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Legal and Technological Aspects of Life Cycle Contract Implementation in the Long-Distance Passenger Rail Transportation

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ABSTRACT

The objective of the paper is to review and evaluate implementation of maintenance and repair of passenger rolling stock based on the contractual relations under a life cycle contract (LCC).

The analysis and the experience gained in shaping contractual relations in the LCC format, both on the part of foreign companies and in the domestic market, have resulted in the conclusion that it is beneficial for the customer to conclude LCC. Ultimately, the costs are reduced by about 10–15 % compared to the traditional form of contractual relations (separate contracts for manufacturing and, respectively, service maintenance). LCC is also advantageous since it eliminates the need to search for and subsequently contract the contractors at the stage of operation.

When concluding LCC contract, both purchase and subsequent maintenance of rolling stock can be carried out through a concession agreement in compliance with legislation regulating the procurement procedure. When purchasing, it is necessary to be guided by the requirements of federal law in terms of mandatory tender procedures and selection of potential suppliers.

The analysis of existing models for formation of contractual relations for maintenance of rolling stock under the LCC contract has shown that it is advisable to consider the possibility of extending it to newly manufactured passenger rolling stock used in long-distance passenger transportation.

Keywords: railways, passenger transportation, passenger coach, contract, life cycle, customer, operation and maintenance, life cycle contract.

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INTRODUCTION

A life cycle contract (LCC) covers development of new rolling stock, its maintenance throughout the entire life cycle, and the disposal of a wagon that has reached its standard service life. This approach in world practices has proven itself quite positively.

By the beginning of development of higher-speed and high-speed rail transport on the territory of European countries, which fell on the end of the 1970s – the beginning of the 1980s, the concept had been developed to divide the transportation process into the following main segments: procedures of appointment of trains and the traffic operation (train schedule and timetable), ticketing, service maintenance (catering, train attendants), as well as maintenance and repair of rolling stock [1, p. 115].

The first life cycle contracts were concluded in the UK in the 1990s for acquisition and subsequent maintenance of locomotives. Initially, the life cycle contract was called the Private Finance Initiative.

Hence, for example, based on a form of private-public partnership a tunnel under the English Channel was built, lines of the London Underground and lines of high-speed trains were laid.

The main advantage of the LCC is that the contractor is directly interested not only in the fastest possible production of rolling stock, but also in its efficient and long-term use, minimising the cases of unscheduled repairs or downtime of wagons. After all, he will receive payment not for the object itself, but for its use by the owner.

With such a scheme of interaction, the manufacturer takes responsibility for maintaining his product in working condition. Consequently, during manufacture of a passenger coach, the most efficient and advanced technical structural solutions are incorporated already at the design stage.

Signing a contract offers to each party a number of advantages. The manufacturer improves quality of rolling stock, acquires new competencies, and makes a profit throughout the life of the product. The customer does not have problems with timeliness and completeness of service procedures, besides, there is no need to select a contractor for maintenance.

Based on the experience of concluding LCC in several European countries, it has been established that it is beneficial for the customer to conclude them, since costs are reduced by about 10–15 percent compared to the traditional contracts (a separate contract for manufacturing and a separate contract for service maintenance). Also, the customer does not need to carry out procedures to search for contractors for maintenance of rolling stock.

The *objective* of the study was to analyse legal and technological aspects of implementation of LCC for long-distance rail passenger transportation.

RESULTS

In the Russian Federation, the regulatory framework for servicing based on the life cycle was established in 2014 with the adoption of Federal Law No. 44-FZ[1], according to which the following term describes the life cycle contract: this is «a contract for purchase of goods or work, their further maintenance, repair, operation and destruction of goods (object)». Also, this Federal Law provides for reservations that can be included at the stage of creation and design of an object, if necessary.

Based on comprehensive interpretation of the norms of this law, it follows that conclusion of contractual relations based on the LCC implies the validity of the contract for the entire period of the object's existence. If the customer wants to conclude an additional agreement or contract for one or more types of work, from those that are regulated or governed by the principles of LCC, then this may entail liability for violation of competition rules.

On the technological side, implementation of all stages of rolling stock life cycle, from the design of the coach to its disposal, the principles of which are regulated by the requirements of GOST [State Standard] 31539-2012 [3][2], as well as unconditional implementation of the rules

[1] Federal Law dated April 5, 2013, No.44-FZ «On the contract system in the field of procurement of goods, works, services to meet state and municipal needs». [Electronic resource]: http://www.kremlin.ru/acts/bank/37056. Last accessed 27.10.2022.

[2] GOST [State Standard] 31539-2012. Life cycle of railway rolling stock. Terms and definitions. Moscow, Standartinform publ., 2014, 14 p. [Electronic resource]: https://docs.cntd.ru/document/1200097621. Last accessed 23.10.2022.

and regulations for safe operation of the coach in accordance with the requirements of the technical regulation of the Customs Union TR CU 001/2011[3] will be in the contractor's area of responsibility.

