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Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan,  
Republic of Turkmenistan, Republic of Uzbekistan

**Development of Co-ordinated National Transport Policies**

Republic of Kazakhstan, Kyrgyz Republic,  
Republic of Tajikistan, Republic of Turkmenistan,  
Republic of Uzbekistan

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*Annex 2 (1)  
Experts reports (May-December 2008)*



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## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

**Harmonization of technical prescriptions and  
improvement of road and environmental safety of motor  
vehicles (Final Report)**

1. Ensuring international level of motor vehicle safety control.
2. Environmental safety of motor vehicles
3. Norms on maximum permissible weights, axle loads and dimensions of motor vehicles.



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**

**Section: Harmonization of technical prescriptions and improvement of road and environmental safety of motor vehicles (Final Report)**

**Subsections:**

- 1. Ensuring international level of motor vehicle safety control.**
- 2. Environmental safety of motor vehicles**
- 3. Norms on maximum permissible weights, axle loads and dimensions of motor vehicles.**

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## 0 INTRODUCTION

1. At the moment one percent of all trading activities between Asia and Europe are conducted in transit along the roads traversing Central Asian countries. TRACECA and ABD strategies assume that due to reduced potential travel time on the East – West route transport industry will use Central Asian route without bypassing the region, provided the better infrastructure is ensured, border crossing procedures are harmonized and improved and transport strategies are coordinated in the format of 5 countries under consideration. In terms of intra-regional prospects it is estimated by EU that increased trading volume between CA countries will contribute to stabilization, economic growth and road transport development in the region.

2. Legal and regulatory framework of the CA countries – Republic of Kazakhstan, Republic of Tajikistan, Kyrgyz Republic, Republic of Uzbekistan and Republic of Turkmenistan regulating transport systems activities has significant differences. This resulted in increased transport component in the price of goods transported, reduced competitiveness of goods from Central Asia and emerging of numerous administrative and technical barriers.

Notwithstanding that over the last 15 years all CA countries harmonize in a certain manner their respective transport legislation within CIS initiatives, TRACECA, ADB, CAREC supported programmes, etc., there are still a number of strategic issues for CA countries hindering the establishment of civilized regional and international road transport.

3. It appears that coordination of national transport strategies in CA countries should go along the approximation of their respective transport legislation with relevant UN ECE Conventions and Agreements, Recommendations of UN ECE CR.1 «On road traffic» and CR.4 «On international traffic facilitation» and EU Directives. At the same time this would allow to:

- a) unify transport legislation within Central Asia;
- b) carry out smooth road movements between CA and to European countries;
- c) become civilized transit countries for road transport between Asia and Europe.

4. Road transport is a system element of the whole economy in any country. Affordability and flexibility of road transport service caused the increased road transport fleet numbers in CA countries.

The number of motor transport vehicles in CA countries is growing vigorously. It is now almost three times higher. As of 02.08.08 the number of all motor vehicles amounted:

- In the Republic of Kazakhstan **≈2.1 mln. vehicles**
- In the Republic of Uzbekistan **≈1.58 mln. vehicles**
- In Kyrgyz Republic **≈318,6 thous. vehicles**
- In the Republic of Tajikistan **≈255,76 thous. vehicles.**

The volume of international road transport carried out from Central Asia to all countries of Europe, China, Iran, Turkey and CIS countries is growing every year.

This raised a challenge of ensuring a proper level of technical safety control of motor vehicles taking into account the possibility of obtaining International motor vehicle technical inspection certificate. There are significant differences in permissible weights, axle loads and dimensions for buses and road trains from Central Asia performing international transport.

**The purpose** of this Section is to make a constructive contribution to the transport strategies harmonization process of the beneficiary countries, namely to the development of uniform technical requirements, methods of control and enhancement of environmental safety and technical condition, as well as in the area of maximum permissible weights, axle loads and dimensions of motor vehicles based on EU experience.

## 1 ENSURING INTERNATIONAL LEVEL OF MOTOR VEHICLE SAFETY CONTROL

Periodical technical inspection of motor vehicles has a longstanding practice. It has first mandatory in Finland (1922) and in two US States (Massachusetts, 1926, and Pennsylvania, 1928)

A multidisciplinary nature of the technical condition control of motor vehicles in operation necessitated the pursuance of uniform policy in different countries. In 1969 and International Motor Vehicle Inspection Committee was set up. The main objective of the Committee is to develop international cooperation between countries to achieve a uniform approach to the problems relating to compulsory technical inspection of motor vehicles from scientific, technical and administrative viewpoint.

**International organizations play a key role in designing basic framework for carrying out technical inspections. These are UN Economic Commission for Europe (UNECE) and European Economic Community (EEC).** According to the first revision of the UN ECE Consolidated Resolution (CR.1) "On road traffic" adopted in 1982 the following vehicle shall be required to undergo a technical inspection at least once a year:

- Motor vehicles and trailers used for passenger transport and having more than eight seats in addition to the driver's seat;
- Motor vehicles used for goods transport whose permissible maximum mass exceeds 3.5 tons, and their trailers.

In EEC Member Countries the first prescription on organization and carrying out of technical inspections were regulated by the Council Directive 77/143/EEC of 29 December 1976 «On the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers». The requirements on the frequency of technical inspection and categories of motor vehicles to be inspected under this document were in general similar to the UN ECE recommendations. The difference was that the Directive required that the control should be carried out only one year after the date on which the vehicle was first. In addition, ambulances were subject to inspection.

The distinction between the aforesaid UNECE and EEC documents is that the former is of recommendatory, while the latter - of mandatory nature. Meanwhile, these documents established only some general requirements. Each country is entitled to set forth supplementary national prescriptions on technical inspection, including more rigid ones.

With this provision in mind, the practice of motor vehicle technical inspection organization by the state varies between countries. However, there are similarities. More rigid requirements are set forth for those motor vehicle categories, where road accidents with participation thereof have an extra grave aftermaths. In particular, in France it is required that technical inspection of buses was carried out twice a year, while in Spain and Belgium even three times a year. Goods vehicles designed for carriage of dangerous goods are subject to the enhanced control.

CA countries are now facing an acute problem of harmonization of technical prescriptions and quality assurance of motor vehicle technical condition safety control. This problem can be divided into three parts.

1. Harmonization of regulatory framework on motor vehicle safety requirements and control methods.
2. Low equipping with modern control facilities or lack of motor vehicle instrumental inspection stations. All CA countries are facing this acute problem. Kazakhstan has started working on this issue. There is an understanding of the problem in the Republic of Uzbekistan.
3. A problem of international recognition of the technical inspection certificate.

## **1.1 Harmonization of regulatory framework on motor vehicle safety requirements and control methods.**

1.1 The analysis of regulatory framework on motor vehicle technical inspection shows that there are significant differences in CA countries both in terms of regulatory requirements to features, units and systems ensuring motor vehicle safety, and methods of control.

An earlier GOST 25478-91 «Road vehicles. State technical requirements to the road safety conditions. Methods of inspection» is used so far in Kyrgyzstan, Tajikistan and Turkmenistan.

1.2 On 20 December 1996 EU issued a Directive 96/96 «On the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers», instead of aforesaid Directive 77/143 EU.

Standards and inspection methods existent at that time varied in different EU member states. It is obvious that such situation impaired the competitive environment between transport enterprises in different EU member states.

Based on the Treaty on European Union, in particular Article 75, by virtue of proposals by the Commission, Economic and Social Council, in compliance with the procedure set forth in Article 189c of the Treaty, the EC Council has adopted Directive 96/96.

In each Member State, all motor vehicles registered in that State and their trailers and semi-trailers shall undergo periodic roadworthiness tests in accordance with this Directive and in particular its Annexes I and II.

Annexes I and II provide a list of categories of vehicles subject to roadworthiness tests, frequency of the tests and vehicle equipment items to be compulsorily tested.

In the Council Directive 96/96 EU it is stated, *inter alia*, that: «The roadworthiness tests shall be carried out by the State, or by a public body entrusted with the task by the State or by bodies or establishments designated or directly supervised by the State, including duly authorized private bodies. In particular, when establishments designated as vehicle testing centres also perform motor vehicle repairs, Member States shall make every effort to ensure the objectivity and high quality of the vehicle testing».

*The above justification on harmonization in EU member states of the standards and methods of roadworthiness tests of the vehicle technical condition almost fully reflect the way to be followed in harmonization of the vehicle safety requirements in CA countries.*

1.3 To ensure greater consistency in the rules regulating road traffic in Europe and other countries, higher level of road and environment safety the UN ECE Inland Transport Committee has developed in 1997 the «Agreement on periodical technical inspections» (Document Reference ECE/RCTE/CONF/4).

The full title of the document is «Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections». This 1997 Agreement came into force on 27 January 2001.

This 1997 Agreement provides the legal framework and procedures for adoption of uniform technical prescriptions relating to technical inspections of vehicles being in service and reciprocal recognition of such inspections. Annex 2 to the 1997 Agreement provides the model of the International technical inspection certificate of the vehicle.



At this time the 1997 Agreement was signed by 27 countries, including 21 EU member states, 4 CIS countries, 2 South-East Europe countries. Unfortunately none of the CA countries have yet officially acceded this Agreement. Among CIS countries Russia, Belarus, Ukraine and Georgia have signed this Agreement.

The 1997 Agreement has Addendum I and II written in the form of Rules.

Rule I «Uniform prescriptions for periodical technical inspections of wheeled vehicles with regard to the protection of the environment».

Rule II «Periodical technical inspections of wheeled vehicles. Mandatory checks».

Addenda II to the 1997 Agreement and EU Directive titled «Items to be compulsory tested» are little different each other. Addendum II to the 1997 Agreement are still being supplemented and refined by two working groups of UN ECE Inland Transport Committee:

- WP.1 – on road safety;
- WP.29 – on construction of motor vehicles.

Similar requirements are contained in the latest revision of Annex 2 to the Consolidated Resolution CR.1 “On road traffic”.

1.4 The main requirements to the methods and facilities for control of vehicle elements, units and systems ensuring road safety are:

a) Reliability of results; b) Minimization of inspection time.

On frequent occasions these requirements come into collision, however, the priority is always given to the requirement to ensure maximum reliability of control. It is not impossible to use here a traditional diagnostic technology applied to various vehicle systems and units where initially the general diagnostic is envisaged to control the parameters characterizing the vehicle performance and working capacity of a certain unit. After that a specific failure can be identified and traced through element-by-element diagnostics. When control of vehicle systems ensuring safety is performed based on traditional technology it implies a higher risk related to human and environmental safety.

Annex 2 to the UNECE Inland Transport Committee Consolidated Resolution CR. 1 On road Traffic «Periodic inspection of vehicles – checks to be carried out» (similar to provisions of Rule No. 2 of the 1997 Agreement), as well as Annex II to the Council Directive 96/96 EU «On adoption of uniform conditions for the Member States relating to roadworthiness tests for motor vehicles and their trailers» stipulate a more profound technical condition control of elements and units ensuring vehicle safety as compared to similar national EU and CIS standards. In addition, the sequence has been changed: technical condition and operation of system or unit elements is controlled first, with the parameters characterizing motor vehicle safety features ensured by such system or unit controlled next, that obviously improves and accuracy and reliability of vehicle safety assessment.

Extract from initial provisions of these Annexes (Rules) are provided following para. 1.5.

1.5 To harmonize national requirements and safety control methods of vehicles with similar ones proposed in Addendum 1 and 2 to the 1997 Agreement, the Republic of Uzbekistan has developed two State standards.

- A. GOST RUz 1057: 2004 – Road vehicles. Safety Requirements on Technical Conditions.

B. GOST RUz PY 1058: 2004 – Road vehicles. Technical Inspections.  
Methods of Control.

A. GOST RUz 1057: 2004 – Road vehicles. Safety Requirements on Technical Conditions

It mainly contains the norms and requirements to those vehicle systems and components that ensure traffic safety. These norms are harmonized with the relevant norms of EU and CIS standards. However, there are a number of new regulations increasing control precision, in particular, in the evaluation of vehicle stopping abilities.

B. GOST 1057:2004 of the Republic of Uzbekistan – Motor vehicles. Technical inspections.  
Methods of control.

It mainly contains the control procedures of vehicle elements, units, systems and properties, and specific malfunctions, by virtue of which further vehicle operations are prohibited.

The structure and a list of vehicle items to be checked are maximum harmonized with Appendix II Appendix II to the UN ECE Consolidated Resolution No. 1 “On Road Traffic”. It is called “Periodical Technical Inspection of vehicle. Mandatory checks”: a list of items, units and systems and their control methods can be applied to all vehicle categories (goods vehicle, large passenger vehicles, passenger cars, road trains, trailers).

Thus, this standard is principally different from the Inter-state GOST 29478—91 in terms of «Control methods».

Firstly, according to GOST RU 1058:2004 initially individual vehicle elements, units and systems shall be check with the features they ensure coming next. Such approach enables to more reliably evaluate the vehicle characteristics in running order.

Secondly, it is structured in table form in precise compliance with Annex 2 to the Consolidated Resolution 1, specifying the object, methods of control, failure condition thereof and supplemented by the standard parameter value that is quite convenient from the practical point of view. The control technology should be mapped out for each system or unit affecting the vehicle safety, starting with individual elements, parts, units and system and finishing with the control of features they ensure. At the same time the conclusion is drawn on the technical condition of the vehicle element, unit or system under control.

Thirdly, for each system, unit, starting with vehicle braking equipment it considers in details the condition of its elements under control, place and method of control, as well as signs and causes why it can be considered defective.

Finally, the conditions under which the vehicle stopping abilities control shall be performed at the stand and on the road are given in a separate Appendix. It also provides the permissible measurement errors of parameters characterizing vehicle braking efficiency and stability. The desired measurement accuracy of the vehicle stopping ability shall be ensured by the diagnostic stands and devices produced in Europe and Russia.

And the last, having examined this standard any vehicle owner will get a chance to know precisely why his/her vehicle can be denied from the operations in their home country and abroad.

Thus, only Uzbekistan has made a step forward and harmonized its regulatory documents on the international level.

The research institute on transport and communications of the Republic of Kazakhstan is currently developing similar draft standards harmonized with Annexes I and II to the Council Directive 96/96 EU and the 1997 Agreement.

Other CAR countries do not yet have similar regulatory provisions. Using project recommendations these countries should rapidly develop similar regulatory provisions.

To harmonize on the international level the regulatory provisions on vehicle safety control all CA countries are recommended to accede to the UNECE «Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections 1997».

**1.6** In order to accelerate the development by the CA countries of new harmonized standards on safety control of vehicles in service, along with the similar documents specified in Annex II to the Consolidated Resolution CR.1, the 1997 Agreement and Council Directive 96/96 EU, the two new draft standards are proposed in the Report:

- Draft GOST «Motor vehicles. Safety requirements to the technical condition».
- Draft GOST «Motor vehicles. Periodic inspection. Methods of control».

The draft standards above are attached in Annex I to this Report.

**Annex 2 to the 1997 Agreement**  
**PERIODIC INSPECTION OF VEHICLES – MANDATORY CHECKS**

Transmitted by the World Forum for harmonisation of vehicle regulations (WP.29)

(Recommendation 2.6)

**LIST OF ITEMS TO BE INSPECTED**

**INTRODUCTION**

This Annex contains a list of items that should be included in a periodic vehicle inspection. The following general principles apply:

1. Technical inspections should be carried out using normal inspection techniques, without dismantling or removing any part of the vehicle. The equipment used should be commercially available and that which it is reasonable to provide in an inspection station.
2. It must be possible to perform the inspection within a limited time. An average total time of 30 minutes/vehicle is considered reasonable. The actual time taken will vary according to the category and condition of the vehicle concerned.
3. Inspections are not limited to safety, but include items related to environmental protection (e.g. exhaust emissions, and noise).
4. Items which are related to the condition of the vehicle and its sustainability for use on the road but which are not considered essential in a periodic inspection are marked with an (X). All the other items listed should be considered as mandatory at a periodic vehicle inspection.

This annex identifies the vehicle system or component(s) to be inspected, gives the method of inspection and provides information on the criteria to be used to determine whether its condition is acceptable.

The "principal reasons for rejection" are not applicable to items that are not prescribed in the law of the country carrying out the inspection.

Where a prescribed item may have to satisfy quantitative criteria in order to be acceptable, the requirements to be met are those identified in the applicable regulations. In this annex "regulations" means relevant national or international regulations, directives or other legal instruments that contain specific provisions relating to the standards to be met at periodic inspection. These are not specified in this annex.

Except for some special provisions in section 9 for public passenger vehicles with the number of seats, besides driver's seat not exceeding eight seats, no distinction has been made between the categories of vehicles to which the inspections apply, since this is obvious from the test. Most of the inspections are applicable to all categories of vehicles (goods vehicles, large passenger vehicles, passenger cars and trailers).

Where a method of inspection is given as visual, it means that the inspector will, as necessary, handle relevant components, evaluate noise, etc in addition to looking at them.

The identification of the vehicle, which is a prerequisite to any inspection, has not been included in this list as it is not a safety item.

Item	Inspection method	Principal reasons for rejection
<b>BRAKING EQUIPMENT</b>		
<b>1.1 Mechanical condition and operation</b>		
1.1.1 Service brake pedal pivot	Visual inspection of the components while the braking system is operated. <b>Note:</b> Vehicles with power-assisted braking systems should be inspected with the engine switched off.	a) Pivot is too tight. b) Bearing worn. c) Excessive wear or play. d) Inappropriate repair or modification.
1.1.2 Pedal condition and travel of the brake operating device	Visual inspection of the components while the braking system is operated. <b>Note:</b> Vehicles with power-assisted braking systems should be inspected with the engine switched off.	a) Excessive or insufficient reserve travel. b) Brake control not releasing correctly. c) Anti-slip provision on brake pedal missing, loose or worn smooth. d) Inappropriate repair or modification.
1.1.3 Vacuum pump or compressor and reservoirs	Without the engine running, deplete pressure/vacuum until warning device operates. With the engine running, observe time required for vacuum or air pressure to achieve safe working value. Check that pressure relief valve is working. Visual inspection of the components at normal working pressure.	a) Insufficient pressure/vacuum to give assistance for at least two brake applications after the warning device has operated (or gauge shows an unsafe reading). b) Time taken to build up air pressure/vacuum to safe working value not in accordance with the regulations <sup>1</sup> . c) Pressure relief valve not working. d) Air leak causing a noticeable drop in pressure or audible air leaks.
1.1.4.....		
1.1.5.....		
<sup>1</sup> "Regulations" mean the relevant national or international requirements specified in national legislation.		

## Council Directive 96/96 EU

### Annex I

#### Categories of vehicles subject to roadworthiness tests and frequency of the tests

Categories of vehicles	Frequency of tests
1. Motor vehicles used for the carriage of passengers and with more than eight seats, excluding the driver's seat	One year after the date on which the vehicle was first used, and thereafter annually
2. Motor vehicles used for the carriage of goods and having a maximum permissible mass exceeding 3500 kg	One year after the date on which the vehicle was first used, and thereafter annually
3. Trailers and semi-trailers with a maximum permissible mass exceeding 3500 kg	One year after the date on which the vehicle was first used, and thereafter annually
4. Taxis, ambulances	One year after the date on which the vehicle was first used, and thereafter annually
5. Motor vehicles having at least four wheels, normally used for the road carriage of goods and with a maximum permissible mass not exceeding 3500 kg, excluding agricultural tractors and machinery	Four years after the date on which the vehicle was first used, and thereafter every two years
6. Motor vehicles having at least four wheels, used for the carriage of passengers and with not more than eight seats excluding the driver's seat	Four years after the date on which the vehicle was first used, and thereafter every two years

## Annex II

### Items to be compulsory tested

The test must cover at least the items listed below, provided that these are related to the obligatory equipment of the vehicle being tested in the Member State concerned.

The tests covered by this Annex may be carried out visually without disassembly of vehicle parts.

Where the vehicle is found to be defective with regard to the test items below, the competent authorities in the Member States must adopt a procedure for setting the conditions under which the vehicle may be used before passing another roadworthiness test.

<b>Vehicles in Categories 1,2,3,4,5, и 6</b>	
<b>1. Braking systems</b>	
The following items are to be included in the roadworthiness test of vehicle braking systems. The test results achieved during checks on the braking systems must be equivalent as far as is practicable to the technical requirements of Directive 71/320/EEC <sup>(1)</sup>	
<i>Items to be checked</i>	<i>Reasons for failure</i>
1.1 Mechanical condition and operation	
1.1.1. Footbrake pedal pivot	<ul style="list-style-type: none"><li>- Too tight</li><li>- Bearing worn</li><li>- Excessive wear/play</li></ul>
1.1.2. Pedal condition and travel of the brake operating device	<ul style="list-style-type: none"><li>- Excessive or insufficient reverse travel</li><li>- Brake control not releasing correctly</li><li>- Anti-slip provision on brake pedal missing, loose or worn smooth</li></ul>
1.1.3. Vacuum pump or compressor and reservoirs	<ul style="list-style-type: none"><li>- Time taken to build up air pressure/vacuum for the effective operation of the brakes or excessive</li><li>- Insufficient air pressure/vacuum to give assistance for at least two applications of the brake after the warning device has operated (or gauge shows unsafe reading)</li><li>- Air leak causing a noticeable drop in pressure or audible air leaks</li></ul>
1.1.4 Low pressure warning indicator or gauge	<ul style="list-style-type: none"><li>- Malfunctioning or defective low pressure indicator/air pressure gauge</li></ul>
1.1.5.....	
1.1.6.....	
<sup>(1)</sup> Council Directive 71/320/EEC of 26 July 1971 on the approximation of the laws of the Member States relating to the braking devices of certain categories of motor vehicles and their trailers (OJ No. L 202 of 06.09.1971, p. 37). Directive as last amended by Directive 91/422/EEC (OJ No. L233 of 22.08.1991, p.21).	

**1.2 The second part of the problem is low-profile instrumentation of the technical inspection stations in CA countries with the modern checkout and diagnostic facilities.**

The preliminary problem analysis showed:

**2.1** In accordance with the Order of the Ministry of Interior of the Republic of Kazakhstan No.587 dated 22.11.1999 the «Regulations on conducting State technical inspection of motor vehicles and their trailers» were approved. These Regulations allowed admittance of organizations and institutions irrespective of the forms of ownership to the diagnostics of vehicle technical condition before the technical inspection. The admittance was performed on the tender basis by the Road police of the Republic of Kazakhstan. The procedure for participation of organizations and institutions in performance of technical inspection was also established.

For the past 7 years the Republic of Kazakhstan was actively purchasing modern equipment for instrumental control (technical inspection) and opened modern vehicle technical inspection stations. Some 25 vehicle technical inspection stations were opened in Kazakhstan, with 4 technical inspection stations in Almaty, 3 – in Astana, 2 – in Karaganda, 3 – in Shymkent. The owners of these technical inspection stations were private and joint-stock companies. All activities to carry out technical inspections were supervised by the Road police.

However, in 2006 the Order of the Minister of Interior of the Republic of Kazakhstan No. 263 dated 08.06.2006 abolished the practice of vehicle technical inspection by different companies. All functions on performance of technical inspection were given back to the Road police authorities.

The Road police has virtually no modern technical inspection stations. Only relevant road police departments know how the vehicles pass technical inspection.

**1.2** In accordance with the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No.54 “On approval of the Regulations on mandatory vehicle inspection procedures” of 31.01.03, Vehicle maintenance stations are allowed to conduct vehicle inspection irrespective of the forms of ownership. However, there are no legally justified requirements to maintenance stations to be permitted to do this work.

Currently all activities related to the carrying out of the vehicle technical inspection are performed by the State Traffic Safety Service (STSS) of the Ministry of the Republic of Uzbekistan. All equipment available in all existing technical inspection stations of the State Traffic Safety Service is morally obsolete and by its metrological performance does not meet modern regulatory requirements set forth in the GOST RUz 1057: 2004 – «Road vehicles. Safety Requirements on Technical Conditions».

At the end of 2007 the only for now instrumental monitoring line equipped with modern diagnostic facilities was put in operation in Almalyk to perform technical inspection of cars, buses, trucks and road trains with the maximum axle load up to 10 tons.

**1.3** In Kyrgyz Republic the Resolution of the Government No. 135 dated 12.03.02 «On approval of the Rules for conducting state technical inspection of the motor vehicles and trailer» allowed engaging service stations to perform technical inspections.

If the vehicle owner has a certificate issued by the service station or other enterprises engaged to participate in technical inspection, the vehicles are checked by the State Automobile Inspectorate for the compliance of the registration documents to the identity number of the engine, body, chassis as well as

availability of additional equipment (first aid kits, fire extinguishers, triangular safety reflectors, anti-joy ride devices, etc.).

Technical condition against other parameters of such vehicle is controlled by the State Automobile Inspectorate in case the defects endangering the road safety are detected.

As the review of Central Technical Control Station in Bishkek belonging to the Kyrgyz State Automobile Inspectorate authorities showed there is almost no modern diagnostic equipment. If there is any, metrologically it does not meet up-to-date requirements. The technical inspection is carried out mainly by visual inspection of the vehicle.

**1.4** In accordance with the Law of the Republic of Tajikistan «On road traffic» The Government of the Republic of Tajikistan has adopted a Resolution No.406 dated 14 September 1999 «The procedure for carrying out mandatory state technical inspection of vehicles, and their trailers (semi-trailers) participating in road traffic of the Republic of Tajikistan».

At this time it is a primary regulatory document governing the procedure for carrying out periodical technical inspection. Lack of required facilities and regulatory framework for inspection of vehicle technical condition has created conditions for actual non-fulfilment of the part of requirements and provisions of the Law of the Republic of Tajikistan «On road traffic ».

Currently the performance of technical inspections is entrusted to several vehicle service stations and motor transport enterprises (e.g. vehicle service station «Vais» (Dushanbe); MTE-38 in Sogdian province, etc.) possessing relatively best facilities. In practice the work is reduced to formal filling-in of the documents without using any instrumental diagnostics facilities.

Presently private enterprises exhibit activity. Tochiron LLC., by the end of 2008 intends to build and equip with state-of-the-art facilities two technical control stations in Dushanbe.

**1.5** Taking into account European experience in organization of State technical inspection the CA countries are recommended as a matter of urgency to proceed to the civilized practice of carrying out technical inspections accepted in all European countries by admitting on a tender basis of private, joint-stock companies, etc., to perform such activities. To this end the Ministries of Interior of CA countries should have two regulatory documents (which may have different title):

*a) «Regulation on admission and participation procedures of the entities (legal entities) and private entrepreneurs in vehicle technical condition safety control during conduction of mandatory vehicle inspections».*

The admission to perform vehicle inspections of legal entities and private persons who acquired advanced instrumental monitoring lines (stations) to control vehicle technical condition safety and obtained a relevant license in the Ministry of Interior of their relevant countries would enable to save budgetary funds and conduct up-to-date vehicle inspections. It is expected that vehicle inspection will be conducted under control of engineering supervision staff of regional road safety departments. The procedures and service charge rates of such inspection stations will be defined.

It is also expected that tenders will be conducted amongst legal entities and private entrepreneurs to participate in vehicle technical condition safety control at the state inspection stations.

*b) «Requirements to material-technical base and quality of mandatory vehicle inspection performance» which would include at least the following sections:*



- Requirements to production-technical facilities, to be used as a base for performing vehicle technical condition safety control.
- Requirements to checkout and diagnostic facilities for performing mandatory vehicle inspection.
- Requirements and recommendations to work technique of vehicle safety control during mandatory vehicle inspections.
- Requirements to professional qualification level of vehicle technical condition safety inspectors.

1.6 The CA countries are also recommended to resolve this problem through investments.

For instance, such problems in certain countries of Europe, North Africa, South America were resolved through investment projects implemented by the EU investors, e.g. SGS (Switzerland) or VERITAS (France).

There is a preliminary arrangement on attraction of investments from SGS and VERITAS to organize technical inspections in CA countries.

**Business Proposal from SGS / Switzerland  
on organization of regular vehicle technical condition checks for CA countries**

The SGS «Automotive services» division has an extensive experience in development and implementation of the advanced programmes and related services on technical condition checks of both trucks and cars: the national programmes in this area are successfully implemented in a large variety of countries at four continents. Each programme is a personified product developed by SGS strictly individually based on its international experience and intimate knowledge of domestic market conditions, features and needs in each country.

Having a global experience in organizing vehicle technical condition checking business SGS gained a worldwide recognition of the management efficiency of vehicle technical condition checking center network including complete system modernization (buildings, equipment and personnel), and/or transfer to private sector of implementation of the vehicle technical condition check programmes and associated activities, which traditionally fall under state authorities competence.

**SGS offers the following services on regular vehicle technical condition checks:**

- Consulting
- Development of system profile and operation principles
- Commissioning of the projects
- System operations
- System performance supervision

**Future Action Plan and estimated time schedule**

In our opinion, the following activities and implementation schedule will enable to perform this project with the maximum success:

1	Presentation of SGS	December 2008
2	Collection of detailed information (delivery of detailed questionnaire)	December 2008
3	Coordination of the project development plan	December 2008
4	Signing of the Agreement of intent	January 2009
5	Coordination and development of the final business-plan	February 2009
6	Presentation of business-plan and coordination of the terms of project implementation	March 2009
7	Signing of contract	June 2009
8	Commencement of contract implementation (according to project plan)	June 2009

9	Practical project implementation stage	April 2010
10	Final stage of system deployment	June 2011

### SGS Company Strategy

SGS always interacts with local partner (and this project will not be an exception) through its Business Support Unit located in Ireland. It will ensure a comprehensive support, as well transfer of experience in the area of technical knowledge, staff training and quality control.

The project will also be implemented and monitored through the specialists of this division, who will introduce the latest information technology achievements both to the equipment and program products. It should also be noted that training of specialists and quality control will be performed at the highest level, with the CITA network used as a benchmark, and newly emerging realities will necessarily be taken into account at all times.

The main emphasis will be given to the commercial aspects of regular vehicle technical condition check; moreover, the whole system must and will follow European standards. A step-by-step strategy shall be applied in the private sector (accounting for 85% of the whole transport fleet) in order to achieve the highest checking standards during 10-12 years following the commencement of system introduction.

As soon as the diagnostic centers network is in place, some additional services can be supplemented to them, which we believe can be developed in the form of single service and trading center for all vehicle owners.

### List of possible additional services

- Single vehicle approval – to control import of used vehicles
- Vehicle registrations
- Technical condition checks and registration of taxis
- Taximeter calibration
- Tachograph checks and recording
- Driver's training checks
- Testing of driver's theoretical skills
- Accident investigation
- The third number plate (use of radiofrequency identification technologies to prevent car thefts).

**The foreign trade company "Columb" is a representative of SGS (Switzerland) and VERITAS (France) in CIS countries, address: 21B, 5<sup>th</sup> Donskoy passage, GSP-1, Moscow, 119991. Tel.: (495) 955-5194, Fax: 955-5195. E-mail: [columb@co.ru](mailto:columb@co.ru) . Web-site: [www.columbcom.ru](http://www.columbcom.ru)**

1.7 Modern diagnostic equipment to carry out instrumental vehicle safety control, in particular vehicle elements, units, systems and characteristics ensuring road safety is produced by a large number of enterprises and companies in EU, USA and CIS.

At the moment the best known companies producing state-of-the-art high-technology equipment for vehicle safety instrumental control are:

In Germany – MAHA, Hofmann, Bosch, BEISS BARTH, Cartec.

In France – ACTIA MULLER Services

In Italy - CORGHI

In USA – Hunter, Sun.

In Russia – GARO plant located in Novgorod, in association with Cartec, Research and Production Firm META.

It is characteristic that all companies above do not produce a complete set of fixed and mobile equipment to control vehicle safety. However, all of these companies offer complete instrumental control lines to check technical condition of vehicle elements, units and systems ensuring traffic safety. The companies themselves complement missing equipment from other manufacturers.

The basic equipment in all fixed instrumental control lines is brake tester, normally of power type, which has two identical set of rollers and installed on both sides of the pit. The brake tester enables to measure braking forces independently by axle wheels, difference of braking forces on axle, estimate maximum braking forces of vehicle or trailer. All modern brake testers are equipped with weigh-scales. If the weight of the vehicle under control is known, it is possible to estimate its specific braking force. In addition, prior to braking force control, the vehicle wheels are spinned up with the help of braking tester drums (rollers) to control road resistance (wheel hub bearing can be clamped or crashed), as well as drum ellipse or brake disk distortion.

The remaining equipment controlling technical condition of steering gear, headlights, exhaust toxicity, tire inflation pressure, etc. is installed along the line in compliance with established work technique. Many operations are performed through visual control.

*Visual control means that in addition to examination of the construction elements, a person carrying out vehicle technical inspections shall manipulate, as needed, these parts to ascertain the noise generated, clearance gaps, etc.*

All control process at the modern technical control stations shall automatically be reproduced at the monitor of personal computer or analog indicator. Modern car instrumental control lines normally include compact vehicle suspension and control stands and toe-in control stands determined by the side force. Such equipment is called veering-in stand. Instrumental control lines for trucks, trailers and buses include only stand to control front wheels toe-in.

Safety requirements for technical condition of motor vehicles in the up-to-date standards of Europe and CIS countries do not stipulate the serviceability control of suspension and toe-in. However, taking into account the impact the tire wear, fault-free suspension and vehicle road-holding ability has on vehicle driving and braking all control lines on Europe are equipped with the stands mentioned above.

Types of diagnostic equipment used at modern instrumental vehicle safety control lines.

Brake tester with suspension and toe-in analyzer (veering-in stand) SAFELINE PRO with axle-load up to 4 tons (Hofmann).



Module construction – from brake tester to safety line



Steering play control device



Gas analyzer



Headlight tester



Smoke analyzer

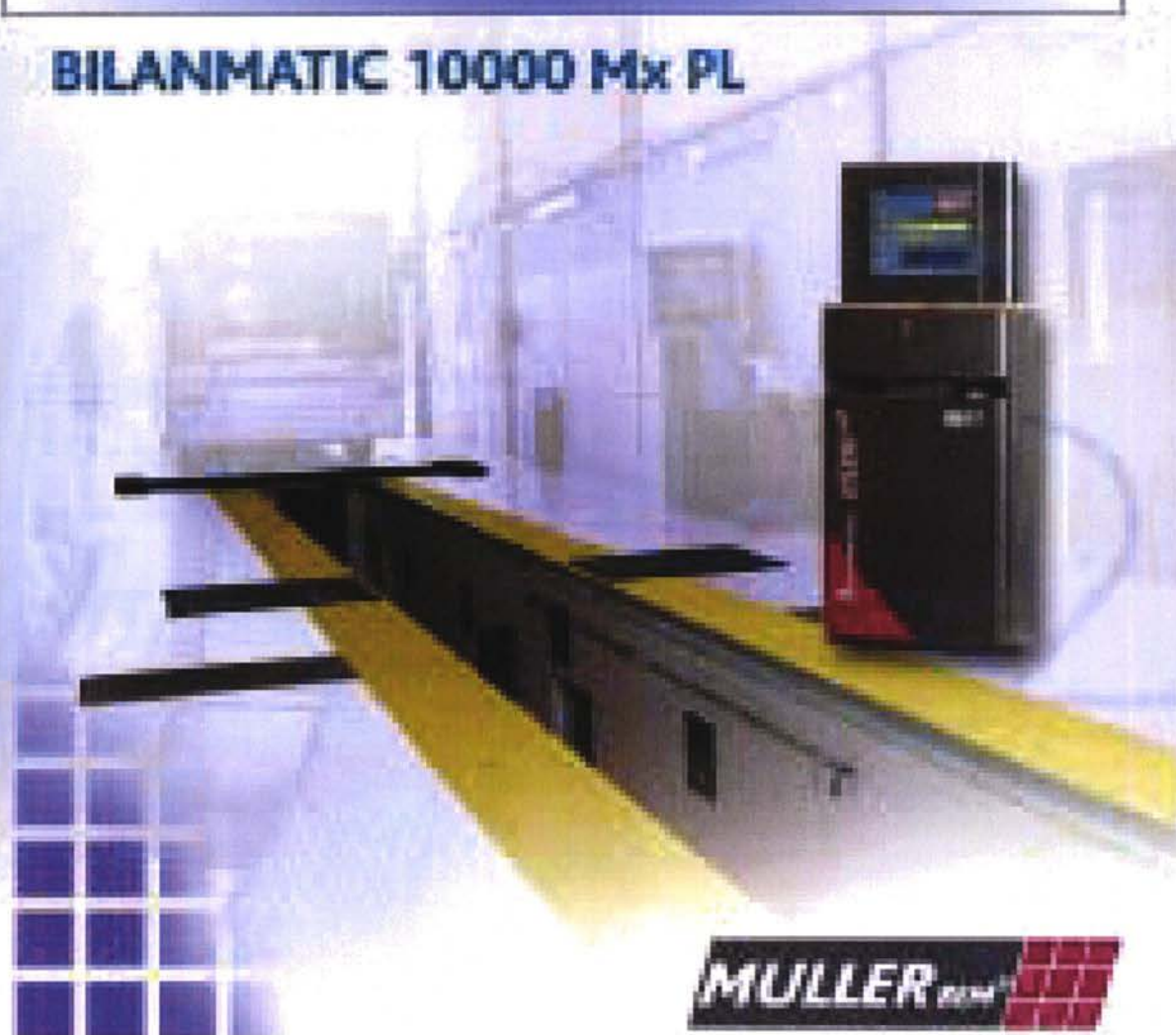
Instrumental vehicle safety control lines offered in investment projects of SGS (Switzerland)  
and VERITAS (France).

Technical Inspection Lines



Универсальная многопостовая линия  
инструментального контроля

**BILANMATIC 10000 Mx PL**



**MULLER** GROUP

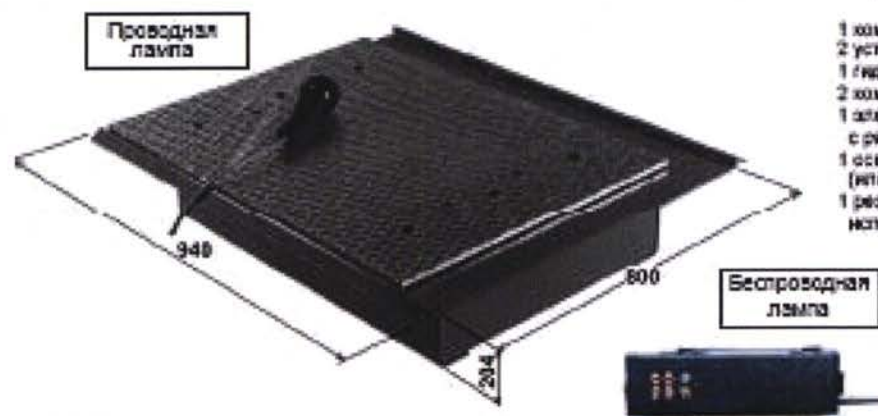


## Стенд проверки подвески грузовых автомобилей

Лифт-детекторы позволяют оператору осуществлять визуальный контроль лифта в соединениях осей грузовых автотранспортных средств (в шейках осей, поворотных шворнях, соединениях подвески, шарнирных соединениях, подшипниках качения, в мостах и т.д.).

### КОМПЛЕКТ ЛЮФТ-ДЕТЕКТОРА ВКЛЮЧАЕТ:

- 1 комплект пластин (левая и правая)
- 2 установочные рамы, реф. номер 104779
- 1 гидравлическая станция, реф. номер 22008
- 2 комплекта шлангов, реф. номер 104723
- 1 электрогенератор (в варианте лифт-детектора с радиосвязью - снабжен зарядным устройством)
- 1 осветительная лампа управления с кабелем (или устройством радиосвязи)
- 1 резервуар с маслом объемом 6 л. для использования в гидравлической цепи



<b>Лифт-детектор:</b>	
- Номинальная нагрузка на ось	15 т
- Максимальная нагрузка на ось	20 т
- Полезная площадь пластин	950 мм x 650 мм
- Продольный ход пластин	80 мм
- Поперечный ход пластин	90 мм
- Сила давления	3000 дин
- Напряжение питания	400 В три фазы-земля
<b>Гидравлическая станция:</b>	
- Максимальное давление	200 бар
- Мощность двигателя	4кВт
<b>Электрогенератор:</b>	
- Напряжение питания	400 В
- Разъемы подключения внешних устройств : на 24 и 12 В со встроенным трансформатором	
<b>Осветительная лампа:</b>	
- 12 В - 20 Вт, галогенная	
<b>Радиосвязь:</b>	
- Радиоприемное устройство	433 МГц/10 каналов
- Аккумулятор	12 В / 2-3 А/час
- Лампа	12В - 12 Вт, галогенная
- Дополнительное зарядное устройство	12В

## Тормозной стенд:

двухрамный,  
нагрузка на ось 20т

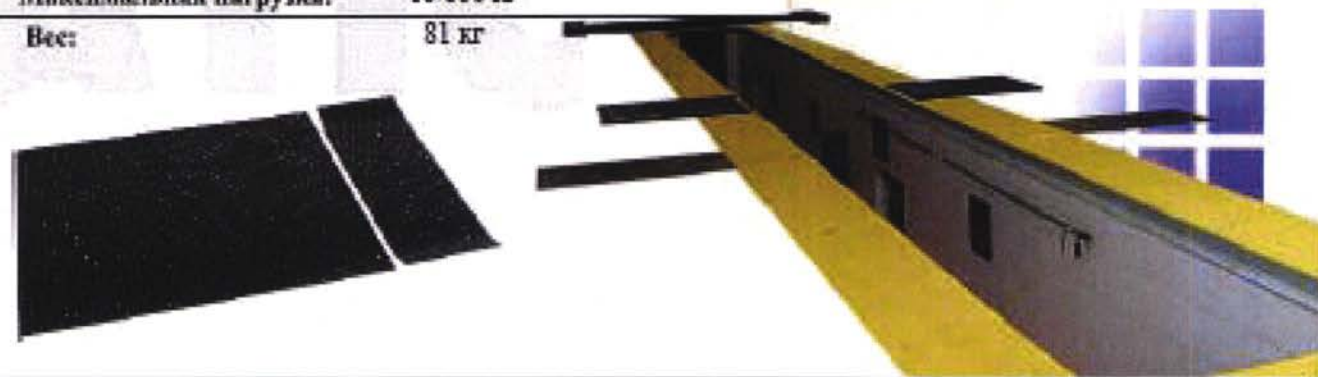
Диаметр барабанов	250 мм
Скорость вращения	2,2 км/ч
Мощность двигателей	2 x 11 кВт
Максимальная тормозная сила	2 x 4000 дан
Система зацепления	2 x 4 датчика
Покрытие роликов	эпоксидно-силиконовое
Коэффициент сцепления сухих колес	более 0,9
Коэффициент сцепления мокрых колес	более 0,7
Минимальное расстояние между колесами	800 мм
Максимальное расстояние между внешними краями колес	2800 мм
Напряжение питания	400 В, 50 Гц
Две скорости	опцион
Металлические барабаны	опцион

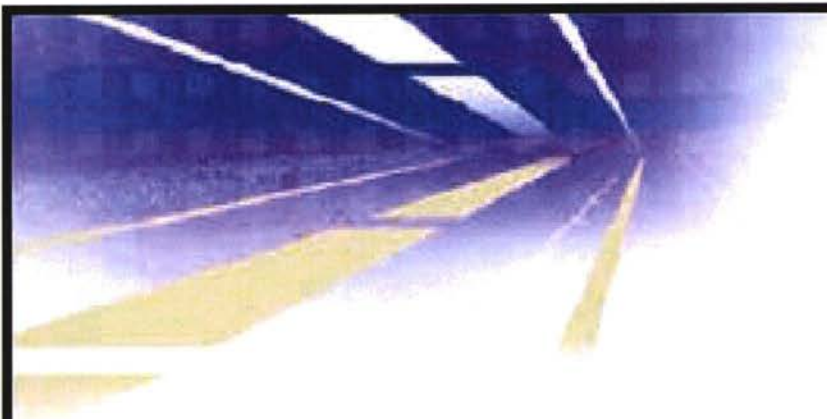
## Радиоизмерительный комплект устройств для поверки давления в системе тормозов



## Стенд проверки бокового скольжения колес с пластиной разгрузки

Размеры	750 x 1020 x 36 мм
Ход пластины:	± 17 мм
Диапазон измерений:	± 20 м/км
Максимальная нагрузка:	10 000 кг
Вес:	81 кг





## Комбинированный 4-х компонентный газоанализатор



ИК - клавиатура	
Монохромный принтер	
Датчик кислорода	
256 - цветной ЖК - экран	
Датчик числа оборотов двигателя	
Датчик температуры масла	
Гнездо РСМСА	
Напряжение питания	220 В, 50 Гц
Аккумулятор	10 или 16 В
Размеры	400 x 180 x 430 мм
Температура окружающей среды	от + 5°С до + 40°С
Вес	8,6 кг
Мощность	70 Вт

## Приставка дымности

Диапазон измерений	от 0 до 99,9%, точность до 0,1%
Температура выхлопных газов	от 0 до 600°С, точность до 1°С
Время прогрева	5 мин
Автоматическая калибровка	
Напряжение питания	12-0-12 В
Размеры	470 x 230 x 220 мм
Вес	6 кг







**БИЛАНМАТНК 10000** представляет собой оборудование для проверки соответствия требованиям безопасности грузовых автотранспортных средств с рамой типа бигблэк.

Основные особенности оборудования:

- Возможность как однопостового, так и многопостового решения;
- Динамическое взвешивание;
- Диагностика тормозной системы грузовых автотранспортных средств 4x4, 6x4 и т.д.
- Диагностика сопротивления вращению;
- Диагностика овальности тормозных барабанов;
- Измерение максимального торможения;
- Измерение максимального значения неравномерности торможения;
- Измерение эффективности торможения по оси
- Измерение эффективности торможения всего автотранспортного средства
- Измерение величины давления в пневматической и гидравлической системах с помощью датчиков с использованием радиосвязи;
- Связь со стендом проверки бокового складывания колёс;
- Связь с диагностическими стендами: устройством для проверки света фар, газоанализатором, устройством проверки уровня дышности;
- Ввод данных об автотранспортном средстве;
- База данных проверенных транспортных средств;
- Встроенная программа визуального контроля;
- Черно-белая или цветная (опционально) печать результатов диагностики, с графиками или без них;
- Связь с компьютером.

## Стойка ЦПУ

- Персональный компьютер;
- ЖК-монитор 19";
- Принтер;
- Пульт дистанционного управления.



**MOBILE DIAGNOSTIC COMPLEX – SEMITRAILER FOR PASSENGER CARS PRODUCED BY ACTIA MULLER (FRANCE)**



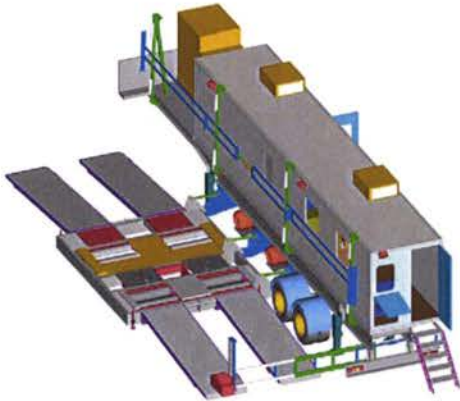
**Roller jack for vehicle visual inspection from below**



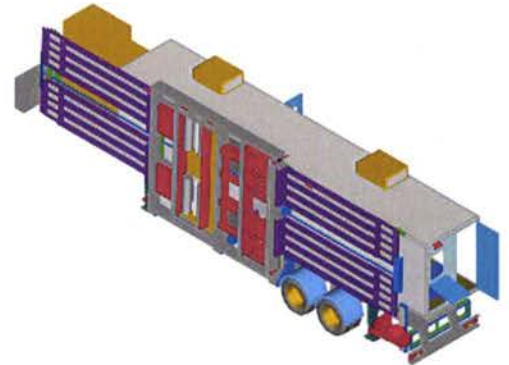
**Portable wireless terminal**

## MOBILE DIAGNOSTIC COMPLEX – SEMITRAILER FOR for passenger and goods vehicles with the longitudinal working platform arrangement

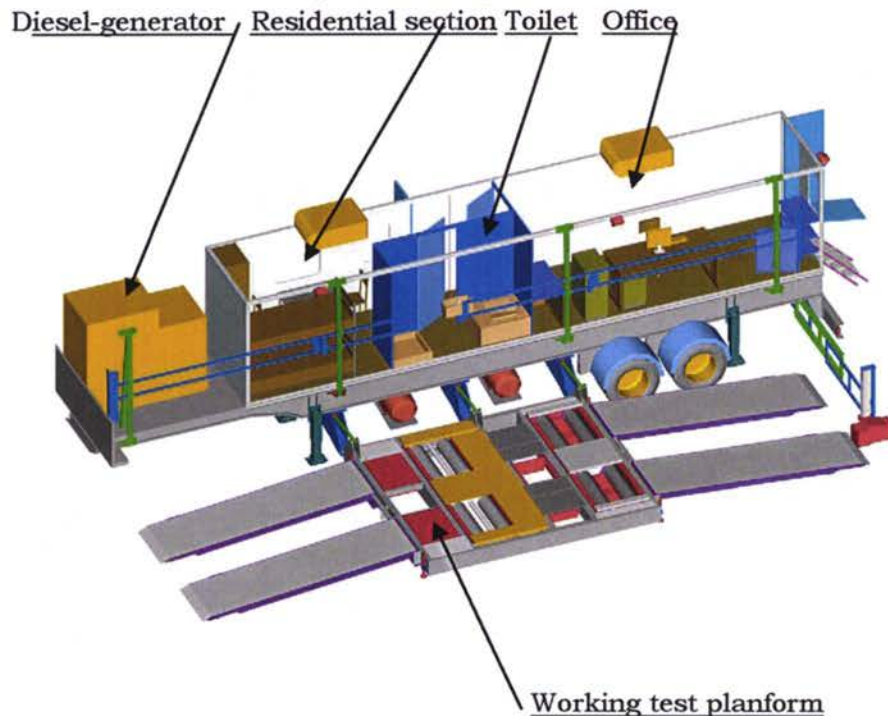
a) Mobile complex in operating position



б) Mobile complex in assembled



в) Mobile complex in section



### GENERAL INFORMATION

This type of semi-trailer is designed for performing vehicle technical condition test at the places with limited area, in this regard the provisions were made for the possibility to deploy and accommodate diagnostic line in parallel to semi-trailer axle. The deployment of the complex-semitrailer to the working position shall be performed on the relatively plain and solid surface to avoid ground surface punching by the support column. The semi-trailer should be uncoupled from the tractor to ensure the best horizontal position.

### 1.3 The problem of Technical Inspection Certificate recognition

3.1 As it was noted in para.1.2 the «Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» of 1997 became effective on 27.01.2001. This 1997 Agreement was concluded on the following basis:

- Recognizing the growth of road traffic and the resultant increase in danger and nuisance which presents all Contracting Parties with safety and environmental problems of a similar nature and seriousness;
- Desiring to achieve greater uniformity in the rules governing road traffic in Europe and to ensure a higher level of safety and protection of the environment;
- Desiring to define for this purpose uniform conditions on Periodical Technical Inspections of wheeled vehicles that it will suffice for these vehicles to fulfil in order to be certified in their countries;
- Whereas the time needed to carry out such Periodical Technical Inspections of certain wheeled vehicles and the expense thereby incurred are factors which can affect the competitive conditions between road transport operators in the territories of the Contracting Parties; whereas the present systems of testing vary from one territory to another;
- Whereas it is therefore necessary to harmonize as far as possible the frequency of test and the compulsory items to be tested;
- Whereas the fixing of the date of application of the measure referred to in this Agreement should allow time for the administrative and technical arrangements required for carrying out the tests to be set up or extended in scope

3.2 The main reason stimulated the development of this 1997 Agreement in the EU was the fact selective technical condition safety control on the instrumental control lines of the road trains and buses from Eastern Europe countries (Poland, Bulgaria, Baltic States, Romania, etc.) as well as new CIS countries, from the first attempt were 80% non-compliant with the standards established in EU.

EU states could not allow operations on their highways of foreign vehicles with defects in the systems responsible for traffic safety.

3.3 The 1997 Agreement specifies that the Contracting Parties shall establish Rules for periodical technical inspections of wheeled vehicles registered or taken into service in their territory and shall reciprocally recognize the inspections carried out in accordance with those Rules. The Rules shall be established through an Administrative Committee made up of all the Contracting Parties in conformity with the Rules of Procedure set out in Appendix 1 and on the basis of the following paragraphs and articles.

For the purposes of this Agreement:

The term «wheeled vehicles» shall include any motor vehicles and their trailers;

The term «technical inspection» shall include the inspection of any equipment and parts which are used on wheeled vehicles and whose characteristics have a bearing on road safety, protection of the environment and energy saving; the term «rules for periodical technical inspections of wheeled vehicles» shall include provisions for the proof of the periodical administrative uniform procedure by which the competent authorities of a Contracting Party declare, after the required verifications have been carried out, that the wheeled vehicle conforms to the requirements of the given Rules. As proof shall serve a technical inspection certificate the model of which is reproduced in Appendix 2 to the 1997 Agreement.

A Rule, after having been established in accordance with the procedure indicated in Appendix 1, shall be communicated by the Administrative Committee to the Secretary-General of the United Nations, hereinafter called «Secretary-General». As soon as possible thereafter the Secretary-General shall give notification of this Rule to the Contracting Parties.

The Rule will be considered as adopted unless, within a period of six months from this notification by the Secretary-General, more than one-third of the Contracting Parties at the time of notification have informed the Secretary-General of their disagreement with the Rule.

The Rule shall cover the following:

- a) The categories of wheeled vehicles concerned and the frequency of its inspection;
- b) The equipment and/or parts to be inspected;
- c) Test methods by which any performance requirements are to be demonstrated;
- d) Conditions for granting inspection certificate and their reciprocal recognition;
- e) The date(s) on which the Rule enters into force.

The Rule may, if necessary give references to the technical control centers authorized by the competent authorities where the wheeled vehicles can be inspected.

The 1997 Agreement prescribed a format of the International Technical Inspection Certificate.

**3.4** On 27.01.2000 the Amendment No.2 to the European Agreement supplementing the Convention on Road Traffic, open for signature in Vienna on 08.11.1968, made in Geneva on 1 May 1971, became effective. In accordance with this Amendment No. 2 signatory countries to this European Agreement are also recommended, based on new para.26-bis, to obtain, when passing periodical inspection, an International Technical Inspection Certificate of a standard pattern prescribed in the 1997 Agreement.

All EU member-states, Switzerland, Russia, Ukraine and Belarus acceded to the European Agreement supplementing the Convention on Road Traffic.

**3.5** The new Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982 entered into force on 20 May 2008.

According to aforesaid Annex 8, it intends to define measures that need to be implemented in order to facilitate border crossing procedures for the international road transport.

Actual inspections and physical checks at the border crossing points are recommended, as far as practicable, to replace with the examination of the standardized worldwide documentation and certificates permitting required control measures to be taken in respect of drivers, vehicles and goods in the point of origin or destination. In addition, new Annex 8 detailed a number of basic infrastructure requirements to perform efficient border control procedures on the road transport.

In particular, the proposed provisions of Annex 8 cover the following aspects:

- facilitation of visa procedures for professional drivers (Article 2);
- operational measures to accelerate border crossing procedures for goods, in particular such urgent consignments as live animals and perishable goods (Article 3);
- concerted technical provisions related to acceleration of motor vehicle checks (technical inspections) and equipment utilized for carriage of goods under temperature control (Article 4);

- standardized weighing operations and procedures to avoid as far as possible repetitive vehicle weighing procedures at border crossings;
- minimum infrastructure requirements to ensure efficient operation of the border crossing points;
- Control provisions to facilitate the proper fulfillment of this Annex in all Contracting Parties of the Conventions.

The new Annex 8 to the «Convention on Harmonization» is related to the application of provisions of the Agreement on the International Carriage of Perishable Foodstuffs and the Special Equipment to be used for such Carriage (1970), and the Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections (1997) and virtually it contains recommendations on application of these provisions when it deemed possible.

One of such provisions is the need for availability of the International Technical Inspection Certificate for the vehicle. The requirements on the content of such certificate and its form are similar to those set forth in the «Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections (1997)». All countries of Europe and CIS, except Tajikistan and Turkmenistan have acceded to the «Convention on Harmonization (1982)».

**Appendix 1 to Annex 8 to the « Convention on Harmonization»**

**INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE<sup>1</sup>**

In accordance with the Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the Reciprocal recognition of such Inspections (1997), entered into force on 27 January 2001.

1. Accredited technical inspection centers are responsible for conducting the inspection tests, granting the approval of compliance with the inspection requirements of the relevant Rule(s) annexed to the 1997 Vienna Agreement, and specifying the latest date of next inspection to be indicated in line No. 12.5 of the International Technical Inspection Certificate, the model of which is reproduced hereafter.
2. The International Technical Inspection Certificate shall contain the information indicated hereafter. It may be a booklet in format A6 (148x105 mm), with a green cover and white inside pages, or a sheet of green or white paper of format A4 (210x197 mm) folded to format A6 in such a way that the section containing the distinguishing sign of the State or of the United Nations forms the top of the folded Certificate.
3. Items of the certificate and their content shall be printed in the national language of the issuing Contracting Party by maintaining the numbering.
4. The periodical inspection reports which are in use in the Contracting Parties to the Agreement may be used as an alternative. A sample of them shall be transmitted to the Secretary General of the United Nations for information to the Contracting Parties.
5. Handwritten, typed or computed generated entries on the International Technical Inspection Certificate to be made exclusively by the competent authorities, shall be in Latin characters.

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<sup>1</sup> As of 1 January 2004.

CONTENT OF INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE

<p>Место для отличительного знака государства или ООН</p>
<p>..... (Административный орган, отвечающий за проведение технического осмотра)</p>
<p>.....<sup>1</sup></p>
<p>CERTIFICAT INTERNATIONAL DE CONTROLE TECHNIQUE<sup>2</sup></p>

- 1- Title «INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE» in national language.  
2- Title in French.

<p>INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE</p>	
1.	License Plate (Registration) №.....
2.	Vehicle identification No.....
3.	First registration after manufacture (State, Authority) <sup>1</sup> .....
4.	Date of first registration after the manufacture .....
5.	Date of technical inspection.....
<p>CERTIFICATE OF COMPLIANCE</p>	
6.	This Certificate is issued for the vehicle identified under Nos. 1 and 2 which complies at the date under No. 5 with the Rule(s) annexed to the 1997 Agreement on the adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections.
7.	The vehicle has to undergo its next technical inspection according to the Rule(s) under No. 6 not later than: Date: (Month/Year).....
8.	Issued by .....
9.	At (place).....
10.	Date .....

- <sup>1</sup> – If available, authority and state where the vehicle was registered for the first time after its manufacture.  
<sup>2</sup> – Seal or stamp of the authority issuing the certificate



<b>Subsequent periodical technical inspection(s)<sup>1</sup></b>	
<b>12.1</b>	<b>Done by (Technical Inspection Center)<sup>2</sup> .....</b>
<b>12.2</b>	<b>(Stamp)</b>
<b>12.3</b>	<b>Date.....</b>
<b>12.4</b>	<b>Signature.....</b>
<b>12.5</b>	<b>Next inspection due not later than (month/year).....</b>

<sup>1</sup> – Items 12.1 – 12.5 to be repeated if the Certificate is to be used for subsequent annual periodical technical inspection.

<sup>2</sup> – Name, Address, State of the Technical Inspection Center accredited by the competent Authority.

**3.6** Thus, the requirement of mandatory availability of the International Technical Inspection Certificate for the international carriers is not far off.

It should be noted that road transport vehicle of the country not yet party to the UNECE Conventions above enters the territory of foreign country which require and issue International Technical Inspection Certificate (ITIC), such foreign country being a party to the aforesaid conventions is entitled to request (ITIC) from the carrier, as the convention requirements are applied at the territory thereof. Presently, the officers of State Traffic Safety Inspectorate of Russia start requesting ITIC from the CA carriers. There are such facts in place. Taking into account that up to 70% of all international carriages performed by the carriers from CA countries are destined in Russia or in transit through Russia, in the near future lack of ITIC may be a problem in border crossing.

In this regard, CA countries shall open at an early date at least one modern technical control station to perform technical inspection of road trains and buses carrying out international transport.

In Kazakhstan such technical inspection station is available in Almaty. The owner is «Interautoservice».

In Uzbekistan there is also one technical control station in Almalyk (60 km from Tashkent) equipped with the state-of-the-art diagnostic stands and devices, where it is possible to carry out vehicle instrumental control and issue ITIC for buses and road trains. This technical control station belongs to the State Traffic Safety Service of the Ministry of Interior of the Republic of Uzbekistan.

**3.7** Looking in general at the state problem of ensuring quality vehicle technical condition safety control at the international level existing in all CA countries, taking into account limited budget financing of

control facilities, it is necessary, as a matter of urgency, to make decisions recommended in paras.2.5 and 2.6 of this section of the Report.

#### **1.4 Recommendations on the problem of ensuring international level of vehicle safety control in CA countries.**

The Central Asian countries are recommended to:

a) Establish a uniform procedure and frequency of passing compulsory technical inspection for each category of vehicles not less than those recommended in Annex I to the Council Directive 96/96 EU « On the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers».

b) Harmonize national regulatory and technical documents prescribing the standards and methods of the safety control of vehicle in operations with the requirements of the Consolidated Resolution CR.1 UNECE « On road traffic», International Agreement «Concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections (1997)» (hereinafter the 1997 Agreement) and Council Directive 96/96 EU;

c) To this end, make the best use of draft harmonized standards on safety control of vehicle in operations developed and proposed by the project experts:

- Draft GOST «Motor vehicles. Safety requirements to the technical condition».
- Draft GOST «Motor vehicles. Periodic inspection. Methods of control»;

d) Lay down, at the legislative level, the conditions for carrying out mandatory vehicle technical inspection, making provision for participation of specialized organizations of different forms of ownership in carrying out of mandatory technical inspection, including granting of privileges and preferences to private companies installing high-technology production facilities to perform mandatory vehicle technical inspection;

e) To ensure quality vehicle technical condition safety control, introduce tender procedure for admission of private companies to the process of carrying out mandatory technical inspections, by setting forth:

- *Requirements on admission and procedures of participation of the entities (legal entities) and private entrepreneurs in vehicle technical condition safety control during conduction of mandatory vehicle inspections;*
- *Requirements to material and technical base and quality of mandatory vehicle inspection performance;*

f) Take measures aimed at creation of more attractive investment climate, influx of additional project financing funds for development and introduction of advanced technical inspections stations to perform mandatory technical inspection.

**Give consideration to available similar proposal received from investment companies SGS (Switzerland) and VERITAS (France).**

**The foreign trade company “Columb” is a representative of SGS (Switzerland) and VERITAS (France) in CIS countries, address: 21B, 5<sup>th</sup> Donskoy passage, GSP-1, Moscow, 119991. Tel.: (495) 955-5194, Fax: 955-5195. E-mail: [columb@co.ru](mailto:columb@co.ru) . Web-site: [www.columbcom.ru](http://www.columbcom.ru)**

g) For the purpose of implementation of the Annex 8 to the «Convention on Harmonization, 1982», develop a mechanism for introduction of the International Technical Inspection Certificate taking into account requirements set forth in the 1997 Agreement concerning, *inter alia*:

- Categories of relevant wheeled vehicles and the frequency for inspection thereof;
- Vehicle equipment items and/or parts subject to inspections;
- Methods of inspection to be used to support requirements imposed on vehicle operational performance;
- Conditions for issuance of inspection certificates, prescribed format and its reciprocal recognition;
- Technical control centers authorized by the competent authorities to carry out wheeled vehicle inspections;

h) Accede to the International agreement developed by the UNECE Inland Transport Committee «Concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» 1997, effective from 27.01.2001.

## 2 ENVIRONMENTAL SAFETY OF MOTOR VEHICLES

### 2.1 Automobiliation and environment

Motor vehicles being a complicated engineering system have a broad-spectrum environmental impact. An intensive consumption of natural resources is characteristic for automobile industry. It is found that for production of 10 mln. motor vehicles (mainly cars) some 10 mln. tons of steel, 500 thous. tons of glass, 2.5 mln. tons of cast-iron, 230 thous. tons of aluminium, over 1 mln. tons of rubber, etc. are consumed.

Environmental safety is a situation whereby there is no threat of environmental disruption and public health damage which is achieved through a range of activities aimed to reduce adverse man's impact on environment.

Various factors have impact on vehicle environmental safety:

- Specific density of the common use road transport;
- The level of production and technical facilities development of enterprises;
- Maintenance and repair arrangements;
- Regulatory security of environmental impacts;
- Vehicle technical condition control system;
- Combustion engine design, technical and operating condition;
- Industrial waste utilization and waste-water treatment systems;
- Town planning solutions;
- Improvement of the combustion engine working processes;
- Use of exhaust gas neutralizer and soot collector;
- Road transport dieselisation;
- Detoxifying fuel additives;
- Use of environmentally clean alternate fuels;
- Use of in-built environmental diagnostic systems;
- Instrumentation of the enterprises with gas analyzer, smoke gauge;
- Production wastes collection, processing and utilization;
- Legal and regulatory aspects of the quality of motor fuels used;
- Availability of transport free areas in big cities;
- Traffic management situation and systems of motor roads, streets;
- Roads equipping with environmental facilities;
- Systematic inventory of hazardous emissions and continuous updating of the enterprise environmental passport;
- Use of ethylated petrol;
- Environmental and legal qualification of legal entities and physical persons in road transport;
- Carrying out of environmental and energy assessment of various projects;
- Social and economic issues, etc.

Figure 2.1 shows types of road transport environmental impacts. Among all modes of transport vehicles have the highest impact on environment pollution (see Table 2.1).

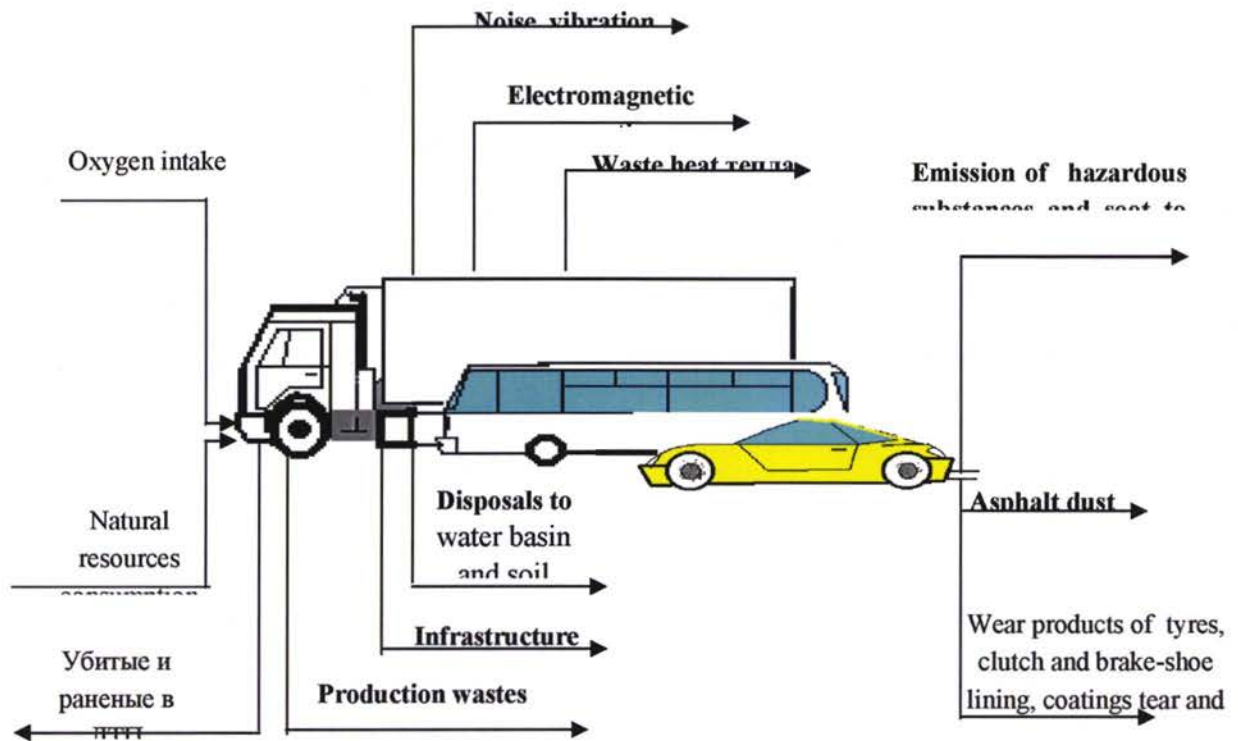


Figure 2.1 Types of road transport impact on the environment

Distribution of fuel consumption and Распределение потребления топлива и hazardous emissions by modes of transport in EU countries.

Table 2.1.

Mode of transport	Rated capacity, %	Fuel consumption, %	Air emissions, %
Road	50.0	56.5	71.3
Railways	16.0	11	6.3
River	8.0	5.9	2.6
Road construction machines	4.0	1.9	1.3
Agricultural and Forestry machines	20.0	23.5	17.8
Air	2.0	1.2	0.7
<b>TOTAL:</b>	<b>100</b>	<b>100</b>	<b>100</b>

The main methods of prevention or reduction of adverse environmental impact of road transport are:

- Continuous development of motor vehicle design, engines thereto, taking into account the used of non-conventional types of energy;
- Improvement of the vehicle fleet structure;
- Preferential development of low-pollution modes of transport in the cities (metro, express tramways, light rail transport);
- Use of environmentally clean fuels;
- Expansion of the urban bus traffic;
- Improvement of transport urban planning;

- Optimisation of the road traffic management;
- Continuous vehicle technical condition control;
- Use of modern methods and facilities in vehicle maintenance and repair;
- Certification of vehicles, fuel quality.

Combustion engine exhaust gases chemical composition examination showed that they contain some 200 various chemical compounds, which have different impact on environment and living organisms. Only one car produced in 1985-1990 during one year of operation discharges an average 800 kg of carbon oxide, about 40 kg of nitrogen oxides, almost 200 kg of poisonous hydrocarbons, while consuming over 4 tons of oxygen.

**Availability of toxic substances of carbon oxide (CO), hydrocarbons (CH), nitrogen oxides (NO<sub>x</sub>), particulate matters (PM), lead (Pb), sulphur (SO<sub>2</sub>), aldehydes, etc in the vehicle engine exhaust gases discharged to the atmosphere constitutes a hazard for human health.**

The priority exhaust gas pollutant causing cancerous diseases is a CH polycyclic aromatic family, benzpyrene, contained in the amount of 0,01 mg/m<sup>3</sup> in gasoline engine exhaust gases and in the amount up to 0,02 mg/m<sup>3</sup> in diesel engines.

Hazardous substance when get into the human body, cause a headache, choking, convulsions, loss of consciousness, pulmonary oedema, etc.

Figure 2.2 shows the proportion of three main hazardous substance discharges by various types of vehicles in large cities.

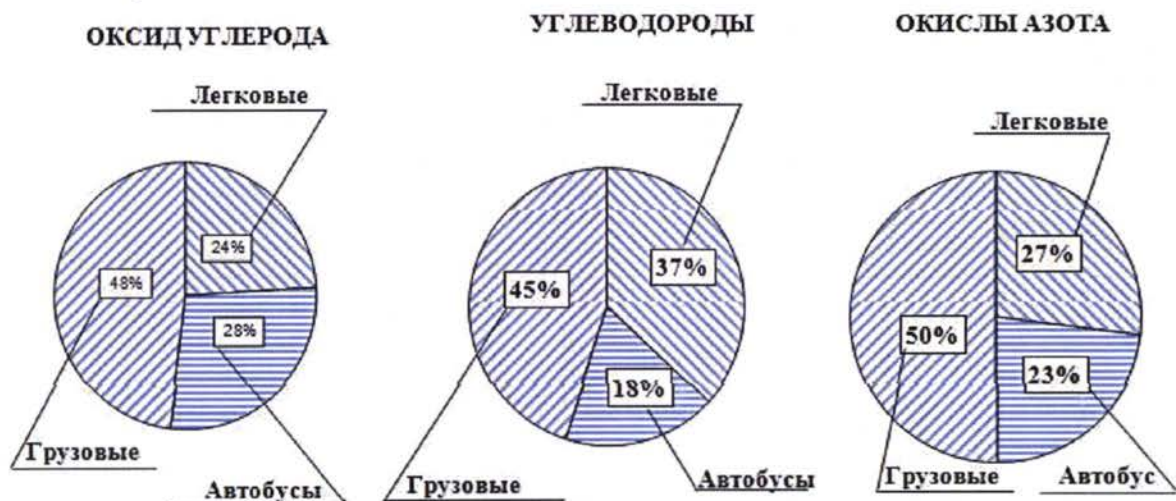


Рис. 2.2. Выбросы вредных веществ и их соотношение по видам автомобильного транспорта в крупных городах (~10 млн. населения).

**The most toxic component in vehicle exhaust gas are nitrogen oxides. If we take carbon oxide harmfulness as a unit, the nitrogen oxides harmfulness equals to 10, and hydrocarbons – 0,65.**

*Pursuant to the Terms of Reference of this section of the project, the harmonization of technical requirements, regulatory documents in the area of toxicity and vehicle exhaust gas control in CA countries and development projections thereof will be considered in details below.*

## 2.2 Legal and regulatory aspects of vehicle environmental safety improvement

Extensive air protection activities are carried out worldwide. However, the environmental situation associated with the air pollution remains unsatisfactory.

In developed countries the composing of environmental requirements to the road transport is only one of the elements of task-specific national ambient air improvement policy. In USA, Western Europe, Japan the challenge of ambient air protection against road transport harmful impact is in the list of priority national problems, on a par with safety issue. The vehicle hazardous substance emission standards set forth thereat are supported by the serious scientific research and justified based on the wide range of factors: hygienic, social, technical, economic. Introduction of stricter environmental requirements in these countries is implemented under the strong public pressing and often by overcoming the automobile industry resistance.

The adoption of «Euro-3» and «Euro-4» requirements in Europe was preceded by a wide range of researched under so called Auto-Oil I (1992-1996) and Auto-Oil II (1997-2000) programs. The comprehensive researches were carried out in the course of implementation of these programs, including modeling and forecasting of the situation improvement concerning the и прогнозирование развития ситуации в отношении hazardous substance emissions and ambient air quality as the different levels of environmental requirements are improved. The efficiency of various activities was studied in terms of cost-effectiveness factor to achieve ambient air hygienic ratings adopted for a certain period of time. Moreover, even in the EU countries by 2010, i.e. in 5 years after introduction of «Euro -4» requirements, not all hygienic standards for ambient air will be achieved.

At the moment it seems to be rather early for CA countries to independently develop and implement such programs. However, it is just necessary to use international experience in this vital area.

The standards determining the toxicity index, establishing permissible emissions norms, and regulating apparatus applied and testing methods were used as a technical and legal basis for action plan on reduction of hazardous substances in the motor vehicle engine exhaust gases.

In EU there are statutory maximum permissible toxic component emission norms of motor vehicles and it is planned to tighten them for the forthcoming years.

Table 2.2 shows EU toxicity norms for heavy-duty diesel vehicles in comparison with the earlier UNECE Regulations and development projections.

Table 2.2

EU Directives, UNECE Regulations	Выбросы загрязняющих веществ, г/кВт ч			
	CO	CH	NO <sub>x</sub>	Particulate matters
UN ECE Rule 49 (1982)	14,0	3,5	18,0	–
Council Directive 88/77 EU – UN ECE Rule 49-01 («Euro-0») 1990	11,2	2,4	14,4	–
«Euro-1» (from 1993)	4,5	1,1	8,0	0,36
«Euro-2» (from 1996)	4,0	1,1	7,0	0,15
«Euro-3» (from 1.10.2001)	2,0	0,6	5,0	0,1
«Euro-4» (from 2005)	1,5	0,5	3,5	0,08
«Euro-5» (expected from 2008 – 2009)	1,0	0,5	2	0,05

## European toxicity norms, g/km, for cars based on NEDC methodology

Table 2.3

Engine type / norm	NO <sub>x</sub>	C <sub>x</sub> H <sub>y</sub>	CO	Particulate matters
<b>Gasoline</b>				
Euro-1	0,57	0,77	3,9	–
Euro-2	0,20	0,34	2,7	–
Euro-3	0,15	0,20	2,3	–
Euro-4	0,08	0,10	1,0	–
<b>Diesel</b>				
Euro-1	1,02	0,123	3,22	0,18
Euro-2	0,63	0,08	1,06	0,08
Euro-2 with direct injection	0,81	0,10	1,06	0,10
Euro-3	0,50	0,06	0,64	0,05
Euro-4	0,25	0,05	0,50	0,025

The forecited norms for vehicle diesel and gasoline engines are meant for control on special expensive high-precision plant, which normally available from vehicle manufacturers, the largest industry research institutes and testing grounds. In CIS countries the full range of such equipment is available only in automotive engineering scientific and research test and development center (Central testing ground) located near Dmitrov city in Moscow province.

2.2.1 The permissible pollutant parameters established by the EU Directive from Euro-1 to Euro-5 are in agreement with the following norms of UNECE Regulations:

1. UN ECE Regulations No. 24 (24-03 <\*>) "Uniform provisions concerning:

- I. the official approval of Compression Ignition Engines with Regard to the Emission of Visible Pollutants;
- II. the Approval of Motor Vehicles with Regard to the Installation of Compression Ignition Engines of an Approved Type;
- III. the Approval of Motor Vehicles Equipped with Compression Ignition Engines with Regard to the Emission of Visible Pollutants by the Engine;
- IV. the Measurement of Power of Compression Ignition Engines.

2. UN ECE Regulations No. 49 (49-02, 49-03, 49-04 <\*>).

«Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles».

3. UN ECE Regulations No. 83 (83-02, 83-03, 83-04, 83-05 <\*>).

«Uniform Provisions Concerning the Approval of Vehicles with Regard to the Emission of Pollutants According to Engine Fuel Requirements».

4. UN ECE Regulations No. 96 (96-01 <\*>).



«Uniform provision concerning the approval of compression ignition engines to be installed in agricultural and forestry tractors and in non-road mobile machinery with regard to the emissions of pollutant by the engine».

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<\*> Numbers of amendments introducing changes in UNECE Regulations.

Table 2.4 shows International Vehicle Classification in compliance with the harmonized CIS standard – GOST 31286 – 2005 «Road transport. Basic terms and definitions. Classification».

Listed below are the specific requirements – UNECE Regulations on hazardous substance emissions based on motor vehicle categories.

**Table 2.4**

### **Classification of vehicles**

- 1. Category M** – Motor vehicles having at least four wheels and used for carriage of passengers:
  - 1.1 Category M<sub>1</sub> – Vehicles used for the carriage of passenger and comprising no more than eight seats in addition to the driver's seat.
  - 1.2 Category M<sub>2</sub> – Vehicles used for the carriage of passengers, comprising more that eight seats in addition to the driver's seat, and having a maximum weight not exceeding 5 metric tons.
  - 1.3 Category M<sub>3</sub> – vehicles used for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum weight exceeding 5 metric tons.
  - 1.4 Vehicles of Category M<sub>2</sub> and M<sub>3</sub> belong to:
    - a) one or more of the three classes (I, II, III);
    - б) one of two classes (A, B).
  - 1.5 Class I – Vehicles constructed with areas for standing passengers, to allow frequent passenger movement.
  - 1.6 Class II – Vehicles constructed principally for the carriage of seated passengers, and designed to allow the carriage of standing passengers in the gangway and/or in an area which does not exceed the space provided for two double seats.
  - 1.7 Class III – Vehicles constructed exclusively for the carriage of seated passengers.
  - 1.8 Class A – Vehicles designed to carry standing passengers; a vehicle of this class has seats and may have provisions for standing passengers.
  - 1.9 Class B – Vehicles not designed to carry standing passengers.
- 2. Category N** – motor vehicles having at least four wheels, and used for carriage of goods:
  - 2.1 Category N<sub>1</sub> – Vehicles used for the carriage of goods and having a maximum weight not exceeding 3,5 metric tons.
  - 2.2 Category N<sub>2</sub> – Vehicles used for the carriage of goods and having a maximum weight exceeding 3,5 but not exceeding 12 metric tons.
  - 2.3 Category N<sub>3</sub> – Vehicles used for carriage of goods and having a maximum weight exceeding 12 metric tons
- 3. Category O** – Trailers (including semi-trailers):
  - 3.1 Category O<sub>1</sub> – Trailers with a maximum weight not exceeding 0,75 metric ton;
  - 3.2 Category O<sub>2</sub> – Trailers with a maximum weight exceeding 0,75 metric ton, but not exceeding 3,5 metric tons.
  - 3.3 Category O<sub>3</sub> – Trailers with a maximum weight exceeding 3,5, but not exceeding 10 metric tons.
  - 3.4 Category O<sub>4</sub> - Trailers with a maximum weight exceeding 10 metric tons.
  - 3.5 **Category T** – Agricultural and forestry tractors.
  - 3.6 **Category G** – off-road vehicles.

Note – Letter G normally is not used separately to indicate the category of the vehicle. Definitions in category M and N may be added with definition G. For instance vehicle in Category N used for off-road movement can be defined as N<sub>1</sub>G.

## 2.2.2 Environmental requirements to vehicles and combustion engines installed on them

### **a) with regard to Euro-2 class vehicles:**

- Category M1, M2 with the maximum weight not exceeding 3,5 tons, N1 with spark ignition (gasoline, gas) and diesel engines – Technical emission standards stipulated by UNECE Regulations N1 83-04 (B, C, D emission levels), UNECE Regulations N 24-03 with supplement (only for diesel engines);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N1, N2, N3 with diesel and gas engines - Technical emission standards stipulated by UNECE Regulations N 49-02 (B emission level), UNECE Regulations N 24-03 with supplement 1 (only for diesel engine);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N2, N3 with gasoline engines - Technical emission standards (CO - 55 g/kWh, C<sub>m</sub>H<sub>n</sub> - 2,4 g/kWh, NO<sub>x</sub> - 10 g/kWh) during testing, stipulated by UNECE Regulations N 49-03 (ESC test cycle);

### **b) with regard to Euro-3 class vehicles:**

- Category M1, M2 with the maximum weight not exceeding 3,5 tons, N1 with spark ignition (gasoline, gas) and diesel engines – Technical emission standards stipulated by UNECE Regulations N83-05 with amendments 1 - 3, supplements 1 - 5 (A emission level), UNECE Regulations N 24-03 with supplement 1 (only for diesel engines);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N1, N2, N3 with diesel and gas engines - Technical emission standards stipulated by UNECE Regulations N 49-04 (A emission level), UNECE Regulations N 24-03 with supplement 1 (only for diesel engines);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N2, N3 with gasoline engines - Technical emission standards (CO – 20 g/kWh, C<sub>m</sub>H<sub>n</sub> - 1,1 g/kWh, NO<sub>x</sub> – 7 g/kWh) during testing, stipulated by UNECE Regulations N 49-03 (ETC test cycle);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N2, N3 with cross-country capacity with diesel engine - Technical emission standards stipulated by UNECE Regulations N 96-01 with supplements 1, 2, UNECE Regulations N 24-03 with supplement 1 (only for diesel engines);

### **b) with regard to Euro-4 class vehicles:**

- Category M1, M2 with the maximum weight not exceeding 3,5 tons, N1 with spark ignition (gasoline, gas) and diesel engines – Technical emission standards stipulated by UNECE Regulations N83-05 with amendments 1-3, supplements 1 - 5 (B emission level), UNECE Regulations N 24-03 with supplement 1 (only for diesel engine);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N1, N2, N3 with diesel and gas engines - Technical emission standards stipulated by UNECE Regulations N 49-04 (B1 emission level), UNECE Regulations N 24-03 with supplement 1 (only for diesel engines);
- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N1, N2, N3 with gasoline engine - Technical emission standards (CO – 4 g/kWh, C<sub>m</sub>H<sub>n</sub> - 0,55 g/kWh, NO<sub>x</sub> - 2 g/kWh) during testing, stipulated by UNECE Regulations N49-03 (ETC test cycle);

### **r) with regard to Euro-5 class vehicles:**

- Category M1 with the maximum weight exceeding 3,5 tons, M2, M3, N1, N2, N3 with diesel and gas engines - Technical emission standards stipulated by UNECE Regulations N 49-04 (B2, C emission levels), UNECE Regulations N 24-03 with supplement 1 (only for diesel engine).

## 2.3 Hazardous exhaust gas content reduction methods

### 2.3.1 Standard terminology on exhaust gas aftertreatment systems:

- a) **Exhaust gas aftertreatment system:** a set of devices including, generally, catalytic converter and sensors and controlling systems functionally related thereto, which ensure a reduction of pollutant emission with exhaust gas with the engine operating in different modes;
- b) **Two-component exhaust gas aftertreatment system:** Exhaust gas aftertreatment system, which ensure the reduction the content of mainly carbon oxide and hydrocarbon content in exhaust gases;
- c) **Three-component exhaust gas aftertreatment system:** Close-cycle exhaust gas aftertreatment system (according to  $\lambda$  coefficient), which ensures the reduction of carbon oxides, hydrocarbon and nitrogen oxides content in exhaust gases.
- d) **Diagnostic indicator:** Indicator light located on the vehicle dash fascia with a styled engine outline drawing or headings: «Check engine», «Service engine soon», etc., which advise the driver on the fault incidence in the engine management and exhaust gas aftertreatment systems.
- e) **In-built (on-board) engine diagnostic system:** A set of devices being a part of vehicle construction, which ensure timely informing of the driver about failures in engine management and exhaust gas aftertreatment systems, as well as storage of such information when in service.
- f) **Air-to-fuel ratio -  $\lambda$ :** Non-dimensional value, representing mass ratio of air in the engine cylinder to the mass of air theoretically required for complete combustion of fuel supplied to the fuel cylinder, calculated based on the results vehicle exhaust gas content analysis.
- g) **Catalyst converter** – one of the main elements of exhaust system in modern vehicles. The main objective thereof is to ensure flameless hazardous substance oxidation in the presence of catalyst – an agent which does not participate itself in thermochemical reactions, but through relieving molecular linkages in gases it ensures chemical reaction with the least energy consumption for activation.

There are a lot of known catalysts. However, as the experience shows, the efficiency of any of them depends mainly on converter alternate design — its loading, precious metals composition, as well as catalyst unit materials.

For instance, to ensure the fulfillment of Euro-2 standards it would be sufficient to use ceramic unit, while for Euro-3 it would require catalyst with precious metals and exhaust gas recirculation system.

*To ensure the identity and quality of catalytic converters the UN ECE Inland Transport Committee has developed a special standard – **Regulation 103** «Uniform provisions concerning the approval of replacement catalytic converters for power-driven vehicles»*

2.3.2 There are three main ways for achieving the required parameters of hazardous substance content in exhaust gas in compliance with Euro-2 or greater:

- Improvement of engine structure, fuel supply and exhaust gas purification systems.
- Use of high quality fuels.
- Continuous improvement of the whole vehicle construction to reduce fuel consumption and, of course, pollutant emission.

It should be noted that strengthening of environmental requirements throughout the world is a powerful factor stimulating the technical progress development in automotive industry. New technologies called into existence by the need to ensure fulfillment of the strict environmental requirements generally result in improvement of economic, consumer and other properties of vehicles and engines. For example, putting of multipoint fuel injection (so called injection systems) into mass production was induced by the introduction of «Euro-2» requirements.

Introduction of injector system is ensured by the electronic fuel injection control to the engine cylinders, which gives crucially new consumer properties to the vehicle. To implement Euro-2 norms the catalyst converters of the most simple, cheap construction with the ceramic units are used for gasoline engines.

To achieve Euro-3 norms expensive three-way catalyst converters with precious metals are used for gasoline engines to reduce carbon oxides (CO), hydrocarbons (CH), and nitrogen oxides (NO<sub>x</sub>). Also, the exhaust gas recirculation system was introduced.

European standards, introducing «Euro-3» norms or greater for gasoline engines, govern the compulsory availability of on-board (in-built) environmental indices diagnostic system in the vehicle. The compulsory introduction of on-board (in-built) diagnostic system to control vehicle environmental indices in compliance with Euro-3 shall significantly facilitate diagnostic operations in service.

The achievement of Euro-2 and Euro-3 norms in the vehicles equipped with diesel engines shall be performed predominantly through the improvement of diesel engine working process:

- Fuel injection pressure increase;
- Use of controlled stepped (electronic) fuel injection;
- Use of intercooling of boost air charging in cylinders;
- Use of exhaust gas cooling during recirculation;
- Other methods and facilities aimed to dose and maximum fuel combustion.

Unfortunately the on-board environmental parameters diagnostic systems on diesel engine vehicles ensuring the fulfillment of Euro-3 norms and greater are not used.

The achievement of Euro-1, Euro-2 standards is also connected with the maintenance of the quality of fuel in compliance with the existing interstate CIS standards for gasoline according to GOST 51105-97 and for diesel fuel according to GOST 305-87.

The quality of fuel coming on the market is practically not controlled in any of the CA country. This may endanger practical implementation of the environmental requirements.

At the present time for implementation of the Euro-2 norms for vehicles it is quite sufficient for the gasoline sold to be compliant with the GOST 51105-97, where the maximum sulphur content shall not

exceed 500 mg/kg ( $\text{mln}^{-1}$ ), and for diesel fuel – with the GOST 305-82, with the sulphur content shall be between 1000 and 1500 mg/kg.

These norms are similar to European requirements when Euro-2 norms were in force there. Therefore, it would be quite realistic to introduce in CA countries from 01.01.2009 of the requirements on manufacture or import of new vehicles, as well as import of used vehicle of Euro-2 class the lowest.

As to the achievement of Euro-3 requirements or greater, here the completely different requirements imposed on fuel.

For the heavy vehicles with diesel engines to meet Euro-4 and Euro-5 norms the European automobile manufacturers have developed two basically different technical approaches:

- 1) Use in different combinations of two-way catalysts, storage and reduction converters, exhaust gas recirculation systems and particulate trap (MAN).
- 2) Use of Selective Catalytic Reduction Systems (SCR), which envisage the injection of aqueous urea solution into exhaust gas stream (Renault Trucks, Daimler-Chrysler, Scania). This approach is more widespread and it can be expected that some 80% diesel-engined trucks of Euro-4 and Euro-5 levels produced in Europe, will be equipped with SCR system.

It should be highlighted that both technological approaches above ensure the compliance of the vehicle with Euro-4 norms (and later with Euro-5) only with the use of high-quality diesel engines.

Meanwhile, the key fuel quality parameter is the sulphur content therein, because it is the sulphur, in particular, reduces the exhaust gas purification system efficiency by entering into undesirable chemical reactions (Table 2.5). Currently the sulphur content, together with other fuel parameters, is regulated in Europe by the standard EN 590 (Table 2.6).

#### **Adverse impact of sulphur contained in fuel on the exhaust system purification system**

Table 2.5

<b>Exhaust gas purification technology</b>	<b>Sulphur and its compounds action mechanism</b>
Oxidation catalysts	$\text{SO}_2$ is converted into $\text{SO}_3$ and blocks out the catalyst working surface
Storage and reduction converters	
Particulate filters	Sulphates in the form of particles clog up the filter and impede its regeneration
Exhaust gas recirculation system	Sulphuric acid is formed in the system, which then gets into other engine mounts and causes accelerated corrosion
Selective Catalytic Reduction Systems (SCR)	Sulphur compounds settle in two-way catalyst converter, which is a part of system, and block its working surface

Diesel fuel (according to existing GOST 305-82) currently sold at all refueling stations contains on the average 1000-1500 ppm of sulphur (mg/kg). Use of such fuel for Euro-4 compliant vehicles equipped with converter, particulate filters and recirculation system may result in reduction of converter lifetime by 60-80%, exhaust gas purification efficiency by 70-100%, reduction of the engine lifetime up to 30% and increased motor oil change frequency in 1,5-2 times.

SCR systems are less sensitive to sulphur content, however used of such fuel for them can result in gradual exhaust gas purification efficiency by 20-40%.

## Sulphur content

Table 2.6

Requirement	Regulatory document	Maximum sulphur content, ppm	Introduction date in EU
Euro-3	EN 590:1999	350	Jan 2000
Euro-4	EN 590:2004	50	Jan. 2005
Euro-5	EN 590:2004	10	Jan. 2009

By the estimates of specialists, for carriers from CIS, including Central Asia, operations of Euro-4 and Euro-5 compliant vehicles on fuels with high sulphur content may imply the increased maintenance and exhaust gas device replacement costs (up to 30%). The increased costs may compel international carriers to slow down the renewal of the vehicle fleet and increase the tariffs. The result will likely be the loss of competitive position of carriers from CIS, including Central Asia, and driving out them of the transport services market of the EU member states.

2.3.3 It is proved that low-grade gasoline and Euro-3 are incompatible.

### RESPONSES OF THE ECMT EXPERT ON FEATURES OF THE USE OF DIESEL FUELS WITH DIFFERENT SULPHUR CONTENT

**Question 1.** Is it possible to use diesel fuels with the sulphur content of 1000-2000 ppm (and gasoline with the sulphur content up to 500 ppm) for Euro-3 compliant goods vehicles and buses (these vehicles take 85% of the CIS fuel market), or is it necessary to use Euro-3 compliant fuels for operations of such vehicles (in compliance with the Council Directive 98/70/EU)? Is there information available on the reduction of Euro-3 compliant vehicles lifetime using high-sulphur fuel?

**Response.** The use of high-sulphur fuel (1000-2000 ppm) for Euro-3 compliant engines is possible, however, in my opinion it will somewhat reduce the engine lifetime. It is rather difficult to precisely estimate the impact of high-sulphur fuels on the fatigue life, but the action mechanism is as follows.

Some Euro-3 compliant engines use cooled exhaust gas recirculation (EGR) systems to reduce NO<sub>x</sub> emission levels. Cooled recirculation system creates some problems, where one of them is a metal corrosion under the effect of condensate settling in the system. Such condensate consists of two main components, sulphuric acid and water. Water is a normal combustion product, while the sulphuric acid (H<sub>2</sub>SO<sub>4</sub>) is formed mainly from the sulphur contained in fuel. The sulphuric acid condensation intensity is directly proportional to the sulphur content in fuel.

This condensate can settle on recirculation system radiator, intake manifold, cylinder parts (piston seal and cylinder liner) and in motor oil. Among these units the radiator is mostly apt to corrosion. It cools the untreated exhaust gases, which are more easily condensable than «diluted» exhaust gases in exhaust system. Corrosion of recirculation system and intake manifold can lead to the ingress of extraneous matter to the fresh charge of fuel-air mixture. Particles from the intake manifold walls broken up by the corrosion can hit the cylinders with the fresh charge. They cause the cylinder parts abrasion wear and reduce lubricating effect. Also, as a result of corrosion caused by sulphuric acid the pock-holes can be formed on the cylinder liner surface

Sulphuric acid condensing in the recirculation system may also have impact on the motor oil composition. The acid can get into motor oil in the form of vapours or as condensate on the cylinder liner. As a result the oil aging will be accelerated.

**Question 2.** Is it possible to use Euro-3 compliant fuels with Euro-4 compliant goods vehicles and buses, or do they need only Euro-4 compliant or sulfur-free fuel? Is there information available on the reduction of lifetime of such vehicles due to the use of Euro-3 compliant fuels?

**Response.** Euro-4 compliant goods vehicle most likely will be equipped with recirculation systems, so everything discussed above is valid for them. Also, it will be necessary to change the lubricants more frequently.

**Question 3.** Should the trucks be fuelled in accordance with the following table?

Table 2.7

Environmental class	Type of fuel	Requirements to fuel according to Council Directive 98/70/EU	Sulphur content, ppm
Euro-3	Gasoline	Euro-3	<150
	Diesel		<350
Euro-4	Gasoline	Euro-4	<50
	Diesel		<50
Euro-5	Gasoline	Under development (sulfur-free)	<10
	Diesel		<10

**Response.** Yes, if you want to reduce the emission level. You may also have technical problems in addition to those discussed above. For example, if the knockout trap is installed on Euro-4 or Euro-5 compliant goods vehicle, high sulphur content in the fuel will inhibit filter cleaning. Unless the filter is cleaned, it will be clogged, while the increased pressure in the exhaust system will result in engine failure.

**Question 4.** Why Euro-4 compliant vehicles should be supplied only by sulphur-free fuels, though Council Directive 98/70/EU contain no express prohibition for use of Euro-4 compliant fuels with such vehicles? Is it done for purely «environmental» reasons?

**Response.** Yes, the main reason is environment protection. Some emission control systems can work efficiently with near-zero sulphur fuels. EU wants to provide an ideal fuel so that manufacturers could make their vehicles as environmentally safe as possible.

### 2.3.4 SCR Technologies

The SCR (Selective Catalytic Reduction) technology is based on the injection of strictly measured amount of AdBlue reagent to the exhaust gas stream with the catalyst (vanadic pentoxide), whereby the chemical reaction takes place converting hazardous nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen and water.

To ensure the SCR-technology efficiency is remained at the adequate level, it is necessary to use only a liquid compliant with the technical DIN standard requirements, and to avoid AdBlue reagent contamination with extraneous matters and particles.

Basically, the vehicle engine can work without AdBlue, however in this case the emission toxicity will have parameters below Euro-2 requirements, which is unacceptable and punished with high fines.

It is an absolute fact that no tricks of «handymen» to produce alternative solution of urea, information on which appears from time to time in mass media and Internet, will help to avoid purchasing the original

AdBlue liquid. Any attempts to save money will lead to emergence of an array of problems: invalidation of warranty, failure of SCR system, which costs about Euro 5000, etc.

### **About factors affecting the catalyst converter lifetime**

Catalysts used in SCR system consist of catalyzed transition metal compounds on ceramic crystal mounts. The SCR system ability to convert nitrogen oxide into nitrogen and water to a large extent depends on the activity of such compounds, as well as on the pore size in crystal mounts. The pore size has affect on the exhaust gas diffusion rate in catalyst converter.

To ensure maximum SCR system efficiency for a long time the AdBlue qualitative characteristics should be strictly controlled, as according to DIN 70070 standard many components at the increased threshold irretrievably destroy catalyst system or physically block the pores, or through deactivation of active compounds. Inefficient SCR system performance with the catalyst converter inactivity may cause the increased nitrogen oxides NO<sub>x</sub> emissions and damage of engine itself due to increased exhaust gas pressure.

That is why one must not fill the system with pure water or solution of questionable origin. It is also not recommended to travel without reagent as it may cause the SCR system heat problem and failure thereof. The latest releases of vehicles are equipped with the special system restricting engine rpm speed with empty AdBlue tank.

### **About AdBlue**

AdBlue is a high-quality reagent, a 32,5% solution of urea in deionised water (67,5%). AdBlue® the registered trademark held by the German Association of the Automobile Industry (VDA).

To ensure stability of AdBlue quality and guarantee a correct operation of the SCR System, the European organizations took over the tight control of the AdBlue production and standardization.

To produce and realize the AdBlue solution it is necessary to obtain VDA license. The production of AdBlue is strictly regulated. AdBlue is a high specification solution and is manufactured to the DIN 70070 and ISO 22241-1 production standards. To evaluate the production and to control AdBlue circulation the European Chemical Industry Council (CEFIC) has developed a «Quality Assurance Guidance Document» (QAGD) regulating all aspects of production manufacture, storage and delivery. This guidance document covers all stages of production and realization chain (manufacturers, distributors, vehicle service stations, etc.). The International Organization for Standardization (ISO) is also developing new standards (ISO 22241-3) on AdBlue handling, storage and transportation expected to be published in 2008-2009. Thus, all trifling players at the AdBlue reagent production and sales are screened.

Thus, physico-chemical characteristics of AdBlue liquid are defined by the DIN and ISO standards. The use of title "AdBlue" by itself assumes the availability of VDA license. If everything above is proved by the documents, then you deal with the quality product irrespectively of the colour and size of AdBlue canisters, as well as what company produced it. It is therein lay the basic idea of all licenses, standards and instructions – to provide consumers with the products of guaranteed quality.

As of August 2007 some 32 companies had license to use AdBlue® brand, where about half of them are the manufacturers of reagent itself. The other licensees are commercial organizations selling this product under their trade marks.





2.3.5 Use of ethylated gasoline results in instantaneous catalyst converter failure. The utilization of ethylated gasoline for vehicles with catalyst converters shall be excluded.

## 2.4 Requirements for motor fuels characteristics.

### a) Requirements for gasoline

Table 2.8

Motor gasoline characteristics	Unit	Norms relating to			
		Euro-2	Euro-3	Euro-4	Euro-5
Sulphur mass fraction, not exceeding	mg/kg	500	150	50	10
Benzol volume fraction, not exceeding	Percent	5	1	1	1
Ferrum concentration, not exceeding	mg/dm <sup>3</sup>	None	None	None	None
Manganese concentration, not exceeding	mg/dm <sup>3</sup>	None	None	None	None
Lead concentration, not exceeding	mg/dm <sup>3</sup>	None	None	None	None
Oxygen mass fraction, not exceeding	Percent	-	2,7	2,7	2,7
Hydrocarbons volume fraction, not exceeding:	Percent				
aromatic		-	42	35	35
olefinic		-	18	18	18
Octane rating:	-				
By research method, at least		92	95	95	95
By motor method test, at least		83	85	85	85
Vapour pressure, not exceeding:	Kpa				
in summer time		-	45-80	45-80	45-80
in winter time		-	50-100	50-100	50-100
Oxygenates volume fraction, not exceeding:	Percent				
Methanol		-	None	None	None
Ethanol		-	5	5	5
Isopropanol		-	10	10	10
Tretbutanol		-	7	7	7

Isobutanol		-	10	10	10
Ethers with 5 carbon atoms in molecule or greater		-	15	15	15
Other oxygenates (with the end boiling point not higher than 210°C)		-	10	10	10

### b) Requirements for diesel fuel.

Table 2.9

Diesel fuel characteristics	Unit	Norms relating to			
		Euro-2	Euro-3	Euro-4	Euro-5
Sulphur mass fraction, not exceeding	mg/kg	500	350	50	10
Closed flash point, not below:	°C				
Diesel fuel except diesel fuel for Arctic climate		40	40	40	40
Diesel fuel for Arctic climate		30	30	30	30
Fractional composition – 95% of volume is distilled at the temperature not exceeding	°C	360	360	360	360
Polycyclic aromatic hydrocarbons mass fraction, not exceeding	Percent	-	11	11	11
Cetane number, at least	-	45	51	51	51
Cetane number for diesel fuel for frigid and Arctic climate, at least	-	-	47	47	47
Maximum filterability temperature, not exceeding	°C				
for diesel fuel for frigid climate		- 20	- 20	- 20	- 20
for diesel fuel for arctic climate		- 38	- 38	- 38	- 38
lubricating capacity, not exceeding	mkm	460	460	460	460

## 2.5 Regulation and control methods of exhaust gas toxicity of vehicles in-service

To implement environmental control of vehicles in-service it is necessary to clearly define the norms which they should conform to during checks. These norms should be **strictly aligned with the vehicle design level**, as it is evident that permissible emissions of modern vehicle equipped with special emission toxicity reduction systems should be significantly lower than those of obsolete model vehicles manufactured or under manufacture, which originally do not meet modern international environmental requirements.

The design level of vehicle is determined during approval of its type (model) in the process of certification. Environmental certification of vehicles is carried out by the authorities and technical centers specially authorized by the Gosstandard of individual country, in compliance with the requirements of UNECE Regulations Nos. 24 and 83 under the 1958 Geneva Agreement (the requirement levels of these Regulations of different years are called Euro-0, Euro-1, Euro-2, etc.). Apparently, the in-service inspection norms should be aligned with the requirements of these Regulations.

The 1958 Agreement is a basic document regulating the harmonization of vehicle construction in terms of ensuring active, passive and environmental safety. As of 01.09.08 it contains 127 UN ECE Regulations (read Standards) concerning vehicle safety. The full title of the 1958 Agreement is «Agreement

Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment, and Parts which can be Fitted and/or be used on Wheeled Vehicles and Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions».

All new vehicles shall pass certification in accordance with these Regulations. Presently 22 (of 127) UNECE Regulations set forth the environmental safety requirements for the wheeled vehicle construction. The regulatory document “Vehicle type approval” is issued to all vehicles passed the certification.

**«Type-approval of vehicle» is a form of vehicle type conformance evaluation corresponding to international practice, as well as a similar document drawn up in case of positive conformance evaluation results.**

Vehicle certification against the compliance with Euro-2,3,4 environmental requirements is carried out in specialized laboratories fitted with the modern expensive high-precision equipment. As stated in para. 22, in CA and CIS countries such equipment is available only in automotive engineering scientific and research test and development center (Central testing ground) located in Dmitrov-7 city in Moscow province, where the full-scale testing of new vehicles for the compliance with Euro-1,2,3,4,5 norms is performed.

When new vehicles are delivered to the CA countries the environmental certification is performed by the relevant authorized authorities in the presence of instructions specified in item Environmental Class of the «Vehicle type approval» document.

2.5.1 Currently existing GOST 17.2.2.03, GOST 17.2.02.06 and GOST 21393 enable to exercise environmental control of vehicles in service of Euro–0 and Euro–1 class only.

- GOST 17.2.2.03 Nature protection. Atmosphere. Norms and methods of carbon dioxide and hydrocarbon content measurement in exhaust gases emitted by vehicle petrol engine. Safety requirements.
- GOST 17.2.02.06 Nature protection. Atmosphere. Norms and methods hydrocarbon oxides and hydrocarbon contents measurement in exhaust gases emitted by the gas cylinder automobiles.
- GOST 21393 Automobiles with diesel engines. Smoke emission. Norms and methods of measurements. Safety requirements.

Maximum permissible exhaust gas hazardous substance emissions in compliance with GOST 17.02.02.03

Table 2.10

Rotational frequency	Maximum permissible carbon oxide content, %	Maximum permissible hydrocarbon content, $mln^{-1}$	
		For engines with the number of cylinders	
		Up to 4	Over 4
$n_{min}$	1.5	1200	3000
$n_{rot}$	2.0	600	1000

Maximum permissible exhaust gas hazardous substance emissions in compliance with GOST 17.2.02.06

Table 2.11

Crankshaft speed, $min^{-1}$	Carbon oxides volume fraction, % by types of motor fuel		Hydrocarbon volume fraction, $min^{-1}$ by types of motor fuel and cubic capacity				Carbon oxides volume fraction, % by types of motor fuel		Hydrocarbon volume fraction, $min^{-1}$ by types of motor fuel and cubic capacity			
			For engines with the cubic capacity, $dm^3$						For engines with the cubic capacity, $dm^3$			
	LPG	LNG	Up to 3 inclusive		Above 3		LPG	LNG	Up to 3 inclusive		Above 3	
			LPG	LNG	LPG	LNG			LPG	LNG	LPG	LNG
	For vehicles manufactured before 01.07.2000						For vehicles manufactured after 01.07.2000					
$n_{min}$	3.0	3.0	1000	800	2200	2000	3.0	2.0	1000	700	2200	1800
$n_{rot}$	2.0	2.0	600	500	900	850	2.0	1.5	600	400	900	750

Note: if  $n_{min}$  and  $n_{rot}$  are not defined in the instructions, then they should be taken as  $n_{min} = 800 \pm 50 \text{ min}^{-1}$ ,  $n_{rot} = 3000 \pm 10 \text{ min}^{-1}$

**2.5.2** To control vehicles in-service to the compliance with the Euro-2;3;4 environmental requirements rather simple and accessible control methods (including CO and CH measurements at idle speed) not requiring expensive equipment are used worldwide.

It should be noted that while proceeding to the stricter vehicle emission regulation levels the control procedures thereof are being simplified. For instance, standards introducing Euro-3 requirements for gasoline engines regulate the compulsory availability of in-built (on-board) environmental indicators diagnostic system in the vehicle.

The on-board diagnostics should display the degradation of vehicle environmental indicators in excess of prescribed limits and component failures affecting the environmental indicators in such a way that under no circumstances the maximum emission values were not exceeded throughout the predetermined haulage (which is 80 thousand km for cars, meaning the catalyst converter lifetime). Thus, most of the environmental requirements compliance control is imposed on vehicle control system. In general the in-service control lies in vehicle technical condition inspection as a whole, as well as individual units, systems and elements, which affect or can affect the environmental parameters of the vehicle. There are no technical problems with this.

Some types of diesel engine-powered and Euro-4 environmental class compliant goods vehicles are equipped with on-board environmental indicators diagnostic systems. This will also facilitate the in-service exhaust gas toxicity inspection of vehicles.

The 3-way catalyst converters lifetime in Europe is set within 80 thousand km, while the cost of such catalyst is USD \$200. In USA the lifetime of similar catalysts is 160 thousand km.

It is recommended to the manufacturers of automobile equipment to introduce in motor vehicle operating instruction a special section specifying the mandatory replacement period of catalyst converters, particulate filters and other elements ensuring the target environmental level.

In CA countries it is necessary to develop a new standard to control Euro-2 environmental class compliant vehicles or greater. The international regulatory document Rule No.1 to the 1997 Vienna Agreement «Concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» shall be used as a legal basis.

It should be noted that this Addendum 1- Rules No.1 was of critical importance for introduction of draft amendments to the 1971 European Agreement supplementing Convention on Road Traffic 1968, which became effective on 23.01.2003.

In case the vehicle manufacturer establish in the operating instruction the maximum permissible hazardous emissions values, these parameters should be used in performance of mandatory technical inspections or selective exhaust gas toxicity control.

Attached in Annex II to this Report is a full text of the Rule No.1 to the 1997 Agreement in the latest edition with the supplements effective from 15 February 2007.

**2.5.3** When developing national norms and control methods of vehicle exhaust gas hazardous emissions under service condition in accordance with Rule No.1 to the 1997 Agreement above, the following should be taken into account:

- a) For vehicle with gasoline engines:
  - Normative values of contaminants shall be established based on equipping of vehicles with one or another gas neutralization system.
  - Requirements shall be set for the technical condition of those vehicle and engine directly responsible for the exhaust gas neutralization.
  - The measurement methodology is significantly expanded.
  
- b) For diesel powered vehicle the exhaust smoking metering system remained unchanged.

The main standardized smoking parameter is an optical absorption coefficient  $k$ , while the additional one is light attenuation coefficient  $N$ . When controlling smoking in service smoke analyzers with linear scale graduated from 0 to 100 % light attenuation can be used.

The control methods were significantly adjusted as compared to GOST 21393.

Currently Russia is the first among CIS countries, including CA republics, which has developed national standards for vehicle hazardous emission control in service.

GOST R 52033 – 2003. Motor vehicles with petrol engines. Emission of the exhaust gas pollutants. Norms and methods of the control for estimation of technical condition.

GOST R 52160 – 2003. Motor vehicles, equipped with compression ignition engines. Visible pollutants. Norms and methods of the control for estimation of technical condition.

GOST R 52231-2004. External noise of motor vehicles. Permissible levels and methods of measurement.

Some of the CA counties, based on the fact that they have common information space with Russian Federation being part of CIS, EurAsEC, take the new Russian GOSTs as a basis for development of their similar national standards.

As far as the GOST R 52033 – 2003 “Motor vehicles with petrol engines. Emission of the exhaust gas pollutants. Norms and methods of the control for estimation of technical condition” it should be noted that there are a number of omissions and mistakes:

a) It was not taken into account that when controlling vehicle with petrol engines greater than Euro-3 it is necessary to use on-board (built-in) environmental parameters diagnostic system available on such vehicles. It does not specify the engine environmental parameters control methods using on-board diagnostic system.

b) For categories M and N vehicles not equipped with the exhaust gas neutralization system the carbon oxide CO norm established at 3,5%, while even in the GOST 17.22.03 (para. 2.5.1.) in force in CA countries the permissible CO content is 1,5% at  $n_{\min}$  (the same engine rpm speed as in GOST R 52033-2003).

## **2.6 Organizational and administrative methods of ensuring environmental vehicle safety**

**2.6.1.** As the international experience shows a fight against motor vehicle pollution shall be basically carried out through the improvement of environmental characteristics of the vehicle fleet in use. Such improvement can be achieved: by phased renewal of operational fleet through replacement of vehicles taken out of service with the more « environmentally safe» ones or through modernization of vehicles in operation by equipping them with the neutralizers, gas fittings, etc.

Essentially there are two main forms of control used in international practice and in CA and CIS countries: control during periodical technical inspection and selective vehicle control in traffic or at the enterprises. Each control form fulfils independent mission.

**Technical inspection** is a main form of control where the whole vehicle fleet in operation passes mandatory emission checks in compliance with the standards in force.

**Selective control** consists of selective vehicle technical condition compliance checks with the regulatory requirements in the intervening period between mandatory technical inspections and application of relevant sanctions against the owners in case violation thereof. The need for such form of control is caused by the fact that passing mandatory technical inspection by no means is the guarantee of vehicle compliance with the prescribed requirements.

According to the data of studies carried in CA countries and in CIS as a whole, a considerable part of vehicle is specially serviced and repaired immediately before the technical inspection. Right after successful passing thereof, the drivers often disturb the prescribed control setting in order to improve engine dynamic and torque properties. On the other hand to maintain the stability of environmental parameters of morally obsolete vehicle models constituting the considerable part of today's vehicle fleet it is generally necessary to service and adjust them at the interval exceeding the frequency of mandatory technical inspection.

Thus, selective control is a tool, which makes vehicle owners to constantly keep in close attention environmental characteristics thereof. To maintain the efficiency of this control form the amount of annual checks shall be at least 20% of the vehicle fleet in operation. Also, for selective control the objective should be assigned to identify in the traffic stream vehicles significantly exceeding established emission norms rather than to randomly select vehicles to be checked. It can be done, for example, based on the preliminary visual control of the nature of vehicle emission and subsequent instrumental control thereof.

Currently there are environmental monitoring stations in all CA countries, where environmental coupons are issued for a period of 3-6 months based on selective control. However, not many environmental monitoring stations are equipped with modern devices (gas and smoke analyzers).

**At this time CA countries should, based on their environmental and economic assumptions, develop a long-term plan of introduction in the nearest future at the territory of Republics of regulatory requirements (or in the form of technical regulation) on:**

- **Permissible hazardous vehicle exhaust emissions;**
- **Characteristics of produced or purchased motor fuel types;**
- **Production by the manufacturers (if there are any) or purchasing of vehicles compliant with a certain environmental class of Euro-2 ÷ 4.**

*It should be noted that one cannot make premature decisions on this issue, however, it is impossible to accept current situation in CA countries concerning motor vehicle pollution.*

**2.6.2. There are first positive results in CA countries.**

### **Kazakhstan**

1. As of 01.10.08 a new standard on vehicle hazardous emissions was introduced in the Republic of Kazakhstan, ST PK 1433-2005 «Motor vehicles and their engines. Hazardous emissions. Norms and control methods».

2. In accordance with the Resolution of the Government of the Republic of Uzbekistan dated 29.12.2007 No. 1372 Technical Regulation «On requirements for hazardous (pollutant) emissions and motor vehicles put into circulation at the territory of the Republic of Kazakhstan».

3. This Technical Regulation on requirements for hazardous (pollutant) emissions and motor vehicles put into circulation at the territory of the Republic of Kazakhstan (hereinafter Technical regulation) is applied to motor vehicles put into circulation at the territory of the Republic of Kazakhstan and set requirements for the vehicle used by them and environmental characteristics on hazardous (pollutant) emissions into atmosphere.

a) At the territory of the Republic of Kazakhstan the specific norms of vehicle emissions, according to the Technical regulation, shall be introduced within the following periods:

Euro-2 – from the 1 January 2009;

Euro-3 – from the 1 January 2011;

Euro-4 – from the 1 January 2014.

b) Basic technical requirements for the vehicle fuel characteristics, in accordance with Annex 3 to the Technical regulation, shall be introduced within the following periods:

Euro-2 – from the 1 January 2009;

Euro-3 – from the 1 January 2011;

Euro-4 – from the 1 January 2014.

c) When putting into operation at the territory of the Republic of Kazakhstan used vehicles it is allowed before the 1 January 2009 to confirm the compliance thereof with the requirements of this Technical Regulation.

## Uzbekistan

- a) In accordance with the Resolution of the President of the Republic of Uzbekistan dated 14.12.2006 No. PP-531, from the 1 March 2007 it is prohibited to import used vehicles of categories M2, M3 и M2, as well as new vehicles under this category if they do not comply with Euro-2 environmental class, and from 01.01.2010 - with Euro-3 class.
- b) In accordance with the Resolution of the President of the Republic of Uzbekistan dated 27.03.2008 No. PP-823 the customs duties and VAT were abolished for import of new goods vehicles not lower than Euro-2 class with the full weight exceeding 20 tons.
- c) The Resolution of the Uzbek Agency on Standardization, Metrology and certification and the State Committee of the on Nature Protection have approved:
  - Instruction on the procedure for ecological certification of imported to the Republic of Uzbekistan of new vehicles under categories M2, M3 and N2, equipped with petrol and diesel engines for the compliance with the requirements of environmental class not lower than Euro-2;
  - The regulatory documents of Russian Federation were introduced in the Republic of Uzbekistan in terms of hazardous emissions for Euro-2 requirements compliant new vehicles under categories M2, M3 and N2 - from 1March 2007, for Euro-3 complaint vehicle – from 1 January 2010:
    - GOST R 41.24-2003;
    - GOST R 41.49-2003;
    - GOST R 41.83-2004;
    - GOST R 51832-2001.

These Russian GOSTs are fully identical to UNECE Regulations Nos. 24, 49, 83.

- d) From 1995 the continuous renewal of the passenger transport is carried out in Tashkent city through the procurement of category M3 urban buses Mercedes-Benz O405, O345 and category M2 buses SAZ-ISUZU with Euro-1 and Euro-2compliant engines. At this time there are some 800 such buses are in operation. The environmental situation in the city has improved by almost 140% (according to the data from State Committee of the Republic of Uzbekistan on Nature Protection).
- e) «JM Uzbekistan» car production plant in Asaka manufacturing over 170 thous. cars per year, supplied for CA market Euro-1 environmental class compliant vehicles. The main reason for this is a low quality fuel. For delivery to Russia the plant manufactures Euro-2 compliant cars, as from 2008 Russia prohibited to import to its territory vehicle below Euro-3 environmental class.

**2.6.3** The crucial point in all National programs and activities on introduction of efficient methods for reduction of motor vehicle environmental hazard is the revisions of taxation system for purchasers of new or used Euro-2, Euro-3 standard compliant vehicles. It is particularly important for purchase of road trains for international carriages.

Table 2.12

Country	Number of vehicles						Total
	Euro-0	Euro-1	Euro-2	Euro-3	Euro-4	Euro-5	
Kazakhstan, KazATO	967	385	2284	918	190	2	4744
Kyrgyzstan, KyrgyzASMAP	734	166	217	360	2	-	1479
Tajikistan, ABBAT	-	15	24	-	-	-	39
Uzbekistan, AIRCUZ	36	393	276	68	2	-	775



As is clear from Table 2.12 among all road trains in CA involved in international transport only 28% are Euro-2 compliant, 21% - Euro-3 and greater. As you know Euro-4 standard is in force in Europe from 2005.

**The Governments of CA countries are recommended to draft the proposal concerning:**

- possibility of differentiated approach to the use in the regions of vehicles of improved environmental classes (based on the saturation of regions with automotive engineering, delivery irregularity thereof, local operational conditions);
- possibility of vehicle marking with coloured marks corresponding to different environmental classes; adjustment of excise tax on motor petrol (based on environmental characteristics rather than on octane number);
- enhancing the requirements for the quality of petrol and diesel fuel (develop oil products quality control system in retail and legal framework for termination of activities of companies selling fuels not compliant with the Regulation);
- applying «environmental» marking on fuel distribution columns and fitting fuel stations with equipment to fill in vehicles with the urea solution (on the basis of 1,5—2 % of diesel fuel sales volume for Euro-4, 5 class compliant vehicles).

## **2.7 Recommendations on improvement of the environmental vehicle safety in Central Asian countries**

Based on the aforesaid the CA countries are presently recommended:

- a) Proceeding from their ecological and economic assumptions to develop (except the Republic of Kazakhstan) action plan for phased introduction at their relevant territories standards concerning:
  - permissible hazardous vehicle exhaust emissions;
  - characteristics of produced or purchased motor fuels;
  - production by the manufacturers (if there are any) and purchasing of vehicles compliant with the particular Euro-2÷5 environmental class.
  
- b) In order to control Euro-2 or greater environmental class compliant vehicles in operations to develop a new standard taking as a basis Rule No.1 to the 1997 Agreement «Uniform provisions for periodical technical inspections of wheeled vehicles with regard to the protection of the environment».
  
- c) When developing national norms and control methods of hazardous vehicle exhaust emissions in operations aligned with the Rule No. to the 1997 Agreement the following should be taken into account:
  1. For vehicles with gasoline engines:
    - Normative values of contaminants shall be established based on equipping of vehicles with one or another gas neutralization system.
    - Requirements shall be set for the technical condition of those vehicle and engine directly responsible for the exhaust gas neutralization.
    - measurement methodology should be significantly expanded by using on-board failure control system in the exhaust gas management and neutralization system for Euro-3 compliant engines or greater.

2. For diesel powered vehicle the exhaust smoking metering system remained unchanged.

d) In case the vehicle manufacturer establish in the operating instruction the maximum permissible hazardous emissions values, these parameters should be used in performance of mandatory technical inspections or selective exhaust gas toxicity control.

e) The manufacturers of automobile equipment should be obliged to specify in motor vehicle operating instruction the period for mandatory replacement of catalyst converters, particulate filters and other elements ensuring the targeted environmental level of vehicles.

f) Envisage in all National programs on introduction of efficient methods for reduction of motor vehicle environmental hazard the revisions of taxation system for purchasers of new or used Euro-2, Euro-3, 4, 5 standard compliant vehicles and provision of preferential credits. It is particularly important for purchase of road trains for international carriages.

g) Discuss the possibility concerning:

- differentiated approach to the use in the regions of vehicles of improved environmental classes (based on the saturation of regions with automotive engineering, delivery irregularity thereof, local operational conditions);
- vehicle marking with coloured marks corresponding to different environmental classes; adjustment of excise tax on motor petrol (based on environmental characteristics rather than on octane number);
- enhancing the requirements for the quality of petrol and diesel fuel (develop oil products quality control system in retail and legal framework for termination of activities of companies selling fuels not compliant with the Regulation);
- applying «environmental» marking on fuel distribution columns and fitting fuel stations with equipment to fill in vehicles with the urea solution (on the basis of 1,5—2 % of diesel fuel sales volume for Euro-4, 5 class compliant vehicles).

### 3 NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

The volume of international road transport from and through the Central Asian countries to the countries and ports of Western Europe, Baltic States, Russia and Ukraine, China, Iran and Turkey is increasing every year. In specialist opinion in the nearest 10–15 years these volumes will at least double, that is to a certain extent facilitated by the construction of new and expansion of existing international highways in CA and CIS countries, as well as integration thereof with European autobahns. Therefore, the most important task is to introduce uniform requirements to gross weights, axle loads and dimensions of vehicle involved in international carriages along Euroasian routes in CA, CIS and European countries.

#### 3.1 Analysis of regulatory documents of Europe, CA and CIS countries, and China on maximum permissible vehicle weights, axle loads and dimensions

Vehicle wheels pressure on the road pavement serves as a base load, on the assumption of the calculation of road pavements is made. When the vehicle is in motion the wheel pressure on pavement is increased due to the influence of a number of factors.

The increased maximum permissible axle loads of vehicles have the highest impact on the road deterioration. Unfortunately, in CA and other CIS countries there is no yet a standard on permissible weight parameters and dimensions of vehicles.

The background of the issue on permissible weights, axle loads and dimensions in CA and CIS countries is as follows.

In USSR the vehicle wheel static pressure was used as a nominal load for road pavement of all types, regulated by the GOST 9314-59 «Motor vehicles and road trains. Weight parameters and dimensions».

In accordance with this standard vehicles and road trains were divided into two groups depending on their weight parameters – axle weight and gross weight:

Group A – vehicles and road trains designed for operation on the roads of category I and II of USSR common networks with improved general types of pavement, as well as on the roads of other categories and urban streets the carriage ways of which is designed for passage of vehicles under this Group;

Group B – vehicles and road trains designed for operation on all motor roads of the USSR common network.

3.1.1 The weigh parameter of vehicles and road trains shall not exceed the values specified in Table 3.1.

Table 3.1

Weight parameter	Group A	Group B
1. Axle mass (load on road transmitted by the wheels of a single most loaded axle), tons:		
a) if the distance between adjacent axis is 3 m or greater	10,0	6,0
b) if the distance between adjacent axis is less than 3 m	9,0	5,5
2. Gross weight, tons:		
a) two-axle vehicle or trailer	17,5	10,5
b) three-axle vehicle or trailer	25,0	15,0
b) road train consisting of tractor and semi-trailer (with the total of 3 axis)	25,0	16,0

г) road train consisting of vehicle and trailer or tractor and semi-trailer (with the total of 4axis)	33,0	20,0
д) road train consisting of vehicle and trailer or tractor and semi-trailer (with the total of 5 and more axis)	40,0	30,0

Meanwhile, the following conditions are allowed:

- a) increasing of axle weight for buses with all seating and standing rooms occupied up to 11,5 tons for Group A and up to 7 tons for Group B.
- b) increasing of axle weight up to 6,5 tons for dump trucks produced on the basis of two-axle vehicles under Group B.

Vehicles, semi-trailers and trailers with the gross weight exceeding 1,5 tons shall have wheels with air tyres, which ensure transmission of axle weight on the road surface with the average unit pressure not exceeding 6,5 kgs/cm<sup>2</sup> for vehicles and road trains under Group A, and not exceeding 5,5 kgs/cm<sup>2</sup> — for Group B.

### 3.1.2 Dimension parameters of the vehicles shall be:

a) The out-to-out (lateral) measure of vehicles and road trains is fixed in the form of rectangle of 2,5 m wide and 3,8 m high.;

b) All vehicle equipment shall fully fall within the out-to-out measure of the vehicle and road train except side-view mirrors which may go beyond out-to-out measure provided they are mounted on folding brackets.

c) If the height of vehicles, trailers and semi-trailers exceeds 3,1 m the provisions shall be made for temporary height reduction thereof to ensure carriage by rail.

d) The full length of vehicles and road trains shall not exceed:

- For vehicles with any number of axes (without trailer) — 12,0 m;
- For road train consisting of tractor with semi-trailer or vehicle with one trailer — 20,0 m;
- For road train consisting of vehicle with two or more trailers — 24,0 m.

e) The length restriction is not related to the vehicle towing.

In the design of road pavement on urban streets the nominal mobile vertical load was used as a basis for calculation of road engineering structures – SNiP, K.3-72. The load data are shown in Table 3.2.

The Group A vehicle loads were used for calculation of pavement for the roads of category I and II and for the roads of lower categories, if the passage of vehicles under this Group is envisaged. For other roads the calculation of the pavement is performed based on Group B vehicles.

Urban highways were calculated based on N-30 loads, arterial streets of metropolitan and district significance – based on N-10 and N-30 loads, streets in residential areas – based on N-10 loads. The pavement for streets with heavy bus traffic was calculated based on Group A loads.

**Table 3.2**

Vehicle	Maximum single axle load, kgs.	Average pavement pressure, kg/cm <sup>2</sup>	Design wheel track diameter, cm	Vehicle	Maximum single axle load, kgs.	Average pavement pressure, kg/cm <sup>2</sup>	Design wheel track diameter, cm
Vehicles: Group A	10 000	6	33	Standard truck:			
» B	6 000	5	28	N-10	9 500	5,5	33
Buses: Group A	11 500	6	35	N-30	12 000	6,0	36
» B	7 000	5	30				

Currently there is only one regulatory document acting in the CIS countries, and of course in CA countries called «Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS» made on 4 June 1999 in Minsk, related to the vehicles carrying out international transport.

Uzbekistan has not yet ratified this Agreement. However, on signing the Republic of Uzbekistan has established its norms on articulated road train weights in accordance with this Agreement. From 24.12.03 Kazakhstan has introduced the amendments towards the increase of the permissible double and triple axle loads of trailers and semi-trailers.

The Council Directive 96/53 dated 25 July 1996 laying down the maximum authorized dimensions and weight for certain road vehicles circulating within the Community.

In accordance with the regulatory document GB 1589-2004 the People' Republic of China harmonized practically all its standards on the limits of dimensions, axle load and masses for road vehicles with the Council Directive 96/53 EU above.

### **3.2 Analysis of permissible parameters of vehicle gross weight and axle loads**

Table 3.3 shows normative parameters of vehicle weights, axle loads and dimensions in Uzbekistan, Kazakhstan, CIS countries, i.e. Kyrgyz Republic, Republic of Tajikistan and Russian federation, EU, Canada, USA and China.

In USA and Canada the requirements to vehicle gross weight, axle loads and dimensions parameters are slightly different, through there are no borders between these countries and road transport freely moves from one country to the other under NAFTA Agreement. The standards applied in USA and Canada are shown for review as countries, which have specific requirements sparing road pavement.

At the beginning the review of vehicle gross weight and axle load characteristics is provided:

**0.1.1** Almost all regulatory documents applied in the countries presented in the analysis set forth the same weights for 2-axle and 3-axle trucks. In USA and Canada due to the lower parameters established for truck single axes the gross weight of the vehicle amounts 16.35 tons in USA and 17.1 tons in Canada.

**0.1.2** The permissible load on single load with 4 wheels (which are normally the rear axes of goods vehicle) is 9.07 tons in USA and 9.1 tons in Canada. These are the lowest permissible axle loads. In EU the permissible load on rear 4-slope driving axle of the truck or articulated tractor is 11.5 tons, given that the axle is mounted on air suspension (pneumatic spring). It should be noted that the SNIps of CA countries «Motor roads» the permissible rear single axle load for buses is 11,5 tons and for trucks 10 tons.

**Specified parameters of vehicle weights, axle loads and dimensions as of 01.07.2008**

**Table 3.3**

Vehicle parameter	EU	CIS	Kaz	Uzb	USA	Canada	PRC
1	2	3	4	5	6	7	8
<b>I. Maximum permissible dimensions of vehicles</b>							
Maximum vehicle dimensions shall not exceed values below, m:							
1.1. Maximum length:							
Goods vehicle	12,0	12,0	12,0	12,0	12,5	12,5	12,0
Bus	12,0	12,0	12,0	12,0	14	14	12,0
Trailer (semi-trailer)	12,0	12,0	12,0	12,0	8,53(14,63)	ND.(16,2)	13,0
Articulated bus	18,0	18,0	18,0	18,0	-	-	18
Road trains:							
- Articulated	16,5	20	20	20	ND.	23	16,5
- Trailer	18,75	20	20	20	ND	23	20
- Articulated trailer	-	-	-	-	ND	25	
1.2. Maximum width:							
All motor vehicles	2,55	2,55	2,55	2,55	2,6	2,6	2,5
Vehicle refrigerator body	2,6	2,6	2,6	2,6	2,6	2,6	2,55
1.3. Maximum height	4,0	4,0	4,0	4,0	ND	4,15	4,0
<b>II. Maximum weights of vehicle</b>							
Maximum vehicle weights shall not exceed values below, tons:							
2.1. Goods vehicle:							
Two-axle goods vehicle	18	18	18	18	16,35	17,1	18,0
Three-axle goods vehicle	25	24	24	24	24	26,0	25,0
Three-axle vehicle with one steering axle consisting of twin tyres fitted with air suspension or equivalent	26	25	25	25	-	-	-
Four-axle vehicle with one steering axle consisting of twin tyres fitted with air suspension or equivalent	32	32	32	32	31	34	32
1	2	3	4	5	6	7	8
2.2. Vehicles forming part of vehicle combination:							
Two-axles trailer	18,0	18,0	18,0	18,0	18,14	18,2	18,0
Three-axles trailer	24,0	24,0	24,0	24,0	25,0	26,1	25,0
2.3. Vehicle combinations							

2.3.1. Articulated vehicles:							
Two-axle truck with a two-axle semi-trailer, with a distance between the axles of the semi-trailer 1,3m or greater, but not more than 1,8m	36,0	36,0	36,0	36,0	-	-	36,0
with a distance between the axles of the semi-trailer exceeding 1,8m (one steering axle with 4 wheels and air suspension)	38,0	38,0	38,0	38,0	-	-	38,0
Two-axle truck with a three-axle semi-trailer	40,0	38,0	38,0	40,0	-	-	40,0
Three-axle truck with a two-axle semi-trailer	40,0	38,0	38,0	40,0	36,29	41,5	40,0
Three-axle truck with a two-axle semi-trailer (for carriage of 40 feet container)	40,0 (44,0)	38,0	38,0	40,0	39,915	44,5	49,0
2.3.2. Trailer road trains:							
Two-axle truck with two-axle trailer	36,0	36,0	36,0	36,0	35,0	35,1	35,0
Two-axle truck with three-axle trailer	42,0	42,0	42,0	42,0	42,0	43,2	43,0
Three-axle truck with two-axle trailer	42,0	42,0	42,0	42,0	39,42	44,25	43,0
Three-axle truck with three-axle trailer	44,0	44,0	44,0	44,0	44,5	48,25	49,0
Three-axle truck with four-axle trailer	44,0	44,0	44,0	44,0	53,0	53,5	49,0
2.4. Buses							
Two-axle buses	18,0	18,0	18,0	18,0	16,35	16,35	18,0
Three-axle buses	24,0	24,0	24,0	24,0	25,25	25,25	24,0
Three-axle articulated buses	28,0	28,0	28,0	28,0	-	-	28,0
Four-axle articulated buses	28,0	28,0	28,0	28,0	-	-	28,0
<b>III. Maximum vehicle axle weights</b>							
Maximum vehicle axle weight shall not exceed the values below, tons:							
3.1. For single axle:							
Driven axle (front axle of goods vehicle)	10,0	10,0	10,0	10,0	5,45*(7,25)	5,5*(7,25)	10,0
Driving double-tyre wheel axle	11,5	10,0	10,0	10,0	9,07	9,1	11,5
3.2. For trailer and semi-trailer double-tyre wheel double axle, the sum of axle weights shall not exceed, with the axle spacing:							
From 0,5 m to 1 m	11,0	12,0	12,5	12,5			11,5
From 1 m to 1,3 m (USA, Canada, Mexico to 1,2m)	16,0	14,0	15,0	15,0	-	9,1	16,0
From 1,3 m to 1,8 m (USA, Canada, Mexico from 1,2 to 1,85m)	18,0	16,0	16,0	16,0	15,42	18,0	18,0
Equal or exceeding 1,8 m (Canada more than 1,85m)	20,0	18,0	18,0	18,0	-	18,2	20,0
3.3. For trailer and semi-trailer one-wheel double axle, the sum of axle weights shall not exceed, with the axle spacing:							
From 0,5 m to 1 m	11,0	11,0	12,0	12,0	-	-	11,0
From 1 m to 1,3 m	16,0	13,0	14,0	14,0	-	-	16,0



From 1,3 m to 1,8 m	18,0	15,0	16,0	16,0	-	-	18,0
Equal or exceeding 1,8 m	20,0	17,0	17,5	17,5	-	-	20,0
3.4 For trailer and semi-trailer with double-tyre wheel triple-axle, the sum of axle weights shall not exceed, with the axle spacing:							
From 0,5 m to 1 m	-	16,5	17,5	16,5	-	18,0	-
From 1 m to 1,3 m (USA, Canada, Mexico to 1,2m)	21,0	19,5	21,0	21,0	19,0	21,0	21,0
From 1,3 m to 1,8 m (USA, Canada, Mexico from 1,2 to 1,85m)	24,0	22,5	24,0	24,0	-	24,0	24,0
Equal or exceeding 1,8 m (Canada more than 1,85m)	-	25,5	26,5	26,5	-	26,0	-
3.5 For three axle trailers or semi-trailers with single wheel, with the axle spacing:							
From 0,5 m to 1 m	-	150	16,5	16,5	-	-	-
From 1 m to 1,3 m	21,0	18,3	19,5	195	-	-	21,0
From 1,3 m to 1,8 m	24,0	21,0	22,5	22,5	-	-	24,0
Equal or exceeding 1,8 m	-	24	24,5	24,0	-	-	-
3.6 For double driving axes of goods vehicle or buses with double-tyre wheels, the sum of axle weights shall not exceed, with the axle spacing:							
From 0,5 m to 1 m	11,5	12,0	12,0	12,0	-	-	11,5
From 1 m to 1,3 m (USA, Canada, Mexico to 1,2m)	16,0	14,0	14,0	14,0	-	9,1	16,0
From 1,3 m to 1,8 m (USA, Canada, Mexico from 1,2 to 1,85m)	18 (19)**	16	16	16	15,42	18,0	18,0
Equal or exceeding 1,8 m (Canada more than 1,85m)	-	180	18,0	18,0	-	18,2	-
- The same, mounted on air and equivalent suspension	-	19,0	19,0	19,0	-	-	-
3.7 For double driving axes of goods vehicle or bus with single wheel the sum of axle weights shall not exceed, with axle spacing:							
Up to 1 m	-	11,0	11,0	11,0	-	-	-
From 1 m to 1,3 m	-	13,0	13,0	13,0	-	-	-
From 1,3 m to 1,8 m	-	15,0	15,0	15,0	-	-	-
3.8. The weight transferred to the driving axle of vehicle or combination vehicle shall be at least 25% of the total weight of vehicle or combination vehicle.							
	+	+	+	+	+	+	+

ND – not determined

\* - for artic front axle.

\*\* - if double-axle is equipped with air suspension.

**0.1.3** The impact of axle loads on the road pavement in case the vehicle axes are equipped with air suspension has not been examined so far. Road surface roughness in the form of waves of different length (from 1 to 20m or greater) with the vehicle bouncing motion emerging during movement along them, increase the dynamic component of vehicle impact on the road. It is natural that dynamic component of the vehicle axle load affecting the road destruction will be significantly reduced if the air suspension is used. Also, the use of air suspension improves the reliability and lifetime of the whole vehicle or road train. The availability of air suspension enables to expand the classes of goods transported by the vehicle.

The CIS countries have established a standard gross weight of 3-axle goods vehicle of 25tons if the rear axial dolly is equipped with air suspension, and 26 tons in EU countries respectively.

**0.1.4** The analysis of rolling road load from double and triple axial dollies shown the following:

- c) In EU countries higher load parameters starting with the distance between axis exceeding 1.2 m are permitted as compared to other countries. The most sparing for road coupling axle load are established in USA.
- d) In EU the loads on axial dollies do not depend on the number of wheels (tyres) on an axle. They have similar values for both double and triple single-wheel axis. In CIS countries these parameters are lower by about 1,5-3 tons, while in USA and Canada single-wheel axis are practically not used in typical goods vehicles and buses.
- e) In the Republic of Kazakhstan and the Republic of Uzbekistan the rolling road load from three-axle dollies with double-tyre wheels exceed similar parameters established in CA and CIS countries and equal to 22,5 tons with the distance between end axis 2,7m. It is not clear why in the Republic of Tajikistan and Kyrgyz Republic, as well as other CIS countries this parameter is still equal to 21 tons.

In the guidelines on carriage of bulky and heavy goods by road transport applied in USSR and in the CIS countries the three-axle dolly load was permitted at 22,5 tons for vehicles moving conventional divisible goods (7,5 tons per each dolly axle with the distance between end wheel axis of dolly >2,6 m to 3,2 m inclusive), moreover, there were no indication whether dolly axis should be 2-wheel or 4-wheel. It should also be taken into account that currently almost all tractors, semi-trailers and trailers are equipped with air suspension.

**0.1.5** When considering gross weight of articulated and trailer road trains (see Figure 3.1), the standard values of five-axle and six-axle road trains are of the highest concern.

It should be reminded that 48 year ago in accordance with the GOST 9314-59 «Motor vehicles and road trains. Weight parameters and dimensions», which was introduced on 01.01.1960 and repealed in the end of 1980-s it was established, *ad verbum*, that «the parameters of road trains consisting of vehicle and trailer or tractor and semi-trailer (with the total of 5 axes or greater) shall not exceed 40 tons». In the Agreement the permissible limits for 5-axle articulated road trains is established at 38 tons. So many years passed, and does it mean that the road construction technologies in Central Asia and CIS worsened?

In Figure 3.1c a standard six-axle articulated road train and permissible weights of its parts. It is not clear at all what guided the developers of known agreement still in force in CIS countries called «Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS» made on 4 June 1999 in Minsk while establishing maximum permitted weights for this type of road train. According to this Agreement the limit mass of this road train shall not exceed 44 tons. Even in USA and Canada where the most tight standards on axle load and road train mass is in place (we recall that in USA the maximum load on single axle with 4 wheels is 9,07 tons, in Canada - 9,1 tons, on double axle - 15,42 и 17,0 tons respectively with the distance between axes between 1.2 to 1.85m) the permissible limit

mass of similar 6-axle articulated road train equals to  $\approx 48$  tons. The situation is similar with the 6-axle articulated road train (see Figure 3.1e), where the limit mass for CIS countries, except the Republic of Uzbekistan, is equal to 38 tons, while in Uzbekistan it equals to 40 tons. In EU the permissible gross weight is 44 tons (Council Directive 96/53 EU), and in Canada it is 44,5 tons, with the same axle spacing for three-axle semi-trailer dolly.

When calculating gross weight of six-axle articulated road train (Figure 3.1e) based on permissible axle loads applied in the Russian Federation, Republic of Tajikistan, Kyrgyz Republic, then proceeding from the condition that standard load on 3-axle single-wheel dolly is 21 tons, on 2-x axle tractor dolly - 16 tons, and on front tractor axle - 7,5 tons, the total weight of road train shall be 44,5 tons.

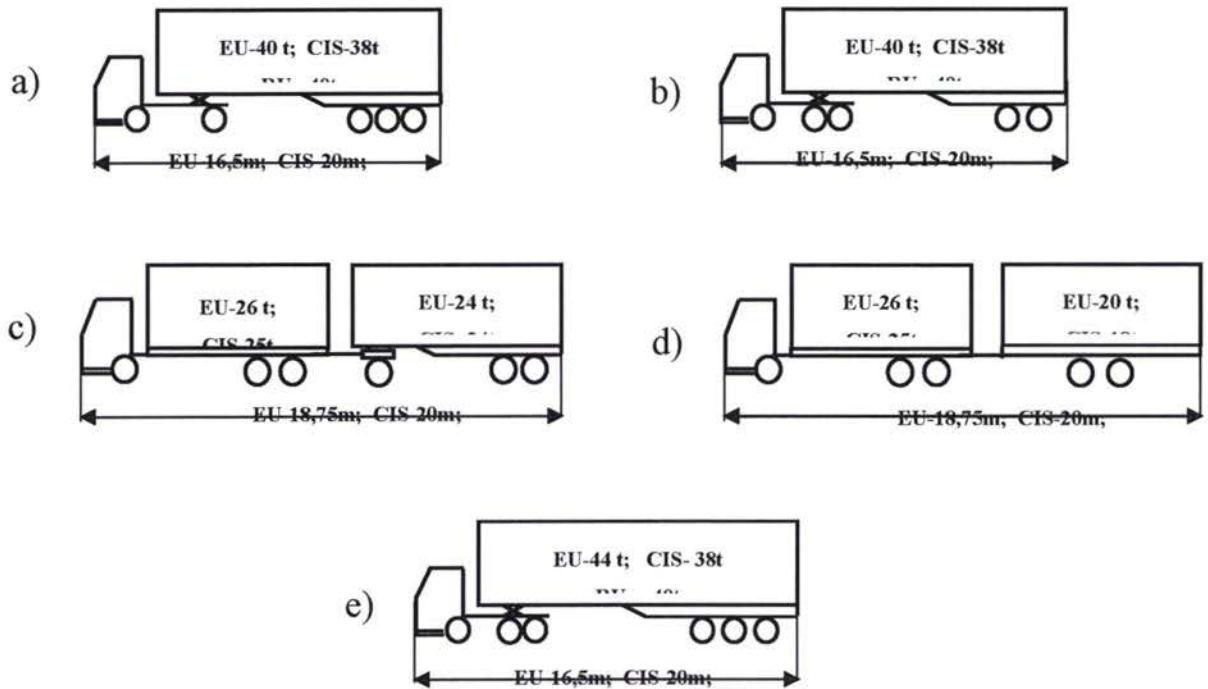


Figure 3.1. Existing type range of road trains for carriages in EU, CA and CIS countries

### 3.3 Harmonization of norms on vehicle weights and dimensions in CA and CIS countries

3.3.1 Indeed, overloading of vehicles designed for movement of various «divisible» goods is not permissible. It is stated in the Traffic Rules of any country in Europe, Central Asia and CIS. There are three main reasons for this:

- An intensive road destruction
- Sharp deterioration in road transport reliability
- A «would be assassin» sitting in the driver's seat, since nobody knows how overloaded vehicle, in particular road train, would behave in critical traffic situation (abrupt braking, sharp turning, etc.).

When carrying out certification testing of new vehicles the lading weight shall not exceed values established by the manufacturer. The construction of prospective road trains is also directly connected with the permissible axle loads, full weight and dimensions of parts thereof.

**3.3.2** However, there is no sense in underrating the standards on maximum permissible weight of road trains if the axle loads, axle spacing and dolly axes do not exceed standard values. The consignors and carriers incur thumping damages from such limitations.

Every year only across and from Kazakhstan road trains transport up to 1 billion tons of goods. Taking into account that all road trains had gross weight of 38 tons (according to the standards of the Republic of Kazakhstan), rather than 40 tons, some 4546 additional trips are made due to underloading. It is easy to calculate the losses incurred by businessmen, how many extra tons of fuel is consumed, and, finally, to what extent the air pollution increases due to exhaust gases.

**3.3.3** Taking into account comments above, the CA countries are recommended:

- a) To establish the standard value of the maximum weight for three-axle trailer and semi-trailer single wheel dollies equipped with air suspension with the distance between axis between 1,3 to 1,8 m – 22,5 tons (Kyrgyzstan, Tajikistan and Turkmenistan)
- b) For unification purposes establish standard values of the gross weight of articulated road trains:
  - Five-axle – 40 tons
  - Six-axle comprising three-axle tractive units + three-axle semi-trailer – 44 tons

**3.3.4** It appears the time has come for revision of the «Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS» made on 4 June 1999 in Minsk and develop a relevant science-based expanded regulatory document taking into account all possible combinations used in motor vehicles, axle dollies and distance between them. On the basis thereof submit the proposals to the on revision of the 1999 Minsk Agreement Coordinating Transport Meeting of the CIS member states.

**Taking into account that in EuroAsian region geometric and weight parameters of vehicles involved in international transport should harmonized, it is recommended that the requirements set forth in the Council Directive 96/53 EU shall be used as a basis for introduction of norms in Central Asia and CIS.**

**3.3.5** The experts from UNECE, EU, ADB and ESCAP anticipate that by 2010 the traffic flows on the highways along Europe – Asia route will double, and by 2020 – triple; thus, it will be necessary to expand the road transport capacity by increasing their length, construction of new highways with the increased permissible axle load up to 11,5 tons or greater.

In 2006, a new SNIIP on roads was introduced in Kazakhstan, where the maximum single axle load was established at 130 kN for international highways.

The similar SNIIPs are under revision in Uzbekistan, where the permissible single axle load will be at least 11.5 tons.

Almost all normatives on maximum axle loads and gross weight of road trains in China are harmonized with the mentioned Council Directive 96/53 EU (regulatory document GB 1589-2004).

In Canada the road train gross weight is increased by the expansion of the length thereof. For instance, the length of articulated and single trailer road train is permitted up to 23m.

**3.3.6** The manufacturers of goods vehicles and different types of vehicles, trailers and semi-trailers specify in vehicle technical characteristics the maximum permissible vehicle gross weights and axle loads, which normally exceed permissible loads based on normative requirements for common use roads; or they specify two vehicle gross weights, with one of them usually exceeding permissible value in accordance with the vehicle operation conditions on the common use roads.

If following the text in the Section «Movement of goods» of the «Traffic Rules» of CA countries, the vehicles with the weight and axle loads established by the manufacturer but significantly exceeding permissible loads on the common use roads can be admitted to carriage of goods.

In this regard we think the text in this paragraph of the Section «Movement of goods» of the Traffic Rules shall be amended as follows:

**The vehicle gross weight and load distribution by axes shall not exceed the values established by the manufacturers and normative requirements for common use roads.**

### **3.4 Prospective road trains for carriages on the route Europe – Asia.**

**3.4.1** At this time only modular long-length heavy-duty road trains (MLHDRT) can cardinaly improve the efficiency of the transport on Europe – Asia routes where the distance can reach 5-8 thousand km.

From 1998 the Scandinavian countries of Sweden and Finland have changed the requirements to length and gross weight of road-trains up to 25,25m and 60 t, while maintaining the requirements of EU Directive #96/53 on axle load. Two configurations of road-train are permitted. The first road-train consist of three-axle tractor + five-axle trailer manufactured on the basis of standard three-axle semi-trailer with two-axle dolly. The second one is an articulated road-train (ART), where the standard semi-trailer is coupled with two-axle trailer, normally with central axle (see Figure 1).

It is now five years as such road-trains perform international carriages from Sweden and Finland to Saint Petersburg and Moscow in Russia on the basis of special permission. It might be said that the pilot test runs are underway. The introduction of these road-trains in international transport was expected, however, unfortunately, road and transport legislations was not finalized either in EU, except Sweden and Finland respectively, or in CIS countries. These road-trains, or as they were figuratively called “steam engines”, have useful capacity up to 150m<sup>3</sup>.



*Figure 1. An articulated road-train of 25,25m long and body space of 160m<sup>3</sup>.*

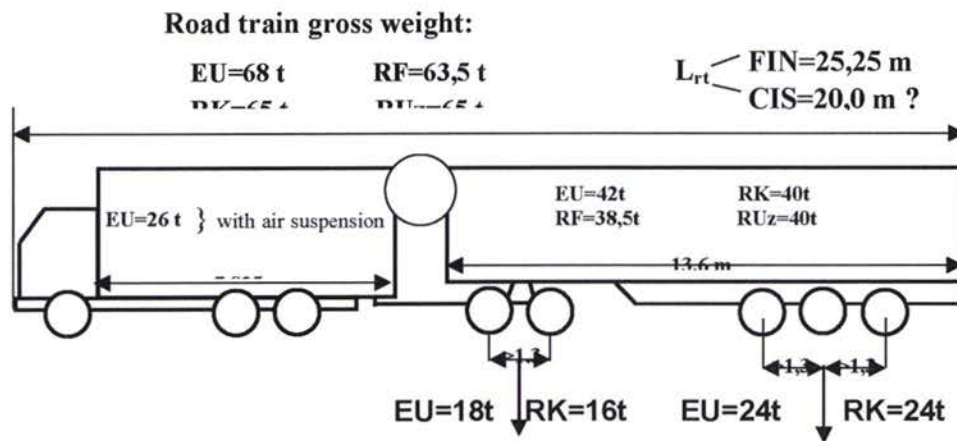
**3.4.2 Everything old is new again.** An idea of increased road train capacity through utilization of additional trailers has been already tested by the automotive engineer from Central Asian and other CIS countries, who in 1960–1980-s, i.e. being within USSR actively introduced into operation various types of heavy-duty multilink road trains of the total length of 24m, which was statutory established at that

time. Such road trains were formed on the modular principle based on series-produced fleet – trucks, artics, semi-trailers and trailers.

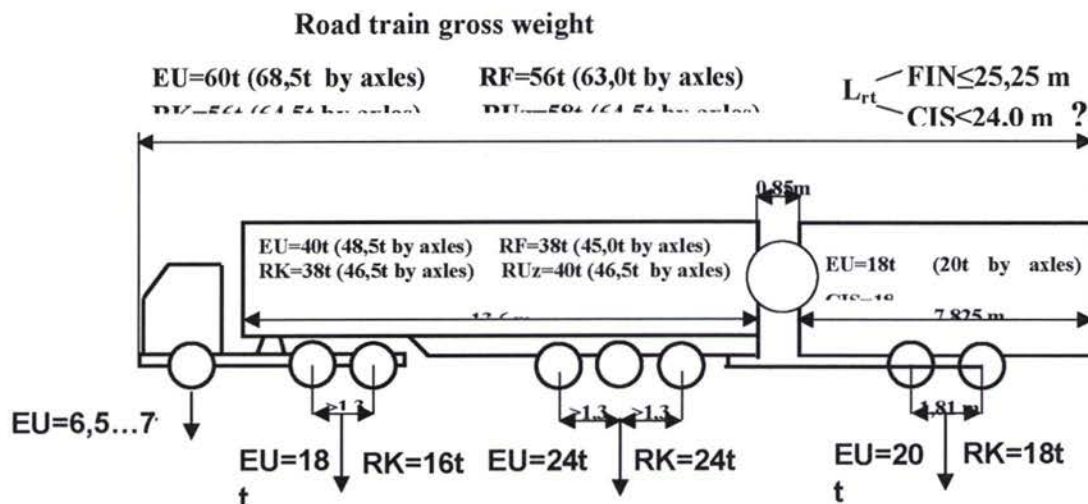
In 1970-80s some 30 different types of sideboard and dump articulated and 2-axle trailer road trains were shaped and used in former USSR Republics, which were operated in long-distance carriages, construction and agriculture.

**3.4.3** Based on specialist estimation in 10 years time only on the roads of Germany the proportion of freight transport will be increases by 70%, and by 2010 the volume of domestic transport would increase by 25%, with the international traffic increased by 40%. To relieve the roads from traffic and decrease the waste gas exhaust, Europe will have to proceed to movements by long-length road-trains up to 25,25m (following the Scandinavian experience) with the gross vehicle weight up to 60 tons (see Figure 2a, b). The use of such road-trains would enable to increase transport efficiency, reduce fuel consumption by 20 % and exhaust gas toxicity per unit of cargo transported by 30%.

**3.4.4** In 1990s the concept of modular systems (EMS) was developed in Europe, which enables to use on the long-stage routes two types of the heavy-duty long-length road trains formed with the typical vehicle fleet instead of three standard vehicles for transportation of single loads. These are 60-tons heavy-load modular road trains which, as generally agreed by the road carriers was a notably successful solution of a traffic growth challenge.



**Figure 2a. Trailer MLHDRT**



**Figure 2b. Articulated trailer MLHDRT**

(in Kyrgyz Republic and Republic of Tajikistan the standards are similar to those in Russian Federation)

The negative example of increased vehicle capacity are carriages performed by the Chinese carriers to Kyrgyzstan using three-axle trucks with the full weight up to 60 tons or 4-axle trucks with the full weight up to 80 tons. Chinese transport operators intentionally enforce truck frame side rail or make them doubled. They manage to travel through the tunnels at the Tyoo –Ashuu pass (at the height of 3568 m).

These are not exceptional, but regular trips. Unless these trips are urgently prohibited now, Kyrgyzstan may have no this tunnel and asphalt-paved roads.

As it was noted, Finland and Sweden were the first countries that permitted to use on their territory road trains of 24m, and then up to 25,25 m long. In this regard well known German companies «Krone», «Schmitz» «Koegel», «Fliegel» are involved for a long time in research and designing of such types of trailing equipment. The first two companies already produce in small lots long wheel-base trailers (Figure 2a) constructed on the basis of stock semi-trailer of 13,6 m long which are designed for heavy-duty trailer road train, as well as for articulated road train (Figure 2b), where normally center two-axle trailer is used with permitted gross weight of 20 tons in EU and 18 tons in CIS. In new road train an artic with low truck bolster (950 mm instead of 1150–1200 mm from the ground level) is often used that enables to increase the trailer and semi-trailer body space up to 150–160m<sup>3</sup>.

The prospective heavy-duty modular road trains examined are quite realistic. All known European manufacturers of truck tractors and trucks have a wide range of diesel engines with the capacity of 420-500 kW (570 to 680 hp), that ensures vehicle power-to-weight ratio from 6.6 to 8 kW/t, or 9-11h.p./t. Such engine capacity enables heavy-duty road-trains equipped with them to maintain high travel speed, easily integrate into the traffic flows on the highways, while freely fitting in the standard turning circle of ≤15 m, envisaged for road-trains in SNiPs “Motor roads” existing in CIS countries.

**3.4.5** The large-scale introduction of long-length road-trains in EU, CA and CIS countries is associated with three groups of limitations:

**a) Limitations on vehicle geometric and weight parameters.**

In the CA and CIS countries there is no yet a new standard, which would set forth the norms on vehicle weights and dimensions. The old similar GOST #9314-59 was repealed in Soviet times, where the permissible gross weight of five-axle articulated or single-trailer road-train was up to 40m with the length of up to 20m, while the length with two trailers – 24m. The EU countries also restrict the length of articulated road train up to 16,5m, and trailer road train up to 18,75m (Council Directive 96/53 EU).

**b) The second group of limitations is associated with safety requirements for design of road-trains under consideration.**

1. It is not clear how to certify the design of such road-trains in compliance with the requirements on vehicle compatibility according to Annex 10 to the UN ECE Regulations 13 “Uniform rules concerning official approval of vehicles of N and O categories with respect to braking”. Annex 10 sets forth the norms on compatibility only for road-trains with two units, tractor and trailer (semi-trailer). It is necessary to refine this document.

2. It is possible to ensure the response rate and synchronism of air brake controls on trailer units through introduction of electronically controlled electro-pneumatic braking drive (EBS) already installed in road trains.

3. The modern road-trains are equipped with much more advanced intelligent systems improving traffic safety, like assisting to driver, pedestrian detection, maneuvering on terminals, etc. Apparently, the MLHDRT will be equipped with such systems.

4. Undoubtedly, it will be much more difficult for the MLHDRT to meet the norms of EU and UNECE Standards on vehicle driveability and road holding. Introduction of modern dynamic stabilization systems of ESC (ESP) type produced by Wabco и Knorr-Bremse to the road-trains design can resolve the problem.

5. Taking into account that normally the road-trains have additional trailer, the tractor engine and transmission system as well as pulling and coupling devices of both tractor and trailer will be more loaded and, of course, the control regimes thereof should be tightened. This requirement will implicitly affect the design safety of “steam engine” fleet. Manufacturers of tractors and trailers will have to indicate additional modes and regulations on maintenance operations in case a tractor or a semi-trailer is operated in an articulated road-train or with a long 40t trailer.

**c) The third group of limitations on large-scale introduction of MLHDRT will be associated with difficulties in acceptance thereof in existing terminals and logistic centers.**

To ensure large-scale introduction of heavy load road-trains in international transport, it would be necessary to expand or improve terminals, arrange transfer points for loading and unloading of MLHDRT, waiting spaces, etc. as well as expansion of parking bays on the highways for crew rest or vehicle inspection.

Finally it should be noted that MLHDRT are road-trains for international road carriages of the nearest future, in particular for EuroAsian transport along the Great Silk Road highways.

Indeed, ensuring traffic safety forms the basis for implementation of the projects on use of heavy-duty long-length road trains. In the course of operation they should be composed of the fleet (tractors, trailers and semi-trailers) having relevant certificate - «certificate of vehicle type approval», taking into account the possibility of operation in heavy-duty road trains.

It is advisable to authorize the mass operation of such vehicles only on the highways with at least four lanes. Overtaking of long-length road trains on the normal two-lane road by other vehicles with the ride to the opposite side of the road is very dangerous, and even impossible in case of dense traffic flows.

**In order to proceed to a large-scale introduction and capacity development of high performance modular long-length heavy-load road trains, it is recommended to IRU to organize pilot in the nearest future trips of eight-axle road trains with the 60 tons gross weight and of 25,25m long from Sweden, Finland to CA countries.**

### **3.5 Draft Standard «Motor vehicles. Weight and dimensions parameters»**

Based on the analysis above of the regulatory documents, permissible parameters of weights, axle loads and dimensions of vehicles accepted in the CIS countries, including Central Asian countries, EU, China, as well as taking into account the prospects for use of high-performance modular long-length heavy-duty road trains in international movements the Draft Standard «Motor vehicles. Weight and dimensions parameters» is proposed for CA countries. Thess Draft standards can be recommended to Coordinating Transport Meeting of the CIS member states for revision of the Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS, signed on 4 June 1999 in Minsk. A new Draft standard «Motor vehicles. Weight and dimensions parameters» is attached in Annex III to this Report.



### **3.6 International Vehicle Weight Certificate**

**3.6.1** One of items of a new Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982 entered into force on 20 May 2008 is the requirement to use International Vehicle Weight Certificate (IVWC).

Taking into account the significance of this document the CA countries should give adequate consideration and make careful preparations to the implementation thereof.

The text of the Appendix 2 to Annex 8 to the «Convention on Harmonization» is given below.

Appendix 2 to Annex 8 to the  
«Convention on harmonization»

**INTERNATIONAL VEHICLE WEIGHT CERTIFICATE**

1. The objective of the International Vehicle Weight Certificate (IVWC) is to facilitate border crossing procedures and, in particular, to avoid repetitive weight measurements of goods road vehicles en-route in the Contracting Parties. Duly filled-in certificates, accepted by the Contracting Parties, shall be accepted as bearing valid weight measurements by the competent authorities of Contracting Parties. Competent authorities shall refrain from requiring additional weight measurements apart from selective checks and control in case of supposed irregularities.
2. The International Vehicle Weight Certificate, which shall conform to the model reproduced below in this Appendix, shall be issued and used under the supervision of a designated Governmental authority in each Contracting Party accepting such certificates in line with the procedure described in the annexed certificate.
3. The use of the certificate by transport operators is optional.
4. The Contracting Parties, accepting such certificates, shall approved authorized weighing stations to fill-in, together with operator/driver of the goods road vehicle, the International Vehicle Weight Certificate in accordance wit the following minimum requirements:
  - a) Weighing stations shall be equipped with certified weighing instruments. For performing the weight measurements, the Contracting Parties accepting such certificates may select the method and instruments they consider appropriate. The Contracting Party accepting such certificates shall ensure the competence of the weighing stations by, for example, an accreditation or assessment process and shall ensure the use of the appropriate weighing instruments, the deployment of qualified personnel, and the existence of properly documented quality control systems and testing procedures.
  - b) The weighing stations and their instruments shall be well maintained. The instruments shall be regularly verified and sealed by the relevant authorities responsible for weights and measures. The weighing instruments, their maximum permissible errors and usage shall comply with the Recommendations established by the International Organization of Legal Metrology (OIML).
  - c) Weighing stations shall be equipped with weighing instruments corresponding to either:
    - OIML Recommendation R 76 "Non-automatic weighing instruments" accuracy class III or better;
    - OIML Recommendation R 134 "Automatic instruments for weighing road vehicles in motion", accuracy class 2 or better, higher error values may apply in case of individual axle weight measurements.
5. In exceptional cases and, particularly when irregularities are suspected, or at the demand of the transport operator/driver of the respective road vehicle, the competent authorities may re-weigh the vehicle. In case a weighing station produces several mistaken measurements, observed by the control authorities in a Contracting Party accepting such certificates, the competent authorities of the country of the weighing station shall take appropriate measures in order to ensure that such events will not occur again.

6. The model of the certificate may be reproduced in any of the languages of the Contracting Parties accepting such certificates provided that the layout of the certificate and the placing of the items therein are not modified.

7. Each Contracting Party accepting such certificates, shall publish a list of all weighing stations in their countries authorized in accordance with international principles as well as any modifications thereto. This list as well as any modification thereto shall be transmitted to the Executive Secretary of the Economic Commission for Europe of the United Nations (UNECE) for distribution to each Contracting Party and to the international organizations referred to in Annex 7, Article 2 to this Convention.

8. (Transitional provision) Since only very few weighing stations are equipped at present with weighing instruments able to provide individual axle weight or axle group measurements, the Contracting Parties, accepting such certificates agree that, during a transitional period expiring 12 months following the entry into force of this Annex, gross vehicle weight measurements as provided for under item 7.3 in the International Vehicle Weight Certificate shall be sufficient and shall be accepted by the competent national authorities.

### **Sanctions**

Transport operator(s)/goods road vehicle driver(s) are subject to the national legislation for any false declaration made in the International Vehicle Weight Certificate.

In determining the legal value of the weight measurement(s), an estimation of the possible weighing error must be made for each weighing system. This error value, consisting of the intrinsic error of the weighing equipment and the error due to external factors, must be deducted from the measured weight in order to ensure that a possible overweight measurement is not caused by the inaccuracy of the weighing equipment and/or the weighing procedure used.

As a consequence, fines shall not be imposed on transport operators utilizing this certificate unless the weight measurement(s) inscribed in this certificate minus the maximum possible weighing error (i.e. 2% maximum or 800 kg in case of a 40 tonne vehicle) exceed(s) the maximum permissible weight(s) as prescribed by the national legislation.



ЕВРОПЕЙСКАЯ  
ЭКОНОМИЧЕСКАЯ  
КОМИССИЯ ОРГАНИЗАЦИИ  
ОБЪЕДИНЕННЫХ НАЦИЙ  
(ЕЭК ООН)

МЕЖДУНАРОДНЫЙ ВЕСОВОЙ СЕРТИФИКАТ ТРАНСПОРТНОГО  
СРЕДСТВА (МВСТС)

В соответствии с положениями приложения 8 (Облегчение процедур пересечения границ в ходе международных автомобильных перевозок) к Международной конвенции о согласовании условий проведения контроля грузов на границах 1982 года  
Действителен для международной дорожной перевозки грузов

Заполняется транспортным оператором (транспортными операторами)/водителем (водителями) грузового автотранспортного средства ДО взвешивания транспортного средства

1. Транспортный оператор/компания (наименование и адрес, включая страну)		Тел. №	
		Факс №	
		Электронная почта:	
2. Договор перевозки № <sup>1</sup>		Книжка МДП № (если это применимо) <sup>2</sup>	
3. Сведения о грузовом автотранспортном средстве			
3.1 Регистрационный номер	Автомобильного тягача/грузового автомобиля	Полуприцепа/прицепа	
3.2 Система подвески	Автомобильного тягача/грузового автомобиля воздушная механическая иная	Полуприцепа/прицепа воздушная механическая иная	
Заполняется оператором уполномоченной станции взвешивания			
4. Уполномоченная станция взвешивания (наименование и адрес, включая страну)		5. Взвешивание транспортного средства № <sup>3</sup> / / /	
4.1 Класс точности оборудования для взвешивания <sup>4</sup>		6. Дата выдачи (день, месяц, год)	
Класс II                      Класс III и/или <0,5      1                      2			
4.2 Дата последней калибровки			
7. Взвешивание грузовых автотранспортных средств (к настоящему сертификату должна быть приложена оригинальная официальная запись станции взвешивания)			
7.1 Тип грузового автотранспортного средства <sup>5</sup>			
7.2 Измерение веса на ось, в кг			
	Ведущая	Неведущая	Одиночная
			Сдвоенная
			Строенная
Первая ось			
Вторая ось			
Третья ось			
Четвертая ось			
Пятая ось			
Шестая ось <sup>6</sup>			
7.3 Измерение полного веса транспортного средства, в кг	Автомобильного тягача/грузового автомобиля	Полуприцеп/прицеп	Полный вес транспортного средства
8. Особые характеристики веса			8.3. Кол-во запасных шин
8.1 Наполнение топливного бака, подсоединенного (топливных баков, подсоединенных) к двигателю, до:			8.4. Число человек на транспортном средстве во время взвешивания
¼    ½    ¾    1/1			
8.2 Наполнение дополнительного топливного бака (дополнительных топливных баков) (включая топливо в баках для устройств охлаждения) до:			8.5. Подъемная ось    Да    Нет
¼    ½    ¾    1/1			
Заявляю, что вышеуказанные взвешивания были надлежащим образом произведены нижеподписавшимися на уполномоченной станции взвешивания			Печать
Фамилия оператора станции взвешивания		Подпись	

<sup>1</sup> Например: накладная КДПГ №.

<sup>2</sup> В соответствии с Конвенцией МДП 1975 года.

<sup>3</sup> См. примечания на стр. 2.

<sup>4</sup> В соответствии с рекомендацией МОЗМ R 76 и/или рекомендацией R 134.

<sup>5</sup> Код типа транспортного средства по прилагаемым схематическим рисункам, например А<sub>2</sub> или А<sub>2</sub>С<sub>2</sub>.

<sup>6</sup> Если число осей больше шести, указать это в графе "Примечания" на стр. 2.

**The backside of IVWC**





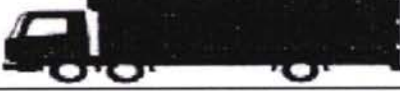


To be filled-in by the transport operator(s)/driver(s) of the goods road vehicle <i>AFTER</i> weighing the vehicle		
<p><b>I declare that:</b></p> <ul style="list-style-type: none"> <li>a) the weight measurements stated overleaf have been performed by the above-mentioned weighing station,</li> <li>b) the information (1) to (8) has been duly filled-in and</li> <li>c) no load has been added to the goods road vehicle following its weighing at the above-mentioned weighing station.</li> </ul>		
<b>Date</b>	<b>Name of transport operator(s)/dirver(s) of goods road vehicle</b>	<b>Signature(s)</b>
<b>Remarks (if any)</b>		
<b>Notes</b>		
<p><b>The vehicle weight measurement number shall consist of three data elements linked by hypens:</b></p> <ul style="list-style-type: none"> <li>1) <b>Country code (in accordance with the UN Convention on Road Traffic, 1968).</b></li> <li>2) <b>Two-digit code allowing identification of national weighing station.</b></li> <li>3) <b>Five-digit code (at least) allowing identification of individual weight measurement taken.</b></li> </ul> <p><b>Examples: GR-01-23456 or RO-14-000510.</b></p> <p><b>This serial number shall correspond to that applied in the books of the weighing station.</b></p>		

**Annex to the International Vehicle Weight Certificate (IVWC)**

**Draft sketches of the vehicle types, that should be indicated in Item 7.1. of the IVWC**

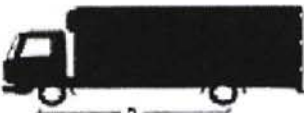






№	GOODS VEHICLES	Type of a vehicle * means: the first alternative configuration ** means: the second alternative axles configuration	Distance between the axles (in m.) <sup>1</sup> <sup>1</sup> . If not necessary – the parameter: should not be indicated
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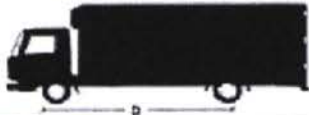




**1. GOODS VEHICLES**

1		A <sub>2</sub>	D < 4.0
2		A <sub>2</sub> <sup>*</sup>	D ≥ 4.0
3		A <sub>3</sub>	
4		A <sub>4</sub>	
5		A <sub>3</sub> <sup>*</sup>	
6		A <sub>4</sub> <sup>*</sup>	
7		A <sub>5</sub>	




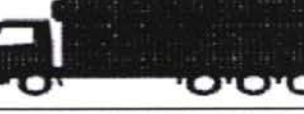


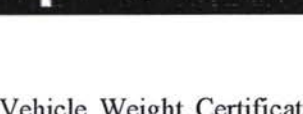
**Annex to the International Vehicle Weight Certificate (IVWC)**

**Draft sketches of the vehicle types, that should be indicated in Item 7.1. of the IVWC**

№	GOODS VEHICLES	Type of a vehicle * means the first alternative configuration ** means the second alternative axles configuration	Distance between the axles (in m.) <sup>1</sup> <sup>1</sup> . If not necessary – the parameters should not be indicated
<b>1. GOODS VEHICLES</b>			
1		A <sub>2</sub>	D < 4.0
2		A <sub>2</sub> *	D ≥ 4.0
3		A <sub>3</sub>	
4		A <sub>4</sub>	
5		A <sub>3</sub> *	
6		A <sub>4</sub> *	
7		A <sub>5</sub>	

Annex to the International Vehicle Weight Certificate (IVWC)			
Draft sketches of the vehicle types, that should be indicated in Item 7.1. of the IVWC			
N <sup>o</sup>	GOODS VEHICLES	Type of a vehicle * means: the first alternative configuration ** means: the second alternative axles configuration	Distance between the axles (in m.) <sup>1</sup> <sup>1</sup> . If not necessary – the parameters should not be indicated
1. GOODS VEHICLES			
1		A <sub>2</sub>	D < 4.0
2		A <sub>2</sub> *	D ≥ 4.0
3		A <sub>3</sub>	
4		A <sub>4</sub>	
5		A <sub>3</sub> *	
6		A <sub>4</sub> *	



Annex to the International Vehicle Weight Certificate (IVWC)			
Draft sketches of the vehicle types, that should be indicated in Item 7.1. of the IVWC			
№	GOODS VEHICLES	Type of a vehicle * means the first alternative configuration ** means the second alternative axles configuration	Distance between the axles (in m.) <sup>1</sup> <sup>1</sup> . If not necessary – the parameter should not be indicated
1. GOODS VEHICLES			
1		A <sub>2</sub>	D < 4.0
2		A <sub>2</sub> *	D ≥ 4.0
3		A <sub>3</sub>	
4		A <sub>4</sub>	
5		A <sub>3</sub> *	
6		A <sub>4</sub> *	
7		A <sub>5</sub>	

3.6.2 Provisions on International Vehicle Weight Certificate provided in Annex 8 to the «Convention on Harmonization» quite fully reflect the advantages of introduction and use thereof both in EU countries and, particularly, in CA and CIS countries.

The background for emerging of this amendment is based on the actual situation in the CA and CIS countries, Eastern Europe countries with transport operators from these countries performing international carriages. In Central Asia a constant overloading of road trains can be observed, in particular refrigerators when moving fruits and vegetables to Russian Federation.

The impact of such carriages on road transport and roads, traffic safety was described in para.3.3.1.

In EU, if the divisible goods are transported with the vehicles overloaded, a considerable fine shall be imposed on the vehicle owner. He/she shall be obliged to unload «excess» cargo and only afterwards

continue carriage along the route. The retained cargo can be transport in the next trip or transport operator can go back to pick it up, etc.

### **3.6.3 Without waiting for a new Annex 8 to the «Convention on Harmonization» coming into force, the CIS countries**

- Basing on the necessity of the coordinated actions in relation to the international road transport and unification of its conditions, elimination of barriers for the international road transport,
- In order to implement the Development program of the Commonwealth of Independent States until 2005 ratified by the Heads of the Governments Council of the Commonwealth of Independent States (CIS) dated 20 June 2000, the Agreement concerning the principles of the common transport area formation and conditions of the inter-state collaboration between the CIS member-states on the field of transport policy dated 9 October 1997 and Agreement on the procedure of transit through the territories of the member states of Commonwealth of Independent States dated 4 June 1999.

have concluded the «Agreement between the road authorities of the CIS Member-states concerning the introduction of the International Vehicle Weight Certificate on the territory of CIS Member-states» (16 April 2004, Cholpon-Ata).

**Signed by:** Republic of Armenia, Republic of Belarus, Georgia, Republic of Kazakhstan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Republic of Tajikistan, Ukraine.

#### **Notifications are submitted by:**

Republic of Belarus	– Deposited on 11 January 2005;
Republic of Tajikistan	– Deposited on 22 March 2005;
Republic of Kazakhstan	– Deposited on 19 May 2005;
Republic of Moldova	– Deposited on 20 June 2005;
Kyrgyz Republic	– Deposited on 12 August 2005;
Ukraine	– Deposited on 19 July 2006;
Russian Federation	– Deposited on 18 August 2006.

#### **The Agreement became effective on 19 May 2005.**

#### **The Agreement came into force for:**

Republic of Belarus	– 19 May 2005;
Republic of Tajikistan	– 19 May 2005;
Republic of Kazakhstan	– 19 May 2005;
Republic of Moldova	– 20 June 2005;
Kyrgyz Republic	– 12 August 2005;
Ukraine	– 19 July 2006;
Russian Federation	– 18 August 2006;

Among CA countries the Agreement was not signed by the Republic of Uzbekistan.

### **Main provisions of the 2004 Cholpon-Ata Agreement:**

- a) The Contracting Parties shall accept and reciprocally recognize certificate issued by any Contracting Party.
- b) The Certificate shall be typographically printed and have protection rates. The Content shall be as set forth in the Annex which is an integral part of this Agreement (hereinafter Annex).
- c) Certificate standard forms shall be printed by each Contracting Parties in Russian language, and if so decided by a Contracting Party may be doubled in a national language provided the certificate standard format and the placing of the items therein are not modified.
- d) Certificate blanks are the documents of strict liability.
- e) The certificate shall be issued by the competent authorities of the Contracting party to the carrier in the point of loading or at the first weighing station located along the route of the vehicle.
- f) Should the weight characteristics specified in the IVWC exceed permissible weight parameters applicable in the territory of the Contracting Parties, the transport operator shall be subject to appropriate duties and charges according to the national legislation of the Contracting Parties.
- g) No additional, including control weighing of vehicle shall not be performed, apart from the exceptional cases.
  - When the weight information in the IVWC does not correspond to the travel documents (CMR, CARNET TIR);
  - If the vehicle was additionally loaded or if the goods were reloaded to another vehicle as well as if goods were transferred to another customs regime;
  - When the weight information in the IVWC (item 3) does not correspond to the vehicle itself (type of utility vehicle, registration number);
  - When special weight characteristics do not coincide to those indicated in the IVWC (item 8).
- h) The results of control weighing shall be entered in item 10 of the certificate.
- i) The results of the control weighing shall be communicated by the competent authorities of the Contracting Parties to the customs authorities of their relevant countries.
- j) Should the discrepancy between data specified in the IVWC and actual weight of 2% be detected, the responsibility shall be related to the transport operator in accordance with the legislation of each Contracting Party.

The relevant information on such event shall be communicated to the competent authorities of the country where the IVWC was issued and the vehicle was registered.
- k) Should regular discrepancies in the results of vehicle weighing at the authorized weighing stations of more than 2%, the accreditation of the weighing station can be withdrawn in accordance with the national legislation of their relevant countries.

The standard form of the International Vehicle Weight Certificate (IVWC) is provided below.


While printing the forms of IVWC the Parties shall foresee at least three protection rates. The exact form and contents of the protection rates shall be communicated to the Contracting Parties by the Secretariat of the Interstate Council of highway engineers and the Executive Committee of the Coordinating Transport Meeting of the CIS member states.

The use of the certificate by transport operators is optional.

#### **3.6.4 The Procedure for issuance and use of IVWC**

a) The Certificate duly filled-in by a) the operator of an authorized weighing station and b) the transport operator(s)/utility vehicle driver(s) shall be accepted and recognized as a document bearing valid weight measurements by the competent authorities of the Contracting Parties.

КЗ	026012 А
Код страны	Номер сертификата

	<b>МЕЖДУНАРОДНЫЙ СЕРТИФИКАТ ВЗВЕШИВАНИЯ ТРАНСПОРТНОГО СРЕДСТВА (МСВТС)</b>
	Заполняется транспортным оператором / водителем транспортного средства до взвешивания транспортного средства

1. Транспортный оператор (название и адрес организации, включая страну) <b>УЗБЕКИСТАН ТАШКЕНТ, МЕР-И СПУТНИК-4 ДОМ АТ СВ 9</b>	Тел. № <b>8-99897-58-80-91</b>
	Факс №
	Электронная почта

2. Договор перевозки № **1** CARNET TIR № (если применимо) **KB 15373741**

3.1. Регистрационный номер	Тягача / грузового автомобиля <b>МАН 11Y4037</b>	Полуприцепа / прицепа <b>SCIMITZ HE 945</b>
3.2. Система подвески	Тягача / грузового автомобиля <input checked="" type="checkbox"/> воздушная <input type="checkbox"/> механическая <input type="checkbox"/> иная	Полуприцепа / прицепа <input checked="" type="checkbox"/> воздушная <input type="checkbox"/> механическая <input type="checkbox"/> иная

Заполняется сотрудником уполномоченной станции взвешивания

4. Уполномоченная станция взвешивания (код, наименование и адрес, включая страну) <b>К2-04-12 ПТЕ-ЗАРЧУНЬИ КАРАГАНДА 1497 КМ 2/9. ЕКАТЕРИНБУРГ-АЛМАТЫ</b>	5. Взвешивание транспортного средства № <b>3</b>
4.1. Класс точности оборудования для взвешивания <sup>4</sup> <input type="checkbox"/> Класс III или выше и/или <input type="checkbox"/> < 1 <input type="checkbox"/> 1 <input type="checkbox"/> 2	6. Дата выдачи (день, месяц, год) <b>23.06.07г.</b>

7. Взвешивание грузовых транспортных средств (к настоящему сертификату должна быть приложена оригинальная официальная запись станции взвешивания)

7.1. Тип грузового транспортного средства <sup>5\*</sup>

7.2. Измерение нагрузки на ось, в кг	Ведущая	Не ведущая	Одиночная	Сдвоенная	Строенная
Первая ось		+	7,040		
Вторая ось	+		9680		
Третья ось					19120
Четвертая ось					
Пятая ось					
Шестая ось <sup>7</sup>					

7.3. Измерение полного веса транспортного средства (в кг)	Тягач / грузовой автомобиль (кг) <b>16720</b>	Прицеп / полуприцеп (кг) <b>19120</b>	Полный вес транспортного средства (кг) <b>35840</b>
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**8. Особые весовые характеристики**

8.1. Наполнение топливных баков, подсоединенных к двигателю, до: <input type="checkbox"/> 1/4 <input type="checkbox"/> 1/2 <input checked="" type="checkbox"/> 3/4 <input type="checkbox"/> 1/1	8.3. Количество запасных шин (штук) <b>2</b>
8.2. Наполнение дополнительных топливных баков, до: <input type="checkbox"/> 1/4 <input checked="" type="checkbox"/> 1/2 <input type="checkbox"/> 3/4 <input type="checkbox"/> 1/1 (включая топливо для устройства охлаждения)	8.4. Число человек на транспортном средстве во время взвешивания <b>1</b>
	8.5. Наличие подъемной оси <input type="checkbox"/> да <input checked="" type="checkbox"/> нет


Настоящим заявляю, что вышеуказанные взвешивания были произведены нижеподписавшимся на уполномоченной станции взвешивания и являются точными

Фамилия и личный код сотрудника станции взвешивания <b>Черников ВВ-21.сл.ц. ОКАТИ А.А.</b>	Подпись 
	Печать

КАРАГАНДИ ОБЛАСТНОЕ ВОЕННО-ТЕХНИЧЕСКОЕ ЗАВЕДЕНИЕ ВАСКАРМАСЫ  
УПРАВЛЕНИЕ ТРАНСПОРТНОГО КОНТРОЛЯ  
ПО КАРАГАНДИНСКОЙ ОБЛАСТИ

КЗ	026012 А
Код страны	Номер сертификата

<sup>1</sup> например: Накладная CMR №  
<sup>2</sup> в соответствии с Конвенцией TIR 1975 года  
<sup>3</sup> см. Примечание на стр. 2  
<sup>4</sup> в соответствии с Рекомендацией МОЗМ  
<sup>5</sup> в соответствии с Международными соглашениями, указывающими на разрешенные габариты установленные для национальных и международных перевозок, а также максимально разрешенные значения веса для международных перевозок  
<sup>6</sup> код типа транспортного средства по схематическим рисункам, например А<sub>2</sub> или А<sub>2</sub>С<sub>2</sub>  
<sup>7</sup> если число осей больше шести, указать это в параграфе "Примечания" на стр. 2

<b>9. Заполняется транспортным оператором / водителем транспортного средства после взвешивания транспортного средства</b>			
Я заявляю, что: (а) Измерения веса транспортного средства были проведены вышеуказанной станцией взвешивания (в) Информация в графах 1 - 8 внесена без ошибок (с) После взвешивания на упомянутой станции взвешивания на грузовое транспортное средство не было помещено никакого дополнительного груза			
Дата <i>23.06.07</i>	Фамилия водителя / водителей грузового транспортного средства <i>БАБАЕВ В.С.</i>	Подпись 	
<b>Замечания (если имеются)</b>			
<b>10. Заполняется сотрудником станции взвешивания при <u>исключительном (контрольном)</u> случае взвешивания (3,7,8)<sup>8</sup></b>			
Станция взвешивания _____ <small>(код, наименование и адрес, включая страну)</small>			
Дата	Фамилия сотрудника станции взвешивания	Подпись печать	
<b>Причина и результат исключительного (контрольного взвешивания)</b>			
Кодовый номер взвешивания транспортного средства состоит из трех элементов данных, соединённых дефисами			
(1) Код страны (в соответствии с Конвенцией ООН о дорожном движении 1968 года)			
Армения	ARM	Молдова	MD
Азербайджан	AZ	Россия	RUS
Беларусь	BY	Таджикистан	TJ
Грузия	GE	Туркменистан	TM
Казахстан	KZ	Узбекистан	UZ
Киргизия	KS	Украина	UA
(2) Двухзначный код, позволяющий идентифицировать национальную станцию взвешивания			
(3) Пятизначный код (как минимум), позволяющий идентифицировать индивидуальное взвешивание Например: MD - 01 - 23456 или RUS - 14 - 000510			
Этот серийный номер должен соответствовать номеру, указанному в журналах на станции взвешивания			

При предъявлении настоящего сертификата, повторное взвешивание транспортного средства на погранпереходах стран СНГ **не проводится**

- b) The use of IVWC on the territory of the Contracting Parties does not depend on its country of issue as well as the registration of the vehicle carrying out the international transport operation according to the TIR or any other procedure excluding any unauthorized access to the load compartment of the vehicle.
- c) In case the IVWC is issued in the country of entrance (independently on the country of vehicle registration) at the territory of the Contracting Parties when carrying out international transit transport of goods from the territory of countries not being the Contracting Parties of this Agreement, the weight measurements shall be performed only as the vehicle enter the territory of the first Contracting Party.
- d) The competent authorities shall recognize the information contained in the certificate as authentic and refrain from repetitive weighing.
- e) The competent authorities may perform weight measurement on request of the transport operator only in exceptional cases:
  - When the weight information in the IVWC does not correspond to the travel documents (CMR, CARNET TIR);
  - If the vehicle is additionally loaded or if the goods are reloaded to another vehicle as well as if the goods are transferred to another customs regime;
  - When the weight information in the IVWC does not correspond to the data relating to the vehicle itself (type of the utility vehicle, state registration plates);
  - When special weight characteristics do not coincide to those indicated in the certificate (item 8).
- f) The results of the control weighing shall be entered by the weighing station officer in item 10 of the Certificate. Item 10 of the IVWC shall serve as a basis for the competent authorities to evaluate weighing station performance when issuing permissions (licenses) thereto for carrying out vehicle weighing.
- g) The weighing required for this Certificate to be completed shall be performed upon request of transport operator/driver whose vehicle is registered in one of the Contracting Parties, by the authorized weighing stations for a fee to be fixed based on the amount of services provided.

### **3.6.5 Requirements for the authorized weighing stations**

- a) The authorized weighing stations shall fill in the IVWC together with the transport operator/driver in compliance with the following minimum requirements:
  - A. The weighing stations shall be equipped with the weighing machines entered into the State measuring equipment register of the Contracting Party. The weighing machines shall comply with the scale 0,5; 1,0; 2,0 of accuracy classes. The road section with the weighing machine installed shall be certified to ensure vehicle weighing with the error not exceeding the permissible one.
  - B. The Contracting Parties shall ensure adequate competence of the weighing stations through such mechanisms as accreditation or assessment, use of relevant weighing facilities, qualifications of personnel.

B. The weighing equipment shall be kept in goods working condition. It shall regularly pass calibration certification (verification) with further marking (sealing) by the competent authorities responsible for observance of weights and measures requirements.

The weighing equipment and its maximum error measure, as well as the operating procedure shall comply with the OIML (L'Organisation Internationale de Metrologie legale) recommendations.

b) To determine an actual value of the vehicle mass physical quantities one should be guided by the regulatory document defining accuracy class and permissible error of the weighing equipment (it is not recommended to use permissible error by deducting thereof from the measured vehicle weight as weighing facilities at the weighing stations can work both with negative and positive tolerance that may result in upward bias of the margin of maximum permissible error).

c) The competent authorities of the Contracting Parties shall publish a list of all authorized weighing stations. Such lists, as well as any amendments introduced thereto shall be communicated to the other Contracting Parties, the Secretariat of the Interstate Council of highway engineers and the Executive Committee of the Coordinating Transport Meeting of the CIS member states for distribution to all organizations and users concerned.

**3.6.6** For the purpose of implementation of the 2004 Cholpon-Ata Agreement the CA countries in the first place started purchasing weighing 0,5:1,0; 2,0 accuracy class compliant equipment.

At the moment the CA countries are at the following stage of the implementation of 2004 Cholpon-Ata Agreement:

**Kazakhstan:**

Up to date all weighing equipment located at the border crossing points and in inland transport control depots has appropriate documents proving their operability and passing calibration test.

For the implementation of the Agreement above, as from September 2005 the transport control authorities of the Ministry of Transport and Communications of the Republic of Uzbekistan issue International Vehicle Weight Certificate to international and national carriers at the vehicle loading depots or at the first transport control point located on the vehicle line of march.

Certificate is issued for the vehicles exiting the territory of the Republic, as well as performing transit carriages across the territory of the Republic of Kazakhstan.

When filling in item 4 instead of weighing station code and name the stamp of the post shall be set (until all Participating Countries of the Agreement adopt uniform coding and names of the weighing stations) as well as the location of post shall be specified (country, province).

After the vehicle weighing (measurement of dimensions) is carried out the driver shall fill in item 9 of the certificate confirming the accuracy of filling-in items 1-8.



Should the indivisible bulky and/or heavy loads be transport, the carrier, along with drawing of the certificate shall be issued with the special permit to carry out indivisible bulky and/or heavy loads after a fee fixed by the tax legislation for passage of large or heavy-duty vehicles is paid.

The control weighing shall be performed in exceptional cases set forth in the Agreement.

The results of vehicle control weighing (dimensions measurement) shall be filled in item 10 of the certificate.

In accordance with the Code of the Republic of Kazakhstan «On administrative violations» should the discrepancy between data items 7.2 and 7.3 of the Certificate and actual weight of more than 2% or inconsistency of dimension parameters be detected, administrative measures shall be taken against the carrier.

The hardcopy of vehicle weighing and weighing equipment inspection certificate shall be issued at the request of carrier (driver).

Along with this a special permit for carriage of indivisible bulky and/or heavy loads shall be drawn up after the charge for passage of vehicles is paid.

In accordance with the Code of the Republic of Kazakhstan «On administrative violations» in case of carriage of divisible bulky or heavy cargo the carrier shall be bring to administrative responsibility with the vehicle taken in custody until the cause of violation is removed.

Further movement of specified vehicle shall be permitted only after the weight and/or dimension parameters are brought in compliance with those fixed at the territory of the Republic of Uzbekistan, the fine and charge for passage of large and/or heavy-load vehicles for the distance traveled across the territory of the Republic of Kazakhstan are paid. Meanwhile, officers of the transport control authorities shall draw up a new certificate.

The project fully supported this provision on impermissible travel of vehicles with divisible cargo exceeding statutory axle weight parameters and dimensions.

In 2007 the transport control authorities of the Republic of Kazakhstan issued over 5,5 thousand of International Vehicle Weight Certificates (IVWC).

### **Kargyzstan**

There are 7 axle-type weigh-scales are installed in the Republic, mainly in the border areas with China, Uzbekistan and Kazakhstan, and the issue of IVWC of a standard form is commenced.

### **Tajikistan**

In the Republic of Tajikistan the «Rules for passing of vehicles with loads and dimensions exceeding the prescribed standards along the roads» approved by the Resolution of the Government of the Republic of Tajikistan No. 779 dated 29.12.06 are applied. In accordance with these Rules the control of specified parameters shall be performed in control points at the entry of vehicles to large cities, provinces, customs areas.

The National Transport Supervision and Control Service have over 20 mobile axle-by-axle weighing machines.

## Uzbekistan

The fixed weigh-scales to control vehicle gross weight are established in the border areas with Turkmenistan, Kazakhstan, Tajikistan and Kyrgyzstan. The Republic of Uzbekistan did not accede to the 2004 Cholpon-Ata Agreement.

**3.6.7** At the same time, all CA countries, except Tajikistan and Turkmenistan have acceded to the International Convention on the Harmonization of Frontier Control of Goods and shall make efforts towards implementation of the Annex 8 to this Convention.

The implementation feature of the Convention on Harmonization is that within one year countries should purchase weighing machines performing axle-by-axle weighing or weighing of one axle group (double or triple axis) of vehicle. Also, it is important to ensure proper installation of weigh-scales at the measurement pit, i.e. in such a way that the wheels could enter or pass weighing machine without jumps to avoid dynamic component in measurement of vehicle axle weight(s).

**3.6.8** **When comparing Annex 8 to the «Convention on Harmonization» and the 2004 Cholpon-Ata Agreement some inconsistencies can be detected:**

1. The 2004 Cholpon-Ata Agreement introduced the procedure for control weighing applied in cases described in paras.3.5.3 above.
  - Inconsistency of weight characteristics specified in the certificate and travel documents (CMR, CARNET TIR).

This is a wrong prerequisite, because in IVWC the weight by axle and gross weight of the whole vehicle is specified, while в CMR and CARNET TIR only cargo gross weight is specified, i.e. inconsistency of incomparable weight parameters is detected, where it is vehicle gross weight in case of the former, and cargo gross weight in the case of the latter.

In the other three cases described should any inconsistency be detected the vehicle shall be reweighed with the new IVWC issued. There is no problem in this case. And it would a proper practice, as it happens in another country.

2. The blanks of International Vehicle Weight Certificate issued in accordance with Cholpon-Ata Agreement and Annex 8 to the «Convention on Harmonization» are essentially identical, except logo, where it is UN in one case and CIS in the other. The IVWC issued under Annex 8 to the Convention on Harmonization an additional item 4.2 is introduced where the latest weighing station calibration date is specified.

**3.6.9** **In view of the above the format of International Vehicle Weight Certificate issued in accordance the Convention on Harmonization shall be introduced instead of the International Vehicle Weight Certificate form stipulated in the 2004 Cholpon-Ata Agreement, as well as Article 5 of this Agreement shall be omitted with the text on «Procedure for issuance and use of the certificate» shall be revised in the Annex.**

### **3.7 Recommendation on harmonization of the standards on permissible vehicle weights, axle loads and dimensions in CA countries**

**The CA countries are recommended:**

- a) To establish the standard value of the maximum weight for three-axle trailer and semi-trailer single wheel dollies equipped with air suspension with the distance between axis between 1,3 to 1,8 m – 22,5 tons (Kyrgyzstan, Tajikistan and Turkmenistan).
- b) For unification purposes establish standard values of the gross weight of articulated road trains:
  - Five-axle – 40 tons
  - Six-axle comprising three-axle tractive units + three-axle semi-trailer – 44 tons
- c) To develop a science-based expanded regulatory document on permissible dimensions, full weights and axle loads of vehicles used in international carriages, taking into account various combinations of axle dollies and distance between them, by harmonizing them as much as possible with similar parameters established in Council Directive 96/53 EU. On the basis thereof submit the proposals on revision of the Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS, signed on 4 June 1999 in Minsk.
- d) For this purpose to use as much as possible a new Draft Standard «Motor vehicles. Weights and dimension parameters» developed and proposed in the Report.
- e) To revisit the item relating to permissible vehicle weights and dimensions of the Section «Carriage of goods» of the Traffic Rules and state it in the following wording: «The dimensions and gross weight of vehicles and load distribution by axis shall not exceed the values established by the manufacturer and regulatory requirements for common use roads».
- f) In order to proceed to a large-scale introduction and capacity development of high performance modular long-length heavy-load road trains, to organize in the nearest future pilot trips of eight-axle road trains with the 60 tons gross weight and of 25,25m long from Sweden, Finland to CA countries.
- g) To recognize as advisable taking measures to unify the requirements of the Agreement between the road authorities of the CIS Member-states concerning the introduction of the International Vehicle Weight Certificate on the territory of CIS Member-states» made on 16 April 2004 in Cholpon-Ata with those of Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982 on the part of form, procedure for issuance and used of the International vehicle Weight Certificate.
- h) For the Republic of Tajikistan and the Republic Turkmenistan to accede to the International Convention on the Harmonization of Frontier Controls of Goods, 1982.



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

Harmonization of technical prescriptions and improvement of road and environmental safety of motor vehicles (Final Report)

Slides on

1. Ensuring international level of motor vehicle safety control.
2. Environmental safety of motor vehicles
3. Norms on maximum permissible weights, axle loads and dimensions of motor vehicles.



REFERENCE: EUROPEAID/122076/C/SER/MULTI



**DEVELOPMENT OF CO-ORDINATED  
NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN  
AND REPUBLIC OF UZBEKISTAN**

**EUROPEAID/122076/C/SER/MULTI**

**Section: Harmonization of technical  
prescriptions and improvement of road and  
environmental safety of motor vehicles  
(Final Report)**

*Presented by Valery Topalidi  
Project Regional Expert*

## **DEVELOPMENT OF CO-ORDINATED NATIONAL TRANSPORT POLICIES**

- **Legal and regulatory framework of the CA countries – Republic of Kazakhstan, Republic of Tajikistan, Kyrgyz Republic, Republic of Uzbekistan and Republic of Turkmenistan regulating transport systems activities has significant differences. This resulted in increased transport component in the price of goods transported, reduced competitiveness of goods from Central Asia and emerging of numerous administrative and technical barriers.**
- **Notwithstanding that over the last 15 years all CA countries harmonize in a certain manner their respective transport legislation within CIS initiatives, TRACECA, ADB, CAREC supported programmes, etc., there are still a number of strategic issues for CA countries hindering the establishment of civilized regional and international road transport.**

## **DEVELOPMENT OF CO-ORDINATED NATIONAL TRANSPORT POLICIES**

### **Ways for harmonisation and approximation of transport legislations**

- **UN ECE Conventions and Agreements.**
- **Composite Resolution of UN ECE CR.1 «On road traffic».**
- **Composite Resolution of UN ECE CR.4 «On international traffic facilitation».**
- **EU Directives.**
- **CIS and EurAzEC Agreements**

## **Section: Harmonization of technical prescriptions and improvement of road and environmental safety of motor vehicles (Final Report)**

### **Subsections:**

- **Ensuring international level of motor vehicle safety control.**
- **Environmental safety of motor vehicles.**
- **Norms on maximum permissible weights, axle loads and dimensions of motor vehicles.**



## Harmonization of technical prescriptions and improvement of road and environmental safety of motor vehicles

**The purpose of this Section** is to make a constructive contribution to the transport strategies harmonization process of the beneficiary countries, namely to the development of uniform technical requirements, methods of control and enhancement of environmental safety and technical condition, as well as in the area of maximum permissible weights, axle loads and dimensions of motor vehicles based on EU experience.

## **Ensuring international level of motor vehicle safety control.**

A multidisciplinary nature of the technical condition control of motor vehicles in operation necessitated the pursuance of uniform policy in different countries. In 1969 and International Motor Vehicle Inspection Committee was set up. The main objective of the Committee is to develop international cooperation between countries to achieve a uniform approach to the problems relating to compulsory technical inspection of motor vehicles from scientific, technical and administrative viewpoint.

## **Ensuring international level of motor vehicle safety control.**

**International organizations play a key role in designing basic framework for carrying out technical inspections. These are UN Economic Commission for Europe (UNECE) and European Economic Community (EEC).**

The distinction between the aforesaid UNECE and EEC documents is that the former is of recommendatory, while the latter - of mandatory nature. Meanwhile, these documents established only some general requirements. Each country is entitled to set forth supplementary national prescriptions on technical inspection, including more rigid ones.

## **Ensuring international level of motor vehicle safety control.**

CA countries are now facing an acute problem of harmonization of technical prescriptions and quality assurance of motor vehicle technical condition safety control. This problem can be divided into three parts.

Harmonization of regulatory framework on motor vehicle safety requirements and control methods.

1. Low equipping with modern control facilities or lack of motor vehicle instrumental inspection stations. All CA countries are facing this acute problem. Kazakhstan has started working on this issue. There is an understanding of the problem in the Republic of Uzbekistan.

2. A problem of international recognition of the technical inspection certificate.

## **Ensuring international level of motor vehicle safety control.**

- EU Directive 96/96 «On the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers» (instead of Directive 77/143 EU)
- UN ECE Agreement of 1997 the «Agreement on periodical technical inspections and the reciprocal recognition of such inspections» (Agreement of 1997).
- Composite Resolution of UN ECE CR.1 «On road traffic». Appendix II.

## Ensuring international level of motor vehicle safety control.

The main reason stimulated the development of this 1997 Agreement in the EU was the fact selective technical condition safety control on the instrumental control lines of the road trains and buses from Eastern Europe countries (Poland, Bulgaria, Baltic States, Romania, etc.) as well as new CIS countries, from the first attempt were 80% non-compliant with the standards established in EU.

EU states could not allow operations on their highways of foreign vehicles with defects in the systems responsible for traffic safety.

# Ensuring international level of motor vehicle safety control.

## 1. Harmonization of regulatory framework on motor vehicle safety requirements and control methods.

### Annex I: Categories of vehicles subject to roadworthiness tests and frequency of the tests

Categories of vehicles	Frequency of tests
1. Motor vehicles used for the carriage of passengers with more than eight seats, excluding the driver's seat	One year after the date on which the vehicle was first used, and thereafter annually
2. Motor vehicles used for the carriage of goods and having a maximum permissible mass exceeding 3500 kg	One year after the date on which the vehicle was first used, and thereafter annually
3. Trailers and semi-trailers with a maximum permissible mass exceeding 3500 kg	One year after the date on which the vehicle was first used, and thereafter annually
4. Taxis, ambulances	One year after the date on which the vehicle was first used, and thereafter annually
5. Motor vehicles having at least four wheels, normally used for the road carriage of goods and with a maximum permissible mass not exceeding 3500 kg, excluding agricultural tractors and machinery	Four years after the date on which the vehicle was first used, and thereafter every two years
6. Motor vehicles having at least four wheels, used for the carriage of passengers and with not more than eight seats excluding the driver's seat	Four years after the date on which the vehicle was first used, and thereafter every two years

## **Ensuring international level of motor vehicle safety control.**

1. **Harmonization of regulatory framework on motor vehicle safety requirements and control methods.**

**The Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections was signed on 13 November 1997 in Vienna**

**Annex №1** concerns inspection of ecological parameters of passenger transport vehicles for more than 8 seats, as well as for freight transport vehicles, engaged into international transport with maximum loading capacity of more than 3.5 tn. **Annex №1** was approved by the Administrative Committee of the Agreement of 1997 and into force on 4 December 2001. Then it was included into the Agreement.

**Annex №2** stipulates minimum list of operations for transport vehicles systems and components subject to technical inspections enabling road safety and ecological norms, as well as identifying the justifications for inspection rejection.



## **Ensuring international level of motor vehicle safety control.**

### **CR.1 UNECE « On road traffic»**

Annex №2 «Periodical technical inspections of wheeled vehicles. Mandatory checks»

Both these interconnected annexes №2 of the Agreement of 1997 and the CR.1 are to be elaborated within WP.1, WP.29

# Ensuring international level of motor vehicle safety control.

## Annex 2, Agreement of 1997

### PERIODICAL TECHNICAL INSPECTIONS OF WHEELED VEHICLES. MANDATORY CHECKS

Item	Inspection method	Principal reasons for rejection
<b>BRAKING EQUIPMENT</b>		
<b>1.1 Mechanical condition and operation</b>		
1.1.1 Service brake pedal pivot	Visual inspection of the components while the braking system is operated. <b>Note:</b> Vehicles with power-assisted braking systems should be inspected with the engine switched off.	(a) Pivot is too tight. (b) Bearing worn. (c) Excessive wear or play. (d) Inappropriate repair or modification.

# Ensuring international level of motor vehicle safety control.

## Annex II, EU Directive 96/96

### Items subject to compulsory test

The test must cover the items listed below, provided that these are related to the obligatory equipment of the vehicle being tested in the Member State concerned.

Vehicles in Categories 1,2,3,4,5, and 6	
<b>1. Braking systems</b>	
The following items are to be included in the roadworthiness test of vehicle braking systems. The test results achieved during checks on the braking systems must be equivalent as far as is practicable to the technical requirements of Directive 71/320/EEC(1)	
<i>Items to be checked</i>	<i>Inconformity</i>
1.1 Mechanical condition and operationability	
1.1.1. Footbrake pedal pivot	<ul style="list-style-type: none"> <li>- Too tight</li> <li>- Bearing worn</li> <li>- Excessive wear/play</li> </ul>
1.1.2. Pedal condition and travel of the brake operating device	<ul style="list-style-type: none"> <li>- Excessive or insufficient reverse travel</li> <li>- Brake control not releasing correctly</li> <li>- Anti-slip provision on brake pedal missing, loose or worn smooth</li> </ul>

## **Ensuring international level of motor vehicle safety control.**

The project team presents to the Central Asian countries 2 drafts of standards on safety control of vehicle in operations harmonised in accordance with CR 1 of the Agreement of 1997, EU Directive 96/96.

- Draft GOST 1 «Motor vehicles. Safety requirements to the technical condition».
- Draft GOST 2 «Motor vehicles. Periodic inspection. Methods of control».



# **Ensuring international level of motor vehicle safety control.**

## **STATE STANDARD**

### **Motor vehicles and their trailers SAFETY REQUIREMENTS FOR TECHNICAL CONDITION**

**Introduction date \_\_\_\_\_**

#### **1. Sphere of application**

**The present standard is applied to the light vehicles and motor trucks, buses and road-trains (hereinafter referred to as motor vehicles or MV) being in operation and intended for use on the public roads.**

**The standard specifies:**

- Safety requirements for MV technical conditions;**
- Maximum permissible values of the MVs' dimensions and their components in the context of ensuring traffic safety and environmental protection.**



# Ensuring international level of motor vehicle safety control.

## STATE STANDARD

**Motor vehicles and their trailers**

**PERIODIC INSPECTION; METHODS OF CONTROL**

Introduction date \_\_\_\_\_

### **1. Sphere of application**

**The present standard is applied to the light vehicles and motor trucks, buses and road-trains (hereinafter referred to as motor vehicles or MV) being in operation and intended for use on the public roads.**

**The standard specifies the MV elements, assemblies and systems technical condition control procedures called to ensure traffic safety, environmental protection and to set criteria prohibiting MV operation.**



# Ensuring international level of motor vehicle safety control (1).

## Draft GOST №2 Motor Vehicles. PERIODIC INSPECTION; METHODS OF CONTROL

### 4.The MV elements, assemblies, systems (objects) and parameters control procedures upon technical checkup \*

Testable unit or parameters	Testing method	Technical condition, upon which MV operation is prohibited	Stand ard docu ment for evalu ation
4.1. Brake system control 4.1.1 Overall evaluation of the MV assemblies' technical condition.			
4.1.1.1 Service brake system control unit	Visual inspection of the units and testing in operational conditions. <b>Note:</b> MVs fitted with the power brake system are tested upon dead engine.	<ul style="list-style-type: none"> <li>-Foot pedal pivot pin is tough and sticks;</li> <li>-Footbrake pedal pivot pin bearing is worn-out;</li> <li>- Brake pedal free play is enhanced or insufficient;</li> <li>- Foot pedal does not reset;</li> <li>- Foot pedal antiskid coating is missed, improperly secured or completely worn-out</li> </ul>	+

## Ensuring international level of motor vehicle safety control (2).

### Draft GOST №2 Motor Vehicles. PERIODIC INSPECTION; METHODS OF CONTROL

Testable unit or parameters	Testing method	Technical condition, upon which MV operation is prohibited	Standard document for evaluation
4.1.1.2 Vacuum booster or pump and hydraulic accumulator (for hydraulic power drive).	Visual inspection of the units and testing in operational conditions. <b>Note:</b> MVs fitted with the power brake system are tested upon dead engine.	<ul style="list-style-type: none"> <li>-Foot pedal pivot pin is tough and sticks;</li> <li>-Footbrake pedal pivot pin bearing is worn-out;</li> <li>- Brake pedal free play is enhanced or insufficient;</li> <li>- Foot pedal does not reset;</li> <li>- Foot pedal antiskid coating is missed, improperly secured or completely worn-out</li> </ul>	+

\* The content and form of presentation of this section take into account requirements [1]

+ MV manufacturing plant manual



## Ensuring international level of motor vehicle safety control (3)

### Draft GOST №2 Motor Vehicles. PERIODIC INSPECTION; METHODS OF CONTROL

4.1.1.18 Brake drums, brake disks.	Visual inspection.	<ul style="list-style-type: none"> <li>(1) Limiting wear, deep scratch marks, splits, chips;</li> <li>(2) Contamination of the drum or disk by lubricants and other materials.</li> </ul>	
4.1.1.19 Brake cables, brake pull-rods, lever mechanisms. 4.1.1.19 Brake cables, brake pull-rods, lever mechanisms.	Operational check.	<ul style="list-style-type: none"> <li>(1) Rods are damaged or twisted.</li> <li>(2) Hampered movement of a rod in a housing due to corrosion or damage of the rod housing;</li> <li>(3) Wear of the mechanism components;</li> <li>(4) Poor connection of the components</li> </ul>	
4.1.1.20 Brake gear mechanisms (including energy batteries and hydraulic cylinders).	Visual inspection in operational condition	<ul style="list-style-type: none"> <li>(1) Cracks or damage of the brake gear components;</li> <li>(2) Leakage of gear;</li> <li>(3) Unfastened fixture or improper installation of gear;</li> <li>(4) Corrosion of components;</li> <li>(5) Overstrike of the brake chamber, cylinder or actuating piston pushrods;</li> <li>(6) Dust collar damage.</li> </ul>	<b>21</b>

## Ensuring international level of motor vehicle safety control

**Draft GOST is principally different from the Inter-state GOST 29478—91 in terms of «Control methods»**

Firstly, according to GOST RU 1058:2004 initially individual vehicle elements, units and systems shall be checked with the features they ensure coming next. Such approach enables to more reliably evaluate the vehicle characteristics in running order.

Secondly, it is structured in table form in precise compliance with Annex 2 to the Consolidated Resolution 1, specifying the object, methods of control, failure condition thereof and supplemented by the standard parameter value that is quite convenient from the practical point of view. The control technology should be mapped out for each system or unit affecting the vehicle safety, starting with individual elements, parts, units and system and finishing with the control of features they ensure. At the same time the conclusion is drawn on the technical condition of the vehicle element, unit or system under control.

## Ensuring international level of motor vehicle safety control

**Draft GOST is principally different from the Inter-state GOST 29478—91 in terms of «Control methods»**

**Thirdly**, for each system, unit, starting with vehicle braking equipment it considers in details the condition of its elements under control, place and method of control, as well as signs and causes why it can be considered defective.

**Finally**, the conditions under which the vehicle stopping abilities control shall be performed at the stand and on the road are given in a separate Appendix. It also provides the permissible measurement errors of parameters characterizing vehicle braking efficiency and stability. The desired measurement accuracy of the vehicle stopping ability shall be ensured by the diagnostic stands and devices produced in Europe and Russia.

**And the last**, having examined this standard any vehicle owner will get a chance to know precisely why his/her vehicle can be denied from the operations in their home country and abroad.

## **Ensuring international level of motor vehicle safety control**

### **Introduction of modern instrumental system for conduction vehicle inspection.**

*European experience of vehicle mandatory technical inspection  
conduction Европейский опыт организации*

**Главное** – *conduction of state technical inspection is to be undertaken  
only by using instrumental vehicle safety monitoring  
procedures.*

- UNECE Agreement “On adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» of 1997
- Directive 96/96 «On the approximation of the laws of the Member States relating to roadworthiness tests for motor vehicles and their trailers»
- Composite Resolution “On road traffic” CR 1, Annex II.

## **Ensuring international level of motor vehicle safety control**

### **Introduction of modern instrumental system for conduction vehicle inspection.**

Current organization of mandatory technical inspection  
procedures in the CA states.

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Uzbekistan

## **Ensuring international level of motor vehicle safety control**

### **Introduction of modern instrumental system for conduction vehicle inspection.**

- Establishment of technical inspection stations by investment projects launching
- Admission of private companies to conduction of technical inspection using advanced technical inspection stations
- State-owned technical inspection stations

## **Ensuring international level of motor vehicle safety control**

### **Introduction of modern instrumental system for conduction vehicle inspection.**

Practice of admission of private joint-stock companies and other companies to conduction of technical inspection on a tender basis:

*a) «Regulation on admission and participation procedures of the entities (legal entities) and private entrepreneurs in vehicle technical condition safety control during conduction of mandatory vehicle inspections».*

*(b) «Requirements to material-technical base and quality of mandatory vehicle inspection performance»*

## **Ensuring international level of motor vehicle safety control**

**Introduction of modern instrumental system  
for conduction vehicle inspection.**

*Establishment of Technical monitoring stations  
through investment project launching*

*aimed at further transferring to State Road  
Inspection authorities*

*aimed at further transferring to private entities*



## **Ensuring international level of motor vehicle safety control**

**Introduction of modern instrumental system  
for conduction vehicle inspection.**

*Investment project*

**Business Proposal from SGS / Switzerland  
on organization of regular vehicle technical condition  
checks for CA countries**

The SGS «Automotive services» division has an extensive experience in development and implementation of the advanced programmes and related services on technical condition checks of both trucks and cars: the national programmes in this area are successfully implemented in a large variety of countries at four continents.

# **Ensuring international level of motor vehicle safety control**

**Introduction of modern instrumental system  
for conduction vehicle inspection.**

## *Investment project*

### **SGS Company Strategy**

- SGS always interacts with local partner (and this project will not be an exception) through its Business Support Unit located in Ireland. It will ensure a comprehensive support, as well transfer of experience in the area of technical knowledge, staff training and quality control.
- The project will also be implemented and monitored through the specialists of this division, who will introduce the latest information technology achievements both to the equipment and program products. It should also be noted that training of specialists and quality control will be performed at the highest level, with the CITA network used as a benchmark, and newly emerging realities will necessarily be taken into account at all times.
- The main emphasis will be given to the commercial aspects of regular vehicle technical condition check; moreover, the whole system must and will follow European standards.

## **Ensuring international level of motor vehicle safety control**

**Introduction of modern instrumental system  
for conduction vehicle inspection.**

*Investment project*

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## **Ensuring international level of motor vehicle safety control**

### **International Technical Inspection Certificate recognition**

- «UNECE Agreement concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» of 1997.
- Amendment No.2 to the European Agreement supplementing the Convention on Road Traffic of 1971, entered into force on 27.01.2000.
- Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982 entered into force on 20 May 2008.

**Obtaining of the International Technical Inspection Certificate aimed at meeting of certain harmonized requirements is strictly recommended.**

# **Ensuring international level of motor vehicle safety control**

## **International Technical Inspection Certificate recognition**

- To ensure a higher level of vehicles safety and environment protection
- To establish uniform procedures for passing compulsory technical inspection to wheeled transport vehicles
- To agree on establishment of frequency to undertake technical inspection of vehicle systems and mechanisms subject to mandatory technical monitoring.

## **International Technical Inspection Certificate recognition**

### **Harmonised conditions for International technical inspection certificate granting**

- (a) The categories of wheeled vehicles concerned and the frequency of its inspection;
- (b) The equipment and/or parts to be inspected;
- (c) Test methods by which any performance requirements are to be demonstrated;
- (d) Conditions for granting inspection certificate and their reciprocal recognition

# Ensuring international level of motor vehicle safety control

## International Technical Inspection Certificate recognition

### CONTENT OF INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE

Место для отличительного знака государства или ООН
..... (Административный орган, отвечающий за проведение технического осмотра)
..... <sup>1</sup>
CERTIFICAT INTERNATIONAL DE CONTROLE TECHNIQUE <sup>2</sup>

1 Title «INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE» in national language.

2 Title in French



# Ensuring international level of motor vehicle safety control

## International Technical Inspection Certificate recognition

### INTERNATIONAL TECHNICAL INSPECTION CERTIFICATE

1. License Plate (Registration) No.....  
2 Vehicle identification No.....  
3 First registration after manufacture (State, Authority)<sup>1</sup>  
.....  
4 Date of first registration after the manufacture .....

- 5 Date of technical inspection.....

### CERTIFICATE OF COMPLIANCE

6 This Certificate is issued for the vehicle identified under Nos. 1 and 2 which complies at the date under No. 5 with the Rule(s) annexed to the 1997 Agreement on the adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of such Inspections.

7 The vehicle has to undergo its next technical inspection according to the Rule(s) under No. 6 not later than:

- Date: (Month/Year).....  
8 Issued by .....

- 9 At (place).....

- 1 Date.....

- 1 Signature<sup>2</sup>.....

<sup>1</sup> – Name of the the competent authority, where the manufactured vehicle was initially registered, if such information is available.

<sup>2</sup> – Seal or stamp of the competent authority, issued the Certificate.



# Ensuring international level of motor vehicle safety control

## International Technical Inspection Certificate recognition

Subsequent periodical technical inspection(s) 1

- Done by (Technical Inspection Center) 2 .....

1. (Stamp)
2. Date.....
3. Signature.....
4. Next inspection due not later than  
month/year).....

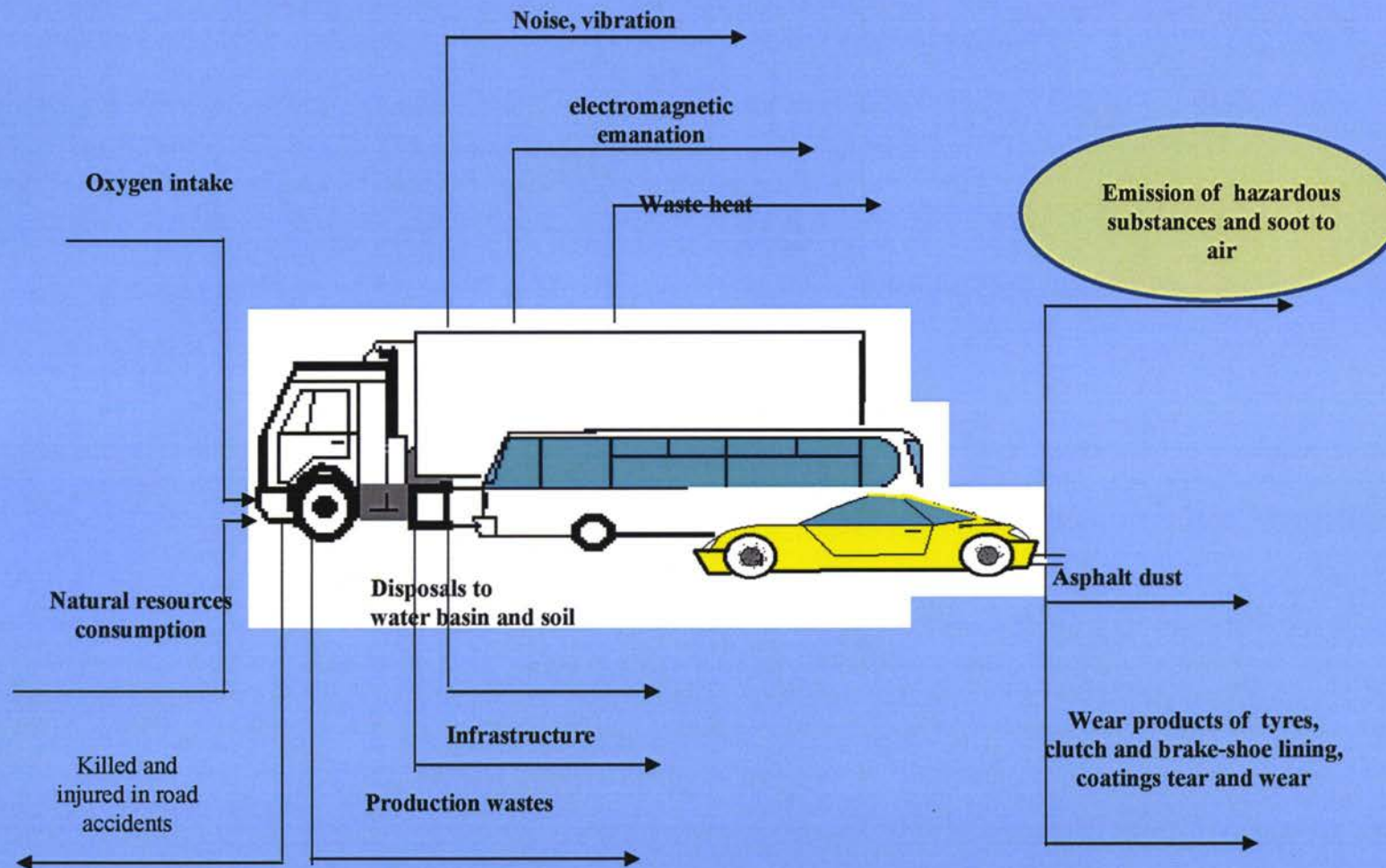
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1 – Items 12.1 – 12.5 to be repeated if the Certificate is to be used for subsequent annual periodical technical inspection

2 – Name, Address, State of the Technical Inspection Center accredited by the competent Authority..

# Environmental safety of motor vehicles

## Types of road transport environmental impacts



## Environmental safety of motor vehicles

- Combustion engine exhaust gases chemical composition examination showed that they contain some 200 various chemical compounds, which have different impact on environment and living organisms. Only one car produced in 1985-1990 during one year of operation discharges an average 800 kg of carbon oxide, about 40 kg of nitrogen oxides, almost 200 kg of poisonous hydrocarbons, while consuming over 4 tons of oxygen.
- **Availability of toxic substances of carbon oxide (CO), hydrocarbons (CH), nitrogen oxides (NO<sub>x</sub>), particulate matters (PM), lead (Pb), sulphur (SO<sub>2</sub>), aldehydes, etc in the vehicle engine exhaust gases discharged to the atmosphere constitutes a hazard for human health.**
- The priority exhaust gas pollutant causing cancerous diseases is a CH polycyclic aromatic family, benzpyrene, contained in the amount of 0,01 mg/m<sup>3</sup> in gasoline engine exhaust gases and in the amount up to 0,02 mg/m<sup>3</sup> in diesel engines.
- **The most toxic component in vehicle exhaust gas are nitrogen oxides. If we take carbon oxide harmfulness as a unit, the nitrogen oxides harmfulness equals to 10, and hydrocarbons – 0,65.**

## Environmental safety of motor vehicles

### Regulation and control methods of exhaust gas toxicity of vehicles in-service

- To implement environmental control of vehicles in-service it is necessary to clearly define the norms which they should conform to during checks. These norms should be strictly aligned with the vehicle design level, as it is evident that permissible emissions of modern vehicle equipped with special emission toxicity reduction systems should be significantly lower than those of obsolete model vehicles manufactured or under manufacture, which originally do not meet modern international environmental requirements.
- The design level of vehicle is determined during approval of its type (model) in the process of certification. Environmental certification of vehicles is carried out by the authorities and technical centers specially authorized by the Gosstandard of individual country, in compliance with the requirements of UNECE Regulations Nos. 24 and 83 under the 1958 Geneva Agreement (the requirement levels of these Regulations of different years are called Euro-0, Euro-1, Euro-2, etc.). Apparently, the in-service inspection norms should be aligned with the requirements of these Regulations.

## Environmental safety of motor vehicles

The 1958 Agreement is a basic document regulating the harmonization of vehicle construction in terms of ensuring active, passive and environmental safety. As of 01.09.08 it contains 127 UN ECE Regulations (read Standards) concerning vehicle safety. The full title of the 1958 Agreement is «Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment, and Parts which can be Fitted and/or be used on Wheeled Vehicles and Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions».

All new vehicles shall pass certification in accordance with these Regulations. Presently 22 (of 127) UNECE Regulations set forth the environmental safety requirements for the wheeled vehicle construction. The regulatory document “Vehicle type approval” is issued to all vehicles passed the certification.

## Environmental safety of motor vehicles

The adoption of «Euro-3» and «Euro-4» requirements in Europe was preceded by a wide range of researches under so called Auto-Oil I (1992-1996) and Auto-Oil II (1997-2000) programs. The comprehensive researches were carried out in the course of implementation of these programs, including modeling and forecasting of the situation improvement concerning the hazardous substance emissions and ambient air quality as the different levels of environmental requirements are improved. The efficiency of various activities was studied in terms of cost-effectiveness factor to achieve ambient air hygienic ratings adopted for a certain period of time. Moreover, even in the EU countries by 2010, i.e. in 5 years after introduction of «Euro -4» requirements, not all hygienic standards for ambient air will be achieved

## **Environmental safety of motor vehicles**

At the moment it seems to be rather early for CA countries to independently develop and implement such programs. However, it is just necessary to use international experience in this vital area.

The standards determining the toxicity index, establishing permissible emissions norms, and regulating apparatus applied and testing methods were used as a technical and legal basis for action plan on reduction of hazardous substances in the motor vehicle engine exhaust gases.

In EU there are statutory maximum permissible toxic component emission norms of motor vehicles and it is planned to tighten them for the forthcoming years.

## Environmental safety of motor vehicles

### EU toxicity norms for heavy-duty diesel vehicles

EU Directives, UNECE Regulations	Motor vehicle engine exhaust gases , g/k Wt/h			
	CO	CH	NO <sub>x</sub>	Particulate matters
<b>UN ECE Rule 49 (1982)</b>	<b>14,0</b>	<b>3,5</b>	<b>18,0</b>	–
<b>Council Directive 88/77 EU – UN ECE Rule 49-01 («Euro-0») 1990 .</b>	<b>11,2</b>	<b>2,4</b>	<b>14,4</b>	–
<b>«Euro-1» (from 1993)</b>	<b>4,5</b>	<b>1,1</b>	<b>8,0</b>	<b>0,36</b>
<b>«Euro-2» (from 1996)</b>	<b>4,0</b>	<b>1,1</b>	<b>7,0</b>	<b>0,15</b>
<b>«Euro-3» (from 1.10.2001)</b>	<b>2,0</b>	<b>0,6</b>	<b>5,0</b>	<b>0,1</b>
<b>«Euro-4» (from 2005)</b>	<b>1,5</b>	<b>0,5</b>	<b>3,5</b>	<b>0,08</b>
<b>«Euro-5» (expected from 2008 – 2009)</b>	<b>1,0</b>	<b>0,5</b>	<b>2</b>	<b>0,05</b>



## Environmental safety of motor vehicles

European toxicity norms, g/km, for cars based on NEDC methodology

Engine type / norm	NO <sub>x</sub>	C <sub>x</sub> H <sub>y</sub>	CO	Particulate matters
<b>Gasoline</b>				
<b>Euro-1</b>	<b>0,57</b>	<b>0,77</b>	<b>3,9</b>	<b>-</b>
<b>Euro-2</b>	<b>0,20</b>	<b>0,34</b>	<b>2,7</b>	<b>-</b>
<b>Euro-3</b>	<b>0,15</b>	<b>0,20</b>	<b>2,3</b>	<b>-</b>
<b>Euro-4</b>	<b>0,08</b>	<b>0,10</b>	<b>1,0</b>	<b>-</b>
<b>Diesel</b>				
<b>Euro-1</b>	<b>1,02</b>	<b>0,123</b>	<b>3,22</b>	<b>0,18</b>
<b>Euro-2</b>	<b>0,63</b>	<b>0,08</b>	<b>1,06</b>	<b>0,08</b>
<b>Euro-2 with direct injection</b>	<b>0,81</b>	<b>0,10</b>	<b>1,06</b>	<b>0,10</b>
<b>Euro-3</b>	<b>0,50</b>	<b>0,06</b>	<b>0,64</b>	<b>0,05</b>
<b>Euro-4</b>	<b>0,25</b>	<b>0,05</b>	<b>0,50</b>	<b>0,025</b>

## Environmental safety of motor vehicles

**The permissible pollutant parameters established by the EU Directive from Euro-1 to Euro-5 are in agreement with the following norms of UNECE Regulations :**

**1. UN ECE Regulations No. 24 (24-03 <\*>) "Uniform provisions concerning:**

I. official approval of Compression Ignition Engines with Regard to the Emission of Visible Pollutants;

II. approval of Motor Vehicles with Regard to the Installation of Compression Ignition Engines of an Approved Type;

III. approval of Motor Vehicles Equipped with Compression Ignition Engines with Regard to the Emission of Visible Pollutants by the Engine;

IV. measurement of Power of Compression Ignition Engines.

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<\*> Modification numbers, amending the UNECE Regulations

## Environmental safety of motor vehicles

2. UN ECE Regulations No. 49 (49-02, 49-03, 49-04 <\*>).

«Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles».

3. UN ECE Regulations No. 83 (83-02, 83-03, 83-04, 83-05 <\*>).

«Uniform Provisions Concerning the Approval of Vehicles with Regard to the Emission of Pollutants According to Engine Fuel Requirements».

4. UN ECE Regulations No. 96 (96-01 <\*>).

«Uniform provision concerning the approval of compression ignition engines to be installed in agricultural and forestry tractors and in non-road mobile machinery with regard to the emissions of pollutant by the engine».

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<\*> Modification numbers, amending the UNECE Regulations

## Environmental safety of motor vehicles

Vehicle certification against the compliance with Euro-2,3,4 environmental requirements is carried out in specialized laboratories fitted with the modern expensive high-precision equipment. As stated in para. 22, in CA and CIS countries such equipment is available only in automotive engineering scientific and research test and development center (Central testing ground) located in Dmitrov-7 city in Moscow province, where the full-scale testing of new vehicles for the compliance with Euro-1,2,3,4,5 norms is performed.

When new vehicles are delivered to the CA countries the environmental certification is performed by the relevant authorized authorities in the presence of instructions specified in item Environmental Class of the «Vehicle type approval» document.

## Environmental safety of motor vehicles

Implementation of Euro-2 norms for gasoline engines shall be performed through :

- Introduction of injector system with the electronic fuel injection is ensured by the electronic fuel injection;
- the maintenance of the quality of fuel in compliance according to GOST 51105-97, where the maximum sulphur content shall not exceed 500 mg/kg (mln-1)
- Using catalyst converters of the most simple construction
- These norms are similar to European requirements when Euro-2 norms were in force there. Therefore, it would be quite realistic to introduce in CA countries from 01.01.2009 of the requirements on manufacture or import of new vehicles, as well as import of used vehicle of Euro-2 class the lowest.

## **Environmental safety of motor vehicles**

Implementation of Euro-2 and Euro-3 norms for diesel engines shall be performed through :

- Fuel injection pressure increase;
- Use of controlled stepped (electronic) fuel injection;
- Use of intercooling of boost air charging in cylinders;
- Use of exhaust gas cooling during recirculation;
- Other methods and facilities aimed to dose and maximum fuel combustion

## Environmental safety of motor vehicles

To achieve Euro-3 norms expensive three-way catalyst converters with precious metals are used for gasoline engines to reduce carbon oxides (CO), hydrocarbons (CH), and nitrogen oxides (NOx). Also, the exhaust gas recirculation system was introduced.

European standards, introducing «Euro-3» norms or greater for gasoline engines, govern the compulsory availability of on-board (in-built) environmental indices diagnostic system in the vehicle. The compulsory introduction of on-board (in-built) diagnostic system to control vehicle environmental indices in compliance with Euro-3 shall significantly facilitate diagnostic operations in service.

## Environmental safety of motor vehicles

For the heavy vehicles with diesel engines to meet Euro-4 and Euro-5 norms the European automobile manufacturers have developed two basically different technical approaches:

1. Use in different combinations of two-way catalysts, storage and reduction converters, exhaust gas recirculation systems and particulate trap (MAN).

2. Use of Selective Catalytic Reduction Systems (SCR), which envisage the injection of aqueous urea solution into exhaust gas stream (Renault Trucks, Daimler-Chrysler, Scania). This approach is more widespread and it can be expected that some 80% diesel-engined trucks of Euro-4 and Euro-5 levels produced in Europe, will be equipped with SCR system.



## Environmental safety of motor vehicles

It should be highlighted that both technological approaches above ensure the compliance of the vehicle with Euro-4 norms (and later with Euro-5) only with the use of high-quality diesel engines

Meanwhile, the key fuel quality parameter is the sulphur content therein, because it is the sulphur, in particular, reduces the exhaust gas purification system efficiency by entering into undesirable chemical reactions. Currently the sulphur content, together with other fuel parameters, is regulated in Europe by the standard EN 590.

### Sulphur content

Requirement	Regulatory document	Maximum sulphur content, ppm	Introduction date in EU
Euro-3	EN 590:1999	350	Jan. 2000 г.
Euro-4	EN 590:2004	50	Jan. 2005 г.
Euro-5	EN 590:2004	10	Jan. 2009 г.

## Environmental safety of motor vehicles

### Adverse impact of sulphur contained in fuel on the exhaust system purification system

Exhaust gas purification technology	Sulphur and its compounds action mechanism
Oxidation catalysts Storage and reduction converters	S02 is converted into S03 and blocks out the catalyst working surface
Oxidation catalysts Storage and reduction converters	
Particulate filters	Sulphates in the form of particles clog up the filter and impede its regeneration
Exhaust gas recirculation system	Sulphuric acid is formed in the system, which then gets into other engine mounts and causes accelerated corrosion
Selective Catalytic Reduction Systems (SCR)	Sulphur compounds settle in two-way catalyst converter, which is a part of system, and block its working surface

# **Environmental safety of motor vehicles**

## **Regulation and control methods of exhaust gas toxicity of vehicles in-service**

Currently existing GOST 17.2.2.03, GOST 17.2.02.06 and GOST 21393 enable to exercise environmental control of vehicles in service of Euro–0 and Euro–1 class only.

- GOST 17.2.2.03 Nature protection. Atmosphere. Norms and methods of carbon dioxide and hydrocarbon content measurement in exhaust gases emitted by vehicle petrol engine. Safety requirements.

- GOST 17.2.02.06 Nature protection. Atmosphere. Norms and methods hydrocarbon oxides and hydrocarbon contents measurement in exhaust gases emitted by the gas cylinder automobiles.

- GOST 21393 Automobiles with diesel engines. Smoke emission. Norms and methods of measurements. Safety requirements.

## **Environmental safety of motor vehicles**

### **Regulation and control methods of exhaust gas toxicity of vehicles in-service**

**In CA countries it is necessary to develop a new standard to control Euro-2 environmental class compliant vehicles or greater. The international regulatory document Rule No.1 to the 1997 Vienna Agreement «Concerning the adoption of uniform conditions for periodical technical inspections of wheeled vehicles and the reciprocal recognition of such inspections» shall be used as a legal basis.**

Attached in Annex II to this Report is a full text of the Rule No.1 to the 1997 Agreement in the latest edition with the supplements effective from 15 February 2007.

## Environmental safety of motor vehicles

When developing national norms and control methods of vehicle exhaust gas hazardous emissions under service condition in accordance with Rule No.1 to the 1997 Agreement above, the following should be taken into account:

**a) For vehicle with gasoline engines:**

Normative values of contaminants shall be established based on equipping of vehicles with one or another gas neutralization system.

Requirements shall be set for the technical condition of those vehicle and engine directly responsible for the exhaust gas neutralization.

The measurement methodology is significantly expanded.

**b) for diesel powered vehicle the exhaust smoking metering system remained unchanged.**

The main standardized smoking parameter is an optical absorption coefficient  $k$ , while the additional one is light attenuation coefficient  $N$ . When controlling smoking in service smoke analyzers with linear scale graduated from 0 to 100 % light attenuation can be used.

The control methods were significantly adjusted as compared to GOST 21393.

## Environmental safety of motor vehicles

At the current moment CA countries should, based on their environmental and economic assumptions, develop a long-term plan of introduction in the nearest future at the territory of Republics of regulatory requirements (or in the form of technical regulation) on:

- Permissible hazardous vehicle exhaust emissions;
- Characteristics of produced or purchased motor fuel types;
- Production by the manufacturers (if there are any) or purchasing of vehicles compliant with a certain environmental class of Euro-2 ÷ 5.

*It should be noted that one cannot make premature decisions on this issue, however, it is impossible to accept current situation in CA countries concerning motor vehicle pollution.*

## Environmental safety of motor vehicles

The crucial point in all National programs and activities on introduction of efficient methods for reduction of motor vehicle environmental hazard is the revisions of taxation system for purchasers of new or used Euro-2, Euro-3,4,5 standard compliant vehicles.

It is particularly important for purchase of road trains for international carriages.

Country	Number of vehicles						
	Euro-0	Euro-1	Euro-2	Euro-3	Euro-4	Euro-5	Total
<b>Kazakhstan, KazATO</b>	967	385	2284	918	190	2	4744
<b>Kyrgyzstan, Kyrgyz ASMAP</b>	734	166	217	360	2	-	1479
<b>Tajikistan, ABBAT</b>	-	15	24	-	-	-	39
<b>Uzbekistan, AIRCUZ</b>	36	393	276	68	2	-	775

## Environmental safety of motor vehicles

As is clear from the table among all road trains in CA involved in international transport only 28% are Euro-2 compliant, 21% - Euro-3 and greater. As you know Euro-4 standard is in force in Europe from 2005.

The manufacturers of automobile equipment should be obliged to specify in motor vehicle operating instruction the period for mandatory replacement of catalyst converters, particulate filters and other elements ensuring the targeted environmental level of vehicles.



## Environmental safety of motor vehicles

**The Governments of the CA states are recommended to discuss possibilities concerning:**

- differentiated approach to the use in the regions of vehicles of improved environmental classes (based on the saturation of regions with automotive engineering, delivery irregularity thereof, local operational conditions);
- vehicle marking with coloured marks corresponding to different environmental classes; adjustment of excise tax on motor petrol (based on environmental characteristics rather than on octane number);
- enhancing the requirements for the quality of petrol and diesel fuel (develop oil products quality control system in retail and legal framework for termination of activities of companies selling fuels not compliant with the Regulation);
- applying «environmental» marking on fuel distribution columns and fitting fuel stations with equipment to fill in vehicles with the urea solution (on the basis of 1,5—2 % of diesel fuel sales volume for Euro-4, 5 class compliant vehicles).

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

- The volume of international road transport from and through the Central Asian countries to the countries and ports of Western Europe, Baltic States, Russia and Ukraine, China, Iran and Turkey is increasing every year.
- In specialist opinion in the nearest 10–15 years these volumes will at least double,
- The mentioned above is to a certain extent facilitated by the construction of new and expansion of existing international highways in CA and CIS countries, as well as integration thereof with European autobahns.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

- Vehicle wheels pressure on the road pavement serves as a base load, on the assumption of the calculation of road pavements is made. When the vehicle is in motion the wheel pressure on pavement is increased due to the influence of a number of factors.
- The increased maximum permissible axle loads of vehicles have the highest impact on the road deterioration. Unfortunately, in CA and other CIS countries there is no yet a standard on permissible weight parameters and dimensions of vehicles.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

In USSR the vehicle wheel static pressure was used as a nominal load for road pavement of all types, regulated by the GOST 9314-59 «Motor vehicles and road trains. Weight parameters and dimensions».

Weight parameter	Group A	Group B
1. Axle mass (load on road transmitted by the wheels of a single most loaded axle), tons:		
a) if the distance between adjacent axis is 3 m or greater	10,0	6,0
b) if the distance between adjacent axis is less than 3 m	9,0	5,5
2. Gross weight, tons:		
a) two-axle vehicle or trailer	17,5	10,5
b) three-axle vehicle or trailer	25,0	15,0
c) road train consisting of tractor and semi-trailer (with the total of 3 axis)	25,0	16,0
d) road train consisting of vehicle and trailer or tractor and semi-trailer (with the total of 4axis)	33,0	20,0
e) road train consisting of vehicle and trailer or tractor and semi-trailer (with the total of 5 and more axis)	40,0	30,0

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

- Currently there is only one regulatory document acting in the CIS countries, and of course in CA countries called “Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS» made on 4 June 1999 in Minsk, related to the vehicles carrying out international transport”.
- Uzbekistan has not yet ratified this Agreement. However, on signing the Republic of Uzbekistan has established its norms on articulated road train weights in accordance with this Agreement. From 24.12.03 Kazakhstan has introduced the amendments towards the increase of the permissible double and triple axle loads of trailers and semi-trailers.
- The Council Directive 96/53 dated 25 July 1996 laying down the maximum authorized dimensions and weight for certain road vehicles circulating within the Community.
- In accordance with the regulatory document GB 1589-2004 the People's Republic of China harmonized practically all its standards on the limits of dimensions, axle load and masses for road vehicles with the Council Directive 96/53 EU above.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

Specified parameters of vehicle weights, axle loads and dimensions as of 01.07.2008

Vehicle parameter	EU	CIS	Kaz	Uzb	USA	Canada	PRC
<b>I. Maximum permissible dimensions of vehicles</b>							
Maximum vehicle dimensions shall not exceed values below, m:							
1.1. Maximum length:							
Freight vehicle	12,0	12,0	12,0	12,0	12,5	12,5	12,0
bus	12,0	12,0	12,0	12,0	14	14	12,0
Trailer (semi-trailer)	12,0	12,0	12,0	12,0	8,53(14,63)	H.O.(16,2)	13,0
Articulated bus	18,0	18,0	18,0	18,0	-	-	18
Road trains:							
- Articulated	16,5	20	20	20	n/d	23	16,5
- Trailer	18,75	20	20	20	n/d	23	20
- Articulated trailer	-	-	-	-	n/d	25	
1.2. Maximum width:							
All motor vehicles	2,55	2,55	2,55	2,55	2,6	2,6	2,5
Vehicle refrigerator body	2,6	2,6	2,6	2,6	2,6	2,6	2,55
1.3. Maximum height	4,0	4,0	4,0	4,0	n/d	4,15	4,0

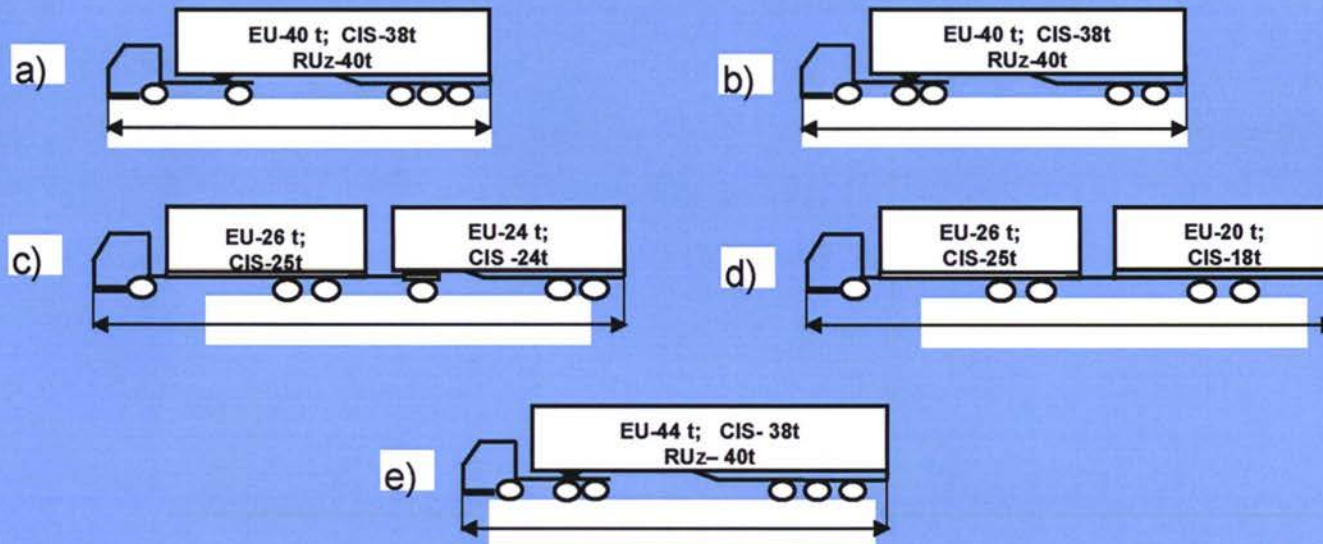
### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

Нормативные параметры масс, осевых нагрузок и габаритов АТС на 01.07.2008г.

Vehicle parameter	EU	CIS	Kaz	Uzb	USA	Canada	PRC
<b>II. Maximum weights of vehicle</b>							
Maximum vehicle weights shall not exceed values below, tons:							
2.1. Goods vehicle:							
Two-axle goods vehicle	18	18	18	18	16,35	17,1	18,0
Three-axle goods vehicle	25	24	24	24	24	26,0	25,0
Three-axle vehicle with one steering axle consisting of twin tyres fitted with air suspension or equivalent	26	25	25	25	-	-	-
Four-axle vehicle with one steering axle consisting of twin tyres fitted with air suspension or equivalent	32	32	32	32	31	34	32
2.2. Vehicles forming part of vehicle combination:							
Two-axles trailer	18,0	18,0	18,0	18,0	18,14	18,2	18,0
Three-axles trailer	24,0	24,0	24,0	24,0	25,0	26,1	25,0

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Analysis of permissible parameters of vehicle gross weight and axle loads



Existing type range of road trains for carriages in EU, CA and CIS countries



### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **Harmonization of norms on vehicle weights and dimensions in CA and CIS countries**

**Indeed, overloading of vehicles designed for movement of various «divisible» goods is not permissible. It is stated in the Traffic Rules of any country in Europe, Central Asia and CIS. There are three main reasons for this:**

- An intensive road destruction
- Sharp deterioration in road transport reliability
- A «would be assassin» sitting in the driver's seat, since nobody knows how overloaded vehicle, in particular road train, would behave in critical traffic situation (abrupt braking, sharp turning, etc.).

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Harmonization of norms on vehicle weights and dimensions in CA and CIS countries

- However, there is no sense in underrating the standards on maximum permissible weight of road trains if the axle loads, axle spacing and dolly axes do not exceed standard values. The consignors and carriers incur thumping damages from such limitations.
- *Every year only across and from Kazakhstan road trains transport up to 1 billion tons of goods. Taking into account that all road trains had gross weight of 38 tons (according to the standards of the Republic of Kazakhstan), rather than 40 tons, some 4546 additional trips are made due to underloading. It is easy to calculate the losses incurred by businessmen, how many extra tons of fuel is consumed, and, finally, to what extent the air pollution increases due to exhaust gases.*

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **Harmonization of norms on vehicle weights and dimensions in CA and CIS countries**

It appears the time has come for revision of the «Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS» made on 4 June 1999 in Minsk and develop a relevant science-based expanded regulatory document taking into account all possible combinations used in motor vehicles, axle dollies and distance between them. On the basis thereof submit the proposals to the on revision of the 1999 Minsk Agreement Coordinating Transport Meeting of the CIS member states.

**Taking into account that in EuroAsian region geometric and weight parameters of vehicles involved in international transport should harmonized, it is recommended that the requirements set forth in the Council Directive 96/53 EU shall be used as a basis for introduction of norms in Central Asia and CIS.**

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Prospective road trains for carriages on the route Europe – Asia

At this time only modular long-length heavy-duty road trains (MLHDRT) can cardinaly improve the efficiency of the transport on Europe – Asia routes where the distance can reach 5-8 thousand km.

- From 1998 the Scandinavian countries of Sweden and Finland have changed the requirements to length and gross weight of road-trains up to 25,25m and 60 t, while maintaining the requirements of EU Directive #96/53 on axle load. Two configurations of road-train are permitted. The first road-train consist of three-axle tractor + five-axle trailer manufactured on the basis of standard three-axle semi-trailer with two-axle dolly. The second one is an articulated road-train (ART), where the standard semi-trailer is coupled with two-axle trailer, normally with central axle .

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Prospective road trains for carriages on the route Europe – Asia

It is now five years as such road-trains perform international carriages from Sweden and Finland to Saint Petersburg and Moscow in Russia on the basis of special permission. It might be said that the pilot test runs are underway. The introduction of these road-trains in international transport was expected, however, unfortunately, road and transport legislations was not finalized either in EU, except Sweden and Finland respectively, or in CIS countries. These road-trains, or as they were figuratively called “steam engines”, have useful capacity up to 150m<sup>3</sup>. *Figure 1. An articulated road-train of 25,25m long and body space of 160m<sup>3</sup>.*



### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

## Prospective road trains for carriages on the route Europe – Asia

**Everything old is new again.** An idea of increased road train capacity through utilization of additional trailers has been already tested by the automotive engineer from Central Asian and other CIS countries, who in 1960–1980-s, i.e. being within USSR actively introduced into operation various types of heavy-duty multilink road trains of the total length of 24m, which was statutory established at that time. Such road trains were formed on the modular principle based on series-produced fleet – trucks, artics, semi-trailers and trailers.

# Everything old is new again.

## Advanced “alimony payers”

- Idea of productive capacity development through operating additional trailers was introduced by advanced drivers
- They were ironically called “**alimony payers**”, they say, the extra freights income to be paid for alimony.
- In 1970-80s some 30 different types of sideboard and dump articulated and 2-axle trailer road trains were shaped and used in former USSR Republics, which were operated in long-distance carriages, construction and agriculture.



1965 г

## **Everything old is new again.**

- Within the period of 1986-1988 VNIIBD in collaboration with Moscow Automobile Road Institute, Tashkent Automobile Road Institute, GKB on trailers under the Ministry of Road Automobile Industry of the USSR, TzNIP NAMI assigned by GY GAI of the USSR presented the scientific and researching assessment on:

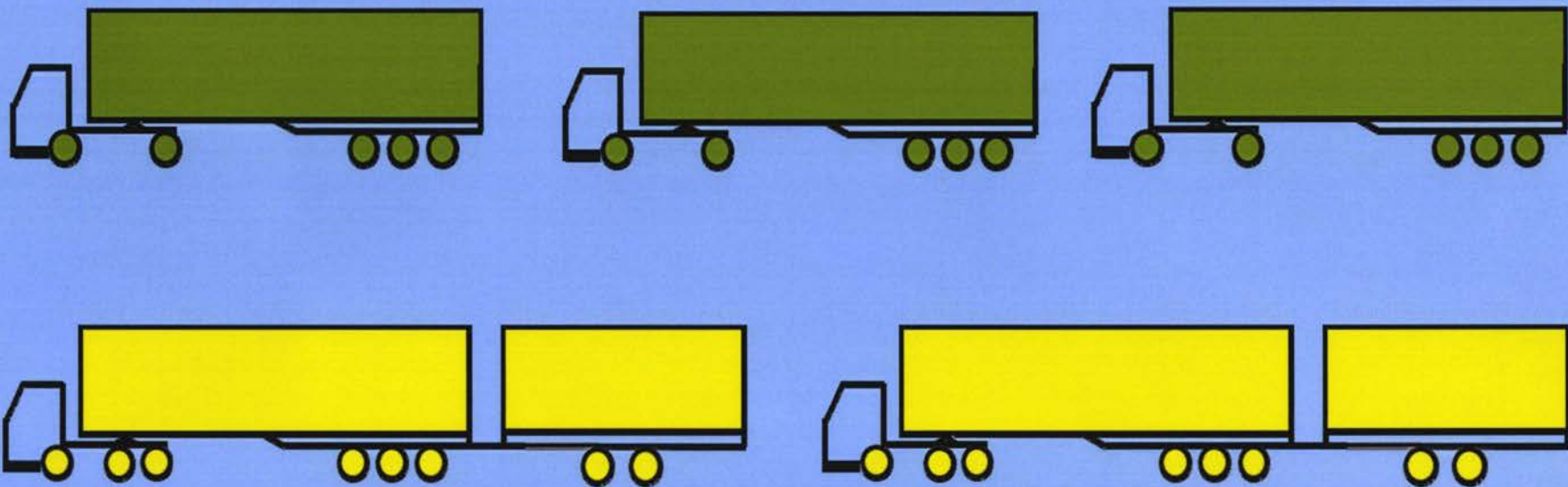
**«Evaluation of Operational Opportunities of Various Construction Trailers and Semi-trailers included to Multilink Road Trains».**

- By 1 January 1989 the 1-st edition of the regulative document “Rules on Admission of Multilink Road Trailers to Operation” was elaborated.
- It has been 20 years since then, but the problem still remains the same...



# Prospective road trains for carriages on the route Europe – Asia.

European Convention on modular systems (EMS).



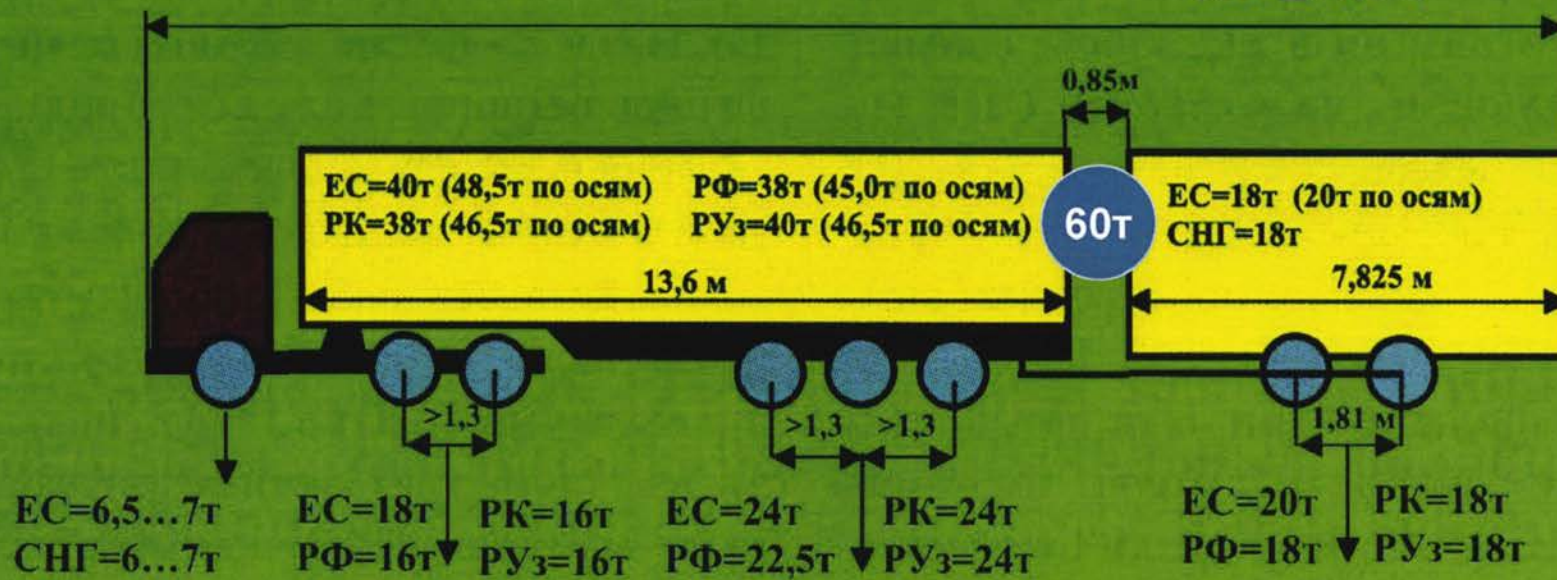
**Two MLHDRTs instead of three saddle-type road  
trains.**

# Modular Long-length Heavy-duty Road Trains for Europe-Asia Freight Transport

**Полная масса автопоезда:**

FIN=60т (68,5т по осям)      РФ=56т (63,0т по осям)  
 РК=56т (64,5т по осям)      РУЗ=58т (64,5т по осям)

$L_{a.п} \begin{cases} FIN \leq 25,25 \text{ м} \\ CHГ \leq 24,0 \text{ м} \end{cases}$



**Manufacturers of prospective MLHDRT: Scania, Volvo, Mercedes MAN, DAF.**

# Modular Long-length Heavy-duty Road Trains for Europe-Asia Freight Transport

## Полная масса автопоезда:

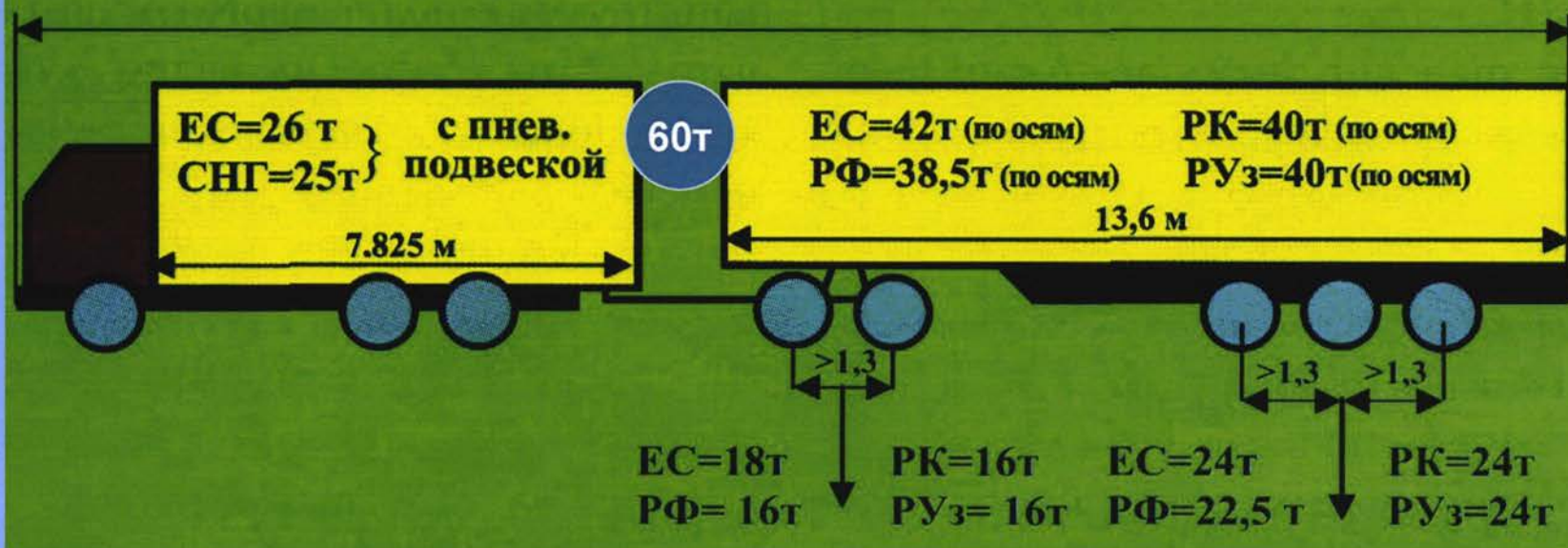
FIN=60 т (68,5 т по осям)

РФ=44 т (63,5 т по осям)

$L_{a.п}$   $\left\{ \begin{array}{l} FIN=25,25 \text{ м} \\ СНГ=20,0 \text{ м} \end{array} \right.$

РК=44 т (65 т по осям)

РУЗ=44 т (65 т по осям)



Manufacturers of trailers for prospective MLHRTs: Krone, Fliegel, Кроне, Schmitz, Koegel, etc.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **Prospective road trains for carriages on the route Europe – Asia.**

The large-scale introduction of long-length road-trains in EU, CA and CIS countries is associated with three groups of limitations:

**a) Limitations on vehicle geometric and weight parameters.**

**b) The second group of limitations is associated with safety requirements for design of road-trains under consideration.**

**c) The third group of limitations on large-scale introduction of MLHDRT will be associated with difficulties in acceptance thereof in existing terminals and logistic centers.**

# Limitations on large-scale introduction of road-trains

## I. Limitations on vehicle geometric and weight parameters.

- Kazakhstan introduced new SNiP of 13 tn load on axle.
- Uzbekistan is in the process of revision its SNiP towards 11,5 tn load on axle.
- China has completely harmonised its SNiP with EC Directive 96/53, there loading of 11,5 tn on the driving axle of trailer is allowed.

### **It's required to:**

- revise the Agreement on the Weight and Dimensions of Road Vehicles Carrying Out Interstate Transport on the Roads of the CIS, signed on 4 June 1999 in Minsk;
- develop a science-based expanded regulatory CIS standard «Motor vehicles. Parameters of Masses and Gabarits», taking into account prospective MLHDRTs.

# Limitations on large-scale introduction of road-trains

## II. Safety requirements for design of MLHDRTs.

1. Revision of Annex 10 of the UNECE Regulations 13 “Uniform rules concerning official approval of vehicles of N and O categories with respect to braking”.
2. Ensuring the response rate and synchronism of air brake controls on trailer units through introduction of electronically controlled electro-pneumatic braking drive (EBS) already installed in road trains.
3. Mandatory introduction of modern dynamic stabilization systems of ESC (ESP) type produced by Wabco и Knorr-Bremse to the road-trains design.
4. Introducing new regimes and regulations on tractor and semi-trailer maintenance operations taking into account operation of additional trailer.

# Limitations on large-scale introduction of road-trains

## II. Safety requirements for design of MLHDRTs.

5. In the course of heavy-duty long-length road trains operation they should be composed of the fleet (tractors, trailers and semi-trailers) having relevant certificate - «**Certificate of vehicle type approval**», taking into account the possibility of operation in heavy-duty road trains.

# **Limitations on large-scale introduction of road-trains**

## **III. Difficulties in acceptance MLHDRT in existing terminals and logistic centers.**

To ensure large-scale introduction of heavy load road trains in international transport, it would be necessary:

- to expand or improve terminals, logistic centers
- to arrange transfer points for loading and unloading of MLHDRT, waiting spaces, etc.
- To expand parking bays on the highways for crew rest or vehicle inspection.



## **Urgency to implement MLHDRT concept for Europe –Asia transport enhancement**

1. MLHDRT full loading is to be at 60-72tn in respect with the current 40-44 tn as a vehicle unit to be operated at the distances of 5 to 9 thousand km.
  - it raises productivity of transport to 20 ÷ 30%.
  - saves fuel consumption to 20%.
  - decreases exhausted gases to 30%.
2. Two MLHDRTs can replace three saddle-type road trains. Modern diesels of 570-680 l.s. ensure a power-to-weight-ratio of MLHDRTs up to 9-11 l.s./tn
3. In 10-15 years in EC, Russia, China and CA states international transport volumes are forecasted to grow  $\geq 2$  time.

## **Urgency to implement MLHDRT concept for Europe –Asia transport enhancement**

4. At the moment, new construction sites, highways enlargement and connectability upgrading are being undertaken in the segment of CA highways – European highways, such as E30; E40; E60; E80; E125; E38; E123.
5. At the nearest future 6 upgraded highway networks (corridors) are to be put into operation towards Europe originated from China through the CA states.
6. IRU within the framework of EC and UNECE is actively involved into lobbying of the EC directives to be harmonised with the regulations of Sweden and Finland in terms of gabarits and limitations for large-tonnage and long-length road trains.

# MLHDRT Opportunities

- MLHDRT type road trains – are the trains of the nearest perspective especially it concerns to transport activities undertaken along Europe – Asia – Europe route;



- Existing technical difficulties for MLHDRT type road trains implementation have been practically sorted out. Relevant amendments are required to be considered in related regulative documents;
- Soonest enlargement, reconstruction and construction of the Asian road networks to be duly connected to European autobahns are very urged.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **Prospective road trains for Europe-Asia freight trips**

- It is advisable to authorize the mass operation of such vehicles only on the highways with at least four lanes. Overtaking of long-length road trains on the normal two-lane road by other vehicles with the ride to the opposite side of the road is very dangerous, and even impossible in case of dense traffic flows.
- **In order to proceed to a large-scale introduction and capacity development of high performance modular long-length heavy-load road trains, it is recommended to IRU to organize pilot in the nearest future trips of eight-axle road trains with the 60 tons gross weight and of 25,25m long from Sweden, Finland to CA countries.**

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

**CA states are proposed new draft standard as follows:**

#### **ГОСУДАРСТВЕННЫЙ СТАНДАРТ**

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**Средства автотранспортные**

**МАССЫ И ГАБАРИТНЫЕ ПАРАМЕТРЫ**

**Motor vehicles and their trailers**

**WEIGHTS AND DIMENSIONS**

It is harmonised with EC Directive 96/53 where implementation of prospective large-tonnage module road trains is envisaged.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Draft GOST «Motor Vehicles (MV). Masses and Gabarits of Road Vehicles»

Gabarits	Parameters, m
<b>Permissible length:</b>	
Cargo truck	12
Bus	12
Trailer	12
Saddle-type road train	20
Road-trains with 2÷3 axle trailer	20
Long-length road-train with 4÷5 axle trailer made on a semi-trailer base	25,25*
Saddle and trailer-type road transport (tractor+semitrailer+trailer)	25,25*
Two-trailer road-train	25,25*
Articulated bus	18
* they are allowed to be used only on highways they are allowed to be used only on highways	
<b>Permissible width:</b>	
All motor vehicles	2,55
Refrigerator body of motor vehicles	2,6
<b>Permissible height:</b>	4

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### **Draft GOST «Motor Vehicles. Masses and Gabarits of Road Vehicles»**

*Notes:*

1. Saddle-trailer type, two-trailer and long-length road-trains with 4÷5 axle trailer are formed of the road rolling-stock units having special document “Approval of motor vehicle type”, proving that the certain vehicle may be used as a component of the mentioned above types.
2. MV permissible dimensions given in Table 4.1 include dimensions of the demountable bodies and cargo empties, including containers.
3. Artic and one-trailer road-trains shall be able to turn within the area, which outer radius is 12.5 m, and the inside one - 5.3.
4. Saddle-trailer type road-train, long-length road-train with 4÷5 axle trailer and two-trailer road-train shall be able to turn within the area, which outer radius is 15 m, and the inside one - 6 m.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Draft GOST «Motor Vehicles. Masses and Gabarits of Road Vehicles»

№	MV types	Gross vehicle weight, ton
3.	<p>Combined transport facilities:</p> <p><b>Saddle-type (Articulated) road trains:</b></p> <p>Four-wheeled tractive unit with a single-axle semi-trailer</p> <p>Four-wheeled tractive unit with a tandem-axle semi-trailer; distance between the axles varies from 1.3 to 1.8 m.</p> <p>Four-wheeled tractive unit with a tandem-axle semi-trailer; distance between the axles exceeds 1.8 m (in case if such road-train has twin wheels and is equipped with the air or a similar suspender, the maximum permissible weight may be increased by 2 tons).</p> <p>Four-wheeled tractive unit with a tri-axle semi-trailer</p> <p>Three-axle tractive unit with a tandem-axle semi-trailer</p> <p>Three-axle tractive unit with a tri-axle semi-trailer</p>	<p>28</p> <p>36</p> <p>38</p> <p>38 (40)*</p> <p>38 (40)*</p> <p>38 (44)*</p>





### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

#### Draft GOST «Motor Vehicles. Masses and Gabarits of Road Vehicles»

#### 4.3 Permissible MV axle weights (mass)

Permissible MV axle weights shall not exceed the values given in Table 4.3

Table 4.3

	Number of axles	Weight, tons
1	For a single axle:	
	- driven axle with single wheels	7,5
	- driven axle with twin wheels	10
	- driving axle with twin wheels	10 (11,5)*1
	- driving axle with twin wheels of the urban and suburban buses and trolleybuses	11,5

\* - if axles are mounted on the air or a similar suspender.

1 Only for international transportation.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **Draft GOST «Motor Vehicles. Masses and Gabarits of Road Vehicles»**

##### **Notes:**

1. The weight transferred to the driving axel(s) of a vehicle or a combined transport facility shall not be less than 25% of the vehicle or a combined transport facility's total weight.

2. When measuring MVs' weights and dimensions, the specified errors of the measuring equipment shall be taken into account.

At that, errors are interpreted to the advantage of the carriers.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **International Vehicle Weight Certificate**

One of items of a new Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982 entered into force on 20 May 2008 is the requirement to use International Vehicle Weight Certificate (IVWC).


Taking into account the significance of this document the CA countries should give adequate consideration and make careful preparations to the implementation thereof.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

At the same time, all CA countries, except Tajikistan and Turkmenistan have acceded to the International Convention on the Harmonization of Frontier Control of Goods and shall make efforts towards implementation of the Annex 8 to this Convention.

The implementation feature of the Convention on Harmonization is that within one year countries should purchase weighing machines performing axle-by-axle weighing or weighing of one axle group (double or triple axis) of vehicle. Also, it is important to ensure proper installation of weigh-scales at the measurement pit, i.e. in such a way that the wheels could enter or pass weighing machine without jumps to avoid dynamic component in measurement of vehicle axle weight(s).

## III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

МЕЖДУНАРОДНЫЙ ВЕСОВОЙ СЕРТИФИКАТ ТРАНСПОРТНОГО СРЕДСТВА (МВСТС)																																											
 ЕВРОПЕЙСКАЯ ЭКОНОМИЧЕСКАЯ КОМИССИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ (ЕЭК ООН)	В соответствии с положениями приложения 8 (Облегчение прохода пересечений границы в ходе международных автомобильных перевозок) к Международной конвенции о согласовании условий проведения контроля грузов на границах 1982 года Действителен для международной дорожной перевозки грузов																																										
Заявляется транспортным оператором (транспортным операторами/водителем (водителами) грузового автотранспортного средства <i>ДО</i> взвешивания транспортного средства:																																											
1. Транспортный оператор/компания (наименование и адрес, включая страну)	Тел. № _____ Факс № _____ Электронная почта: _____																																										
2. Договор перевозки № <sup>1</sup>	Книжка МДП № (если это применимо) <sup>2</sup>																																										
3. Сведения о грузовом автотранспортном средстве																																											
3.1. Регистрационный номер	Автотролжогого тягача/грузового автомобиля _____ Полуприцепа/прицепа _____																																										
3.2. Система подвески	Автотролжогого тягача/грузового автомобиля _____ Полуприцепа/прицепа _____ воздушная механическая иная _____ воздушная механическая иная _____																																										
Заявляется оператором уполномоченной станции взвешивания:																																											
4. Уполномоченная станция взвешивания (наименование и адрес, включая страну)	5. Взвешивание транспортного средства № <sup>3</sup>																																										
4.1. Класс точности оборудования для взвешивания <sup>4</sup>	6. Дата выдачи (день, месяц, год)																																										
Класс II                      Класс III и/или <0,5                      1                      2																																											
4.2. Дата последней калибровки																																											
7. Взвешивание грузовых автотранспортных средств (к настоящему сертификату должна быть приложена оригинальная официальная запись станции взвешивания)																																											
7.1. Тип грузового автотранспортного средства <sup>5</sup>																																											
7.2. Измерение веса на ось, в кг:																																											
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Ведущая</th> <th>Неведущая</th> <th>Однoчная</th> <th>Сдвоенная</th> <th>Строенная</th> </tr> </thead> <tbody> <tr> <td>Первая ось</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Вторая ось</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Третья ось</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Четвертая ось</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Пятая ось</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Шестая ось<sup>6</sup></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Ведущая	Неведущая	Однoчная	Сдвоенная	Строенная	Первая ось						Вторая ось						Третья ось						Четвертая ось						Пятая ось						Шестая ось <sup>6</sup>					
	Ведущая	Неведущая	Однoчная	Сдвоенная	Строенная																																						
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Шестая ось <sup>6</sup>																																											
7.3. Измерение полного веса транспортного средства, в кг	Автотролжогого тягача/грузового автомобиля _____ Полуприцепа/прицепа _____ Полный вес транспортного средства _____																																										
8. Особые характеристики веса																																											
8.1. Наполнение топливного бака, подсоединенного (топливных баков, подсоединенных) к двигателю, до:	¼    ½    ¾    1/1																																										
8.2. Наполнение дополнительного топливного бака (дополнительных топливных баков) (включая топливо в баках для устройств охлаждения) до:	¼    ½    ¾    1/1																																										
8.3. Кол-во запасных шин																																											
8.4. Число человек на транспортном средстве во время взвешивания																																											
8.5. Подъемная ось	Да    Нет																																										
Заявляю, что вышеуказанные взвешивания были надлежащим образом произведены нижеподписавшимся на уполномоченной станции взвешивания																																											
Фамилия оператора станции взвешивания	Подпись																																										
Печать																																											

<sup>1</sup> Например: накладная КДПГ №.

<sup>2</sup> В соответствии с Конвенцией МДП 1975 года.

<sup>3</sup> См. примечания на стр. 2.

<sup>4</sup> В соответствии с рекомендацией МОЗМ R 76 и/или рекомендацией R 134.

<sup>5</sup> Код типа транспортного средства по прилагаемому схематическому рисунку, например А<sub>1</sub> или А<sub>2</sub>Б<sub>2</sub>.

<sup>6</sup> Если число осей больше шести, указать это в графе "Примечания" на стр. 2.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

To be filled-in by the transport operator(s)/driver(s) of the goods road vehicle *AFTER* weighing the vehicle

I declare that:

- a) the weight measurements stated overleaf have been performed by the above-mentioned weighing station,
- b) the information (1) to (8) has been duly filled-in and
- c) no load has been added to the goods road vehicle following its weighing at the above-mentioned weighing station.

Date	Name of transport operator(s)/dirver(s) of goods road vehicle	Signature(s)
------	---	--------------

Remarks (if any)

Notes

The vehicle weight measurement number shall consist of three data elements linked by hyphens:

- 1) Country code (in accordance with the UN Convention on Road Traffic, 1968).
- 2) Two-digit code allowing identification of national weighing station.
- 3) Five-digit code (at least) allowing identification of individual weight measurement taken.

Examples: GR-01-23456 or RO-14-000510.

This serial number shall correspond to that applied in the books of the weighing station.

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

## Международный весовой сертификат транспортного средства.

Without waiting for a new Annex 8 to the «Convention on Harmonization» coming into force, the CIS countries have concluded the «Agreement between the road authorities of the CIS Member-states concerning the introduction of the International Vehicle Weight Certificate on the territory of CIS Member-states» (16 April 2004, Cholpon-Ata).

**Signed by:** Republic of Armenia, Republic of Belarus, Georgia, Republic of Kazakhstan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Republic of Tajikistan, Ukraine. Signed by: Republic of Armenia, Republic of Belarus, Georgia, Republic of Kazakhstan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Republic of Tajikistan, Ukraine.



### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

#### **The Procedure for issuance and use of IVWC**

- The Certificate duly filled-in by a) the operator of an authorized weighing station and б) the transport operator(s)/utility vehicle driver(s) shall be accepted and recognized as a document bearing valid weight measurements by the competent authorities of the Contracting Parties.
  
- The use of IVWC on the territory of the Contracting Parties does not depend on its country of issue as well as the registration of the vehicle carrying out the international transport operation according to the TIR or any other procedure excluding any unauthorized access to the load compartment of the vehicle.
  
- The competent authorities shall recognize the information contained in the certificate as authentic and refrain from repetitive weighing.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

For the purpose of implementation of the 2004 Cholpon-Ata Agreement the CA countries in the first place started purchasing weighing 0,5:1,0; 2,0 accuracy class compliant equipment. С целью реализации.

At the moment the CA countries listed below are at the stage of implementation of 2004 Cholpon-Ata Agreement:

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Uzbekistan.



### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

		KZ	026012	A
		Код страны	Номер сертификата	

<b>МЕЖДУНАРОДНЫЙ СЕРТИФИКАТ ВЗВЕШИВАНИЯ ТРАНСПОРТНОГО СРЕДСТВА (МСВТС)</b>					
Заполняется транспортным оператором / водителем транспортного средства до взвешивания транспортного средства					
1. Транспортный оператор (название и адрес организации, включая страну) <b>УЗБЕКИСТАН ТАШКЕНТ, МЕР-И СУТКИН-А ДОМ № 28</b>		Тел. № <b>8-99888-58-80-91</b> Факс № Электронная почта			
2. Договор перевозки №		CARNET TIR № (если применимо) <b>KB 45373444</b>			
3. Сведения о грузовом транспортном средстве					
3.1. Регистрационный номер		Тягач / грузового автомобиля <b>MAH HY4057</b>	Полуприцеп / прицепа <b>SCHMITZ HE 945</b>		
3.2. Система подвески		Тягач / грузового автомобиля <input checked="" type="checkbox"/> воздушная <input type="checkbox"/> механическая <input type="checkbox"/> иная	Полуприцеп / прицепа <input checked="" type="checkbox"/> воздушная <input type="checkbox"/> механическая <input type="checkbox"/> иная		
Заполняется сотрудником уполномоченной станции взвешивания					
4. Уполномоченная станция взвешивания (код, наименование и адрес, включая страну) <b>К2-04-12 ПТЭ-ЗАРЕЧЬЕ КАРАГАНДА ІАРИКІ А/Ғ ЕКАТЕРИНБУРГ-АНАТВИ</b>		5. Взвешивание транспортного средства № <sup>3</sup>			
4.1. Класс точности оборудования для взвешивания <sup>4</sup> <input type="checkbox"/> Класс III или выше милли <input type="checkbox"/> < 1 <input type="checkbox"/> 2		6. Дата выдачи (день, месяц, год) <b>23.06.07.</b>			
7. Взвешивание грузовых транспортных средств (к настоящему сертификату должна быть приложена оригинальная оцифрованная запись станции взвешивания)					
7.1. Тип грузового транспортного средства <sup>5</sup>					
7.2. Измерение нагрузки на ось, в кг					
	Ведущая	Не ведущая	Одиночная	Сдвоенная	Строенная
Первая ось		+	<b>3040</b>		
Вторая ось	+		<b>4680</b>		
Третья ось					<b>19120</b>
Четвертая ось					
Пятая ось					
Шестая ось <sup>6</sup>					
7.3. Измерение полного веса транспортного средства (в кг)	Тягач / грузовой автомобиль (кг) <b>16720</b>	Прицеп / полуприцеп (кг) <b>19120</b>	Полный вес <b>35840</b> транспортного средства (кг)		
8. Особые весовые характеристики					
8.1. Наполнение топливных баков, подсоединенных к двигателю, до: <input type="checkbox"/> 1/4 <input type="checkbox"/> 1/2 <input checked="" type="checkbox"/> 3/4 <input type="checkbox"/> 1		8.3. Количество запасных шин (штуки) <b>2</b>			
8.2. Наполнение дополнительных топливных баков, до: <input type="checkbox"/> 1/4 <input checked="" type="checkbox"/> 1/2 <input type="checkbox"/> 3/4 <input type="checkbox"/> 1 (включая топливо для устройства охлаждения)		8.4. Число человек на транспортном средстве во время взвешивания <b>1</b>			
Настоящим заявляю, что вышеуказанные взвешивания были произведены и подписаны на уполномоченной станции взвешивания и являются точными		8.5. Наличие подъемной оси <input type="checkbox"/> да <input checked="" type="checkbox"/> нет			
Фамилия и личный код сотрудника станции взвешивания <b>Черников БВ- за. с/рц. ОКАТч АТН</b>		Подпись 			
		Печать 			


<sup>1</sup> например: Накладная CMR №  
<sup>2</sup> в соответствии с Конвенцией TIR 1975 года  
см. Приложение на стр. 2  
<sup>3</sup> в соответствии с Рекомендацией МОЗМ  
<sup>4</sup> в соответствии с Международными соглашениями, касающимися стандартизации разрешенные габариты установленные для национальных и международных перевозок, в т.ч. также максимальные разрешенные значения веса для международных перевозок  
<sup>5</sup> код типа транспортного средства по схематическим рисункам, например A<sub>1</sub> или A<sub>2</sub>S<sub>2</sub>  
<sup>6</sup> если число осей больше шести, указать это в параграфе "Примечания" на стр. 2

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

**9. Заполняется транспортным оператором / водителем транспортного средства после взвешивания транспортного средства**

Я заявляю, что:

(a) Измерения веса транспортного средства были проведены вышеуказанной станцией взвешивания  
 (a) Информация в графах 1 - 8 внесена без ошибок  
 (c) После взвешивания на упомянутой станции взвешивания на грузовое транспортное средство не было помещено никакого дополнительного груза

Дата <b>23.06.07</b>	Фамилия водителя / водителей грузового транспортного средства <b>БАБАЕВ В.С.</b>	Подпись 
Замечания (если имеются)		

**10. Заполняется сотрудником станции взвешивания при исключительном (контрольном) случае взвешивания (3,7,8) \***

Станция взвешивания \_\_\_\_\_  
(код, наименование и адрес, включая страну)

Дата	Фамилия сотрудника станции взвешивания	Подпись печать
Причина и результат исключительного (контрольного) взвешивания		

Кодовый номер взвешивания транспортного средства состоит из трех элементов данных, соединенных дефисами

(1) Код страны (в соответствии с Конвенцией ООН о дорожном движении 1968 года)

Армения	ARM	Молдова	MD
Азербайджан	AZ	Россия	RUS
Беларусь	BY	Таджикистан	TJ
Грузия	GE	Туркменистан	TM
Казахстан	KZ	Узбекистан	UZ
Киргизия	KS	Украина	UA

(2) Двухзначный код, позволяющий идентифицировать национальную станцию взвешивания

(3) Пятизначный код (как минимум), позволяющий идентифицировать индивидуальное взвешивание  
 Например: MD - 01 - 23456 или RUS - 14 - 000510

Этот серийный номер должен соответствовать номеру, указанному в журналах на станции взвешивания

При предъявлении настоящего сертификата, повторное взвешивание транспортного средства на погранпереходах стран СНГ не проводится

\* Данная графа используется компетентными органами сторон для оценки деятельности станций взвешивания, а также действий транспортного оператора совершившего нарушение

# III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

**МЕЖДУНАРОДНЫЙ СЕРТИФИКАТ ВЗВЕШИВАНИЯ ГРУЗОВЫХ ТРАНСПОРТНЫХ СРЕДСТВ (МСВТС)**

**RUS** № 0000000  
Код страны Номер сертификата

**Заполняется водителем до взвешивания транспортного средства**

1. Сведения о перевозчике (транспортном операторе) \_\_\_\_\_  
(полное наименование юридического лица, индивидуальный предприниматель, физическое лицо)

2. Номер договора перевозки "СМР" \_\_\_\_\_

3. Сведения о грузовом транспортном средстве:  
 3.1. Регистрационный номер \_\_\_\_\_ Типа/автомобиль \_\_\_\_\_  
 3.2. Система подвески\* \_\_\_\_\_ Типа/автомобиль \_\_\_\_\_ Полуоси/шасси \_\_\_\_\_ Полуоси/шасси/прицеп \_\_\_\_\_

**Заполняется сотрудником уполномоченной станции взвешивания**

4. Сведения об уполномоченной станции взвешивания \_\_\_\_\_  
(имя\*\*, наименование и адрес, включая страну)

5. Данные о регистрации взвешивания \_\_\_\_\_  
 Код страны \_\_\_\_\_ Код станции \_\_\_\_\_ Порядковый № взвешивания по журналу \_\_\_\_\_

6. Дата выдачи сертификата (день, месяц, год) \_\_\_\_\_

7. Результаты взвешивания \*\*\*

7.1. Тип грузового транспортного средства \*\*\*\* \_\_\_\_\_

7.2. Измерение веса на ось

Номер оси	1	2	3	4	5	6
Тип колес [единоосные – О, двухосные – Д]						
Осевая нагрузка, кг						
Межосевое расстояние, м						
Номер ведущей оси						

7.3. Измерение полного веса \_\_\_\_\_ Типа/грузовой автомобиль \_\_\_\_\_ Полуоси/шасси/прицеп \_\_\_\_\_ Полный вес транспортного средства \_\_\_\_\_

8. Особые весовые характеристики:

8.1. Степень заполнения топливных баков, присоединенных к двигателю до\*: \_\_\_\_\_  
 1/4  1/2  3/4  1/1

8.2. Степень заполнения топливных баков, вкл. баки для устройств охлаждения до\*: \_\_\_\_\_  
 1/4  1/2  3/4  1/1

8.3. Число запасных шин \_\_\_\_\_

8.4. Число людей в транспортном средстве во время взвешивания \_\_\_\_\_

8.5. Наличие подвальной оси\*  да  нет

Настоящим удостоверяю, что вышеуказанные взвешивания были произведены нижеподписавшимся на уполномоченной станции взвешивания и являются точными

(подпись) \_\_\_\_\_ М.П. \_\_\_\_\_  
(подпись и печать лица, осуществляющего уполномоченную станцию взвешивания)

**Заполняется водителем после взвешивания транспортного средства**

9. Подтверждение правильности заполнения граф 1–8

9.1. заявляю, что:  
 ✓ измерения веса транспортного средства были проведены вышеуказанной станцией взвешивания;  
 ✓ информация в графах 1–8 была внесена без ошибок;  
 ✓ после взвешивания на вышеупомянутой станции взвешивания на грузовое транспортное средство не было помещено никакого дополнительного груза.

Замечания (если имеются) \_\_\_\_\_

**Заполняется сотрудником уполномоченной станции взвешивания при исключительном (контрольном) случае**

10. Реквизиты станции, дата, Ф. И. О. и подпись сотрудника, проводящего контрольное взвешивание, и результат контрольного взвешивания.

Станция взвешивания \_\_\_\_\_  
(имя, наименование и адрес, включая страну)

Дата \_\_\_\_\_  
(подпись сотрудника станции взвешивания)

Подпись и результат исключительного (контрольного) взвешивания \_\_\_\_\_ М.П. \_\_\_\_\_

\* Наличие подвальной оси \*\* Степень заполнения топливных баков \*\*\* Уполномоченная станция взвешивания \*\*\*\* Присоединенные к двигателю баки для устройств охлаждения

### III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES

When comparing Annex 8 to the «Convention on Harmonization» and the 2004 Cholpon-Ata Agreement some inconsistencies can be detected :

1. The 2004 Cholpon-Ata Agreement introduced the procedure for control weighing applied in cases described in paras.3.5.3 above.

- Inconsistency of weight characteristics specified in the certificate and travel documents (CMR, CARNET TIR).

2. This is a wrong prerequisite, because in IVWC the weight by axle and gross weight of the whole vehicle is specified, while в CMR and CARNET TIR only cargo gross weight is specified, i.e. inconsistency of incomparable weight parameters is detected, where it is vehicle gross weight in case of the former, and cargo gross weight in the case of the latter.

In the other three cases described should any inconsistency be detected the vehicle shall be reweighed with the new IVWC issued. There is no problem in this case. And it would a proper practice, as it happens in another country.

### **III. NORMS ON MAXIMUM PERMISSIBLE WEIGHTS, AXLE LOADS AND DIMENSIONS OF MOTOR VEHICLES**

## **Международный весовой сертификат транспортного средства.**

**It is proposed, that instead of the International Vehicle Weight Certificate form stipulated in the 2004 Cholpon-Ata Agreement, as well as Article 5 of this Agreement shall be omitted with the text on «Procedure for issuance and use of the certificate» shall be revised in the Annex.**



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

**The Freight Forwarding Industry**



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**



## **The Freight Forwarding Industry**

### **1 Role of Freight Forwarders**

Freight forwarders potentially have an important role in stimulating and expanding international/transit/intraregional trade, and integrating the Central Asian region into the world economy by:

- helping to match supply and demand for transport services on behalf of shippers and operators;
- facilitating economies of scale for shippers, thereby achieving lower freight rates and increased volumes;
- resolving problems of empty backhauls (caused by imbalanced traffic flows) by locating appropriate consignments;
- acting as the main agent for the shipper for consignments utilizing a single mode; and more importantly multiple modes of transport, by means of a single freight document;
- dealing with customs clearance on behalf of consignees;
- facilitating consolidation (groupage) of less than container/wagon load (LCL) cargoes.

#### ***Extended Role***

Freight forwarders may also extend their range of activities by operating trucking services themselves; by fulfilling the functions of logistics firms, e.g. providing add-on and guaranteed services (warehousing, stock control), operating logistics centers etc; and/or by acting as a multimodal transport operator (MTO).

#### ***Principal versus Agent***

From the viewpoint of legal liability a distinction is usually made between the freight forwarder acting as the agent of the shipper (consignor or customer), and his acting as a principal. In the former case the forwarder is usually only liable for his own employees' activities, whereas as a principal he is also responsible for the activities of any sub-contractors or agents whom he contracts for the transport services.

#### ***Overall Responsibility***

The shipper is primarily interested in the end result – on-time, reliable and safe deliveries to final destinations at acceptable prices - and not the intermediate transport modes used. Freight forwarders can improve their performance by making the best use of different modes according to their clients' overall requirements. Thus, the current trend in world freight transport is to establish seamless services, in which any modal changes have minimum technical, administrative and commercial impact on the overall operation. This extends to 3<sup>rd</sup> Party Logistics (3PL) where the customer is also provided with stock control, warehousing and other services.

#### ***Mutual Cooperation***

Owing to its location and landlocked status each Central Asian republic depends to a considerable extent on the trade and transport performance of its neighbour. Therefore regional cooperation is essential for freight forwarders, as well as for the other participants in the trade and transportation industries.

## **2 Track Record in Central Asia**

To date efficient freight transportation systems, meaning essentially containerization and seamless, multimodal transport services, have been slow to take off in Central Asia. This has, inter alia, been attributed to:

- an immature freight forwarding industry;
- significant border crossing problems;
- underdeveloped multimodal transport infrastructure, equipment and organizations – in particular a lack of equipment to handle ISO containers outside a limited number of major terminals;
- a railway tariff system that sets a high price on containers;
- underdeveloped LCL transport;
- absence of logistics centers;
- imbalanced traffic flows – in particular limited demand for regular two-way movement of full containers;
- absence of adequate liability insurance for freight forwarders and cargo insurance for shippers;
- the share of own account road transport services being relatively high, due to their perceived lower costs and greater reliability/flexibility compared with professional transporters – this is typical in countries where the level of sophistication of transport and logistics markets is low.

To a certain extent these issues and problems are all inter-related. Freight forwarders add value particularly when LCL, multimodal transport and flow imbalances are involved.

### ***Unfavorable Environment***

International freight forwarders and logistics providers have until recently tended to stay away from the Central Asia region citing, in addition to the above factors, the small size of the market, the unfavorable regulatory environment, and corrupt practices. There has been little investment in logistics infrastructure and limited transfer of know-how in logistics services, which is particularly important for landlocked countries. Local logistics companies have mostly been small, and lacking the facilities, equipment and expertise to provide quality services. Unreliable logistics services in the region were noted by international trading firms surveyed by the ADB in 2004/5.

### ***Consolidation/Groupage***

The availability of multi-modal transport operations is limited and the costs of international transport services for small cargos relatively high, due mainly to the underdevelopment of freight forwarding/logistics services and infrastructure. International rail services for small cargos are either not available or very costly with long booking and transit times. Scheduled consolidated services are unpredictable and expensive. This is an important constraint on the development of small- and medium-sized enterprises, which have been a driving force behind employment generation, export expansion, and economic growth in many other countries. Until recently there have been no modern logistics centers in any of the Central Asian countries that could consolidate freight for the international market in sufficