres long. In the case of a vehicle combination up to 23 metres. The permissible total weight does not exceed 60 tonnes. Permits of this category are issued by the General Director of National Roads and Motorways for a period of one, six, twelve or twenty-four months. In the case of transport outside of Poland, it is required to obtain a permit for the passage issued by the head of the customs office,
- category VI permit - this type of permit is issued to vehicles whose width does not exceed 3.4 metres in the case of a single carriageway and to 4.0 metres for a dual carriageway. The height can be up to 4.3 metres, the weight does not exceed 60 tonnes and the pressure of a single axle reaches less than 11.5 tonnes. The length does not exceed 15 metres for a single vehicle and 23 metres for a vehicle combination. Permits are issued in the same way as those for category V vehicles, considering the permits for viaducts and bridges,
- category VII permit - this type of permit is issued for vehicles that do not fall within the limits of the given standards for the aforementioned categories. In such cases, the permit may be issued when the transported cargo is indivisible, it is possible to determine the route with regard to road safety and the consent of the road administrator has been obtained. Permits of this category are issued by GDDKiA within fourteen days from the date of submitting the application. If it is necessary to adapt the road infrastructure to the oversize cargo transport route, this time may be extended to thirty days.

In the transport of oversize cargo for non-compliance with the conditions of carriage and irregularities in the carriage of goods, penalties are granted. In the law on road traffic and the Act on public roads, the rules for sanctioning exceedances regarding the permissible total weight, vehicle dimensions and axle loads are indicated. For the passage of a non-normative vehicle without a permit, or if the transit does not comply with strictly defined conditions, a fine is imposed for the permit, through administrative decisions. The fine is imposed on:

- the entity that performs the journey,
- the entity that performs other activities related to transport, namely, a shipper, forwarder, recipient, sender or organiser of transport, if there are circumstances or evidence that the entity has accepted or had an impact on the carriage of the transport conditions.

Proceedings to impose fines may be discontinued or not initiated if [6] the circumstances of the case and evidence indicate that the entity has acted with due diligence in the performance of activities related to the passage or the entity had no impact on the violation or the real gross weight of the non-normative vehicle exceeds the permissible size or the size specified in the permit, and the overrun applies only to the axle load of the vehicle in the case of bulk and timber transport. Administrative penalties were formulated on the basis of Art. 140a of the Road Traffic Act. In Polish conditions, the financial penalty is set at [6]:

- PLN 1,500 - for lack of category I and II licenses,
- PLN 5,000 - for lack of category III and VI licenses,

- for lack of permit of a category VII, it is PLN 500 - when the pressure of one or more axles, the actual total weight or dimensions of the vehicle exceed the permissible values by not more than 10% or 2,000 PLN - when the pressure of one or more axles, the actual total weight or dimensions vehicles exceed the permissible values by more than 10% and not more than 20% or even 15,000 PLN - in other cases,
- PLN 5,000 - for a non-normative vehicle crossing a bridge or viaduct without a confirmed notification of the road administrator, in connection with the permission of categories V and VI,
- PLN 3,000 - for a non-normative vehicle crossing a bridge or viaduct contrary to the conditions set by the road administrator, in connection with the permission of categories V and VI,
- PLN 6,000 - for a non-normative vehicle crossing a bridge or viaduct in the objection declared by the road administrator in connection with the permission of categories V and VI,
- PLN 2,000 - for failure to meet the transit conditions specified for a category VII permit or given in this document.

The entity to which the financial penalty has been imposed may be appealed by a superior body within fourteen days of receipt of the decision. This decision shall be made thirty days after its receipt. The penalty is withheld when the complaint is filed with the court. The obligation to pay a financial penalty expires after five years from the end of the calendar year in which the penalty should be paid.