The Government of the Russian Federation by Decree No. 1087 «On determining the cases of concluding an LCC»[4] determined an exhaustive list of infrastructure facilities that are created and maintained based on the LCC principle. This list includes such infrastructure facilities as road facilities, metro, rail transport, off-street and electric transport on land, ports, ships and aircraft, airfields, as well as unique capital construction facilities and public utilities.

Thus, the Government made it clear that in Russia the LCC will be formed not based on joint cooperation between the state and the contractor, but as one of the forms of public procurement.

At the same time, contractual relations in railway transport based on the LCC principle had been also concluded earlier. Based on these principles, JSC Russian Railways and its subsidiaries signed agreements with Siemens, Patentos Talgo, and Transmashholding structures for servicing Sapsan, Lastochka, and Strizh trains, as well as a number of locomotive series, respectively.

Also, in 2013, the Moscow Metro State Unitary Enterprise and OJSC Metrovagonmash entered into a contract on the principle of life cycle, according to which the contractor was obliged to maintain, repair and supply technically sound rolling stock during next 30 years.

Based on the analysis of the principles laid down in the legal documents of the procedure for concluding LCC contracts, it is advisable to note that the legal basis for purchase and subsequent maintenance of rolling stock can be carried out both by concluding a contract using a concession agreement, and directly through procurement activities (depending on the composition of actors on the part of the state, object and purpose of the agreement).Thus, when carrying out procurement activities, it is mandatory to be guided by Federal Law No. FZ-223 «On the specifics of procurement of goods (works, services) by certain types of legal entities»[5], which regulates the procedure for the customer to conduct a competitive selection of potential suppliers.

As part of the competitive procedures and criteria for competitive selection, the relevant parameters for the selection are fixed, and all conditions planned for signing the contract are included. In accordance with the requirements of the Federal legislation, it is also possible to form a complex contract, which may include not only obligations intended directly for maintenance of rolling stock, but also obligations regarding possible attraction of additional funding.

At the same time, highly significant is the factor of legal regulation of relations in the field of establishing, applying and fulfilling mandatory requirements for products or for product-related processes of design (including surveys), production, construction, installation, commissioning, operation, storage, transportation, sale and disposal; of voluntary application of requirements for products, design processes (including surveys), production, construction, installation, adjustment, operation, storage, transportation, sale and disposal, for performance of work and provision of services; as well as legal regulation of relations in the field of compliance assessment [2, p. 237; 3; 4].

For any contract, the key obligation will be to pay for supply and service through instalment payments after the start of operation of rolling stock. The obligations of the customer under such a contract will be to provide real estate for accommodation of personnel and production facilities for organisation and conduct of service maintenance by the contractor, since the

[3] Technical regulation of the Customs Union TR CU «On safety of railway rolling stock». Minsk, Belarusian State Institute for Standardisation and Certification, 2012, 47 p. [Electronic resource]: https://e-catalog.nlb.by/Record/BY-NLB-br0000821772. Last accessed 23.10.2022.

[4] Decree of the Government of the Russian Federation No. 1087, dated 28.11.2013 «On determining the cases of concluding a life cycle contract (LCC)» (as amended and complemented). [Electronic resource]: https://base.garant.ru/70522166/#friends. Last accessed 19.10.2022.

[5] Federal Law «On the specifics of procurement of goods, works, services by certain types of legal entities» dated July 18, 2011 No. 223-FZ. [Electronic resource]: http://www.consultant.ru/document/cons_doc_LAW_116964/. Last accessed 19.10.2022.

maintenance technology will also directly depend on the supplier of rolling stock.

Consequently, to ensure maintenance of production facilities and performance of technological operations, it will also be necessary to involve investment funds for purchase of equipment, as well as for reconstruction of a number of production sites.

When preparing a LCC, it is also necessary to consider the risk-free aspect of the procedure, since the contractor's investment in the re-equipment of production sites will increase the cost of both the service itself and the attracted financing. At the same time, risk-freeness is not absolute, since, as the COVID-19 pandemic has shown, its main impact has fallen on the transport sector [4] and at the same time made relevant the importance of the medical component of transport security as one of the risk reducing factors [5, p. 183] along with other components including in the field of ecology [6].

Based on the foregoing, it is advisable to consider other alternative options, for example, a concession which is a structured version of a transaction for purchase of rolling stock, within which it is possible to combine provision of property for organisation of a repair base with supply of rolling stock to a structural subdivision of the customer. In this case, the customer will exercise certain powers of the concession grantor.

CONCLUSIONS

Thus, based on the results of the analysis of existing models for development of the principles of maintenance of rolling stock based on the LCC, it is advisable to consider the possibility of extending it to newly manufactured long-distance passenger rolling stock.

To systematise and implement the approach to ensure passenger transportation based on the conclusion of contractual relations under the LCC system, it is necessary to develop normative acts of technical regulation of design, technological, logistical and production processes with their subsequent introduction into regulatory legal acts and into the educational process to improve the competence of future transport employees [7].

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