3. SAFETY OF CARRIAGE AND WAYS TO LOADS PROTECTION IN THE CARRIAGE OF OVERALL OVERSIZE CARGO TRANSPORT

Securing excessive cargo results from the need to immobilise it during transportation by means of transporting in such a way that it remains in an unaltered state of geometry, shape and dimension, that is, undamaged, it is moved from the source place to its destination, thus not posing any threats to people and means of transport. When attaching an oversize load to a given means of transport, there are several important mandatory rules. First, people should be aware of the fact that the load if incorrectly attached is a huge threat both for people who deal directly with its transport as well as for outsiders who are close to the cargo being carried. An improperly attached load may slip causing vehicle traffic disruptions, which could result in injury or even lead to death in the course of manoeuvres such as emergency braking or accident. Proper placement of the load on the vehicle and its attachment has a big influence on the driving. The rules for fixing oversize cargo are strictly regulated by the European Commission guidelines [1]. Most of the conditions apply directly to drivers of oversized vehicles who, as persons physically carrying cargo to their destination, are directly exposed to hazards associated with the transport. These rules are as follows [1]:

- before loading, it is necessary to check the loading platform, the body, as well as the devices used to attach the load and determine their efficiency,
- the load must be secured in such a way that it will not be able to move as a result of vibration, rolling or so it can not fall off the vehicle,
- the fixing method must be determined, which is best adapted to the characteristics of the load,

- check that the recommendations issued by the vehicle manufacturers and the fastening equipment are met,
- check that the load securing attachment is suitable for the conditions that may be encountered during transport. Braking in an emergency situation, violent turns to avoid an obstacle, poor road and weather conditions should be treated as normal elements of travel, which the fastening hardware must be able to withstand,
- before transport begins while the load is being loaded or unloaded, it should be checked for overload as well as incorrect weight distribution. The centre of gravity of the entire load must be as close as possible to the longitudinal axis,
- if it is possible, the load securing should be checked systematically during transport. The first inspection should be carried out after a few kilometres, during a stop in a safe place. Other checks must be carried out after sudden braking or other incidents while driving,
- if it is possible to attach, use angle strips or non-slip mats,
- during fastening, special care should be taken to ensure that the transported goods are not affected,
- the speed of an oversized vehicle must be adapted to the prevailing traffic and road conditions so as to maintain smooth running. Then, the forces exerted by the load will not exceed the permissible values and driving in such conditions should be done without problems.

The basic ways of fastening loads are: block fastening, locking, fixing by means of lashings that fill the load from above, fixing by means of straight lashings and various types of combinations of the abovementioned methods. The method of fixing must guarantee resistance to the variability of weather conditions.

4. CONCLUSIONS

Constant economic development, as well as the development of broadly understood technologies, prompted the rise in the number of transported goods, including cargoes, whose dimensions exceed specific standards. This paper presents the problems related to permits and penalties that are used in the carriage of oversize cargo and the problems of transport safety in relation to the techniques of fixing oversize loads in road transport. Currently, information on fines as well as rates of penalties related to irregularities in oversize cargo transportation are presented in the Act on Public Roads.

References

1. Alfalogistics. „Guidelines for European good practice for securing loads in road transport”. Available at: http://alfalogistics.pl/wp-content/uploads/2013/10/poradnik_mocowania_w_trans._drog.pdf.
2. Ambroziak Tomasz, Dariusz Pyza. 2011. „Problematyka wykorzystania różnych form transportu w aspekcie zrównoważonego rozwoju infrastruktury transportowej”. [In Polish: “Problems of using various forms of transport in the aspect of sustainable development of transport infrastructure”]. *Logistyka* 4: 33-42. ISSN: 1231-5478.

3. Brandt Jakub. 2015. „Przewozy ponadgabarytowe”. Available at: <http://logistyka.blox.pl/2015/02/Przewozy-ponadgabarytowe.html>
4. Christowa-Dobrowolska Maria. 2011. „Logistyka i technika transportu ładunków nienormatywnych drogą wodną”. [In Polish: „Logistics and technique of transporting non-standard loads by water”]. *Logistyka* 5: 468-473. ISSN 1231-5478.
5. Dyczkowska Jolanta. 2011. „Śródlądowy transport wodny a zintegrowany system logistyczny”. [In Polish: „Inland water transport an integrated logistics system”]. *Logistyka* 2: 119-128. ISSN 1231-5478.
6. Expert Group road transport. "New rules for the carriage of non-standard vehicles and more". Available at: <http://www.gitd.pl/nowe-zasady-przewozu-pojazdami-nienormatywnymi-i-nie-tylko>.
7. Jacyna Marianna. 2010. „Wybrane aspekty koncepcji modelu systemu logistycznego Polski ze względu na komodalność transportu”. [In Polish: „Some aspects of conceptual model of logistic system of Poland due to transport co-modality”]. *Prace Naukowe Politechniki Warszawskiej. Transport* 75: 37-54. ISSN: 1230-9265.
8. Jacyna Marianna, Tomasz Nowakowski, Dariusz Pyza, Mariusz Wasiak. 2009. „Wybrane aspekty modelowego ujęcia systemu logistycznego Polski”. [In Polish: „Selected aspects of the model approach to the logistics system in Poland”]. *IV Wrocław Logistics Forum and Logistics Technologies WROLOG*.
9. Ustawa z dnia 6 września 2001 roku o transporcie drogowym. Dz.U. 2001 nr. 125, poz. 1371. [In Polish: The act of 6 of September 2001 on road transport. Dz.U. 2001 No. 125, item 1371].
10. Ustawa z dnia 21 marca 1985 roku z późniejszymi zmianami o drogach publicznych. Dz.U. 1985 nr. 14, poz. 60. [In Polish: The act of 21 of March 1985 with later changes on public roads. Dz.U. 1985, No. 14, item 60].
11. Ustawa z dnia 18 września 2001 roku: Kodeks Morski. Dz.U. 2001 nr. 138, poz. 1545. [In Polish: The Act of 18 of September 2001: The Maritime Code. Dz.U. 2001 No 138, issue 1545].
12. Ustawa z dnia 3 lipca 2002 roku Prawo Lotnicze. Dz.U. 2002 nr 130, poz. 1112. [In Polish: The Act of 3 of July 2002: The Aviation Law. Dz.U. 2002 No 130, issue 1112].
13. Macioszek Elżbieta, Marcin Staniek, Grzegorz Sierpiński. 2017. “Analysis of trends in development of freight transport logistics using the example of Silesian Province (Poland) - a case study”. *Transportation Research Procedia* 27: 388-395. ISSN: 2352-1465.
14. Macioszek Elżbieta. 2019. “Freight transport planners as information elements in the last mile logistics”. *Integration as Solution for Advanced Smart Urban transport Systems. Advances in Intelligent Systems and Computing* 844, edited by Sierpiński Grzegorz, 242-251. Switzerland: Springer International Publishing. ISBN: 978-3-319-99476-5.
15. Rozporządzenie Ministra Infrastruktury z dnia 28 kwietnia 2003 roku w sprawie przepisów żeglugowych na śródlądowych drogach wodnych. Dz.U. 2003 nr. 212, poz. 2072. [In Polish: Regulation of the Minister of Infrastructure of 28 April 2003 on shipping regulations on inland waterways. Dz.U. 2003 No 212, issue 2072].
16. Rozporządzenie ministra infrastruktury z dnia 31 grudnia 2002 roku w sprawie warunków technicznych pojazdów oraz zakresu ich niezbędnego wyposażenia. Dz.U. 2003 nr. 32, poz. 262 z późn. zm. [In Polish: Regulation of the Minister of Infrastructure of 31 of December 2002 regarding the technical conditions of vehicles and the scope of their necessary equipment. Dz.U. 2003 No. 32, item 262 with later changes].

17. Rozporządzenie Ministra Infrastruktury z dnia 16 grudnia 2004 roku w sprawie szczegółowych warunków i trybu wydawania zezwoleń na przejazd pojazdów nienormatywnych. Dz.U. 2004 nr. 267, poz. 2660. [In Polish: Regulation of the Minister of Infrastructure of 16 December 2004 on detailed conditions and procedure for issuing permits for passage of non-normative vehicles. Dz.U. 2004 No. 267, issue 2660].
18. Rozporządzenie Ministra Infrastruktury z dnia 26 kwietnia 2004 roku w sprawie pojazdów wykonujących pilotaż. Dz.U. 2004 nr. 110, poz. 1165. [In Polish: Regulation of the Minister of Infrastructure of 26 April 2004 on vehicles performing pilotage. Dz.U. 2004 No. 110, issue 1165].
19. Rozporządzenie z dnia 30 grudnia 2002 w sprawie kontroli ruchu drogowego. Dz.U. 2002 nr 14, poz. 144. [In Polish: Regulation of 30 December 2002 on road traffic control. Dz.U. 2002 No 14, issue 144].
20. Rozporządzenie Ministra Transportu z dnia 7 czerwca 2006 roku w sprawie rodzaju i warunków przewozu rzeczy mogących powodować trudności transportowe przy przewozie koleją. Dz.U. 2006 nr 108, poz. 746. [In Polish: Regulation of the Minister of Transport of 7 of June 2006 on the type and conditions of transport of things that may cause transport difficulties on the railway transport. Dz.U. 2006 No 108, issue 746].
21. Rozporządzenie z dnia 28 czerwca 1986 roku w sprawie zasad organów właściwych oraz trybu ustalania kosztów związanych z określeniem tras przejazdu i przystosowaniem odcinków dróg do przewozu ładunków o masie i gabarytach przekraczających dopuszczalne normy dla przejazdu pojazdów nienormatywnych. Dz.U. 1986 nr. 27, poz. 133. [In Polish: Regulation of the Minister of Infrastructure of 28 June 1986 on the principles of the competent authorities and the procedure for determining the costs associated with defining the route and adopting road sections for the transport of goods with a weight and dimensions exceeding the permissible norms for the passage of non-normative vehicles. Dz.U. 1986 No. 27, issue 133].
22. European Parliament: Directive 2002/7 / EC of the European Parliament and of the Council of 18 February 2002 amending Council Directive 96/53 / EC establishing for certain road vehicles moving within the Community the maximum permissible dimensions for national and international traffic and the maximum permissible loads in international traffic. Available at:
[http://orka.sejm.gov.pl/Drektywy.nsf/all/32002L0007/\\$File/32002L0007.pdf](http://orka.sejm.gov.pl/Drektywy.nsf/all/32002L0007/$File/32002L0007.pdf).
23. PKP LHS Spółka z.o.o. Regulamin przewozu przesyłek towarowych (RPT). Załącznik do Uchwały nr 634/2011 Zarządu PKP LHS sp. z o.o. z dnia 30 grudnia 2011 [In Polish: Regulations for the carriage of cargo shipments (RPT). Annex to Resolution No 634/2011 of the Management Board of PKP LHS sp. z o.o. from 30 of December 2011].
24. Transport Guide. „Transportation of oversized provisions”. Available at:
<http://poradniktransportowy.pl/12/przewoz-ponadgabarytowy-przepisy>.
25. Rozporządzenie Rady Ministrów z dnia 15 stycznia 2002 roku w sprawie opłat drogowych. Dz.U. 2002 nr 8, poz. 60. [In Polish: Regulation of the Council of Ministers of 15 January 2002 on road tolls. Dz.U. 2002 No 8, issue 60].
26. Skrzypczak Izabela, Janusz Kogut, Wanda Kokoszka, Dawid Zientek. 2017. „Monitoring of landslide areas with the use of contemporary methods of measuring and mapping”. *Civil and Environmental Reports* 24(1): 69-82. ISSN: 2080-5187. DOI: 10.1515/ceer-2017-0005.

27. Skrzypczak Izabela, Lidia Buda-Ozog, Tomasz Pytlowany. 2016. „Fuzzy method of conformity control for comprehensive strength of concrete on the basis of computational numerical analysis”. *Meccanica* 51(2): 383-389. ISSN: 1572-9648. DOI: <https://doi.org/10.1007/s11012-015-0291-0>.
28. Waniek Anna. 2012. *Transport wielkogabarytowy*. [In Polish: *Transportation of large size*]. Poznań: Higher School of Logistics.
29. Voivodship Road Transport Inspectorate. „What documents should I have for inspection when performing road transport”. Available at: <https://www.witdpoznan.pl/jakie-powinienem-posiadac-dokumenty-do-kontroli-wykonujac-przewoz-drogowy,301.html>.

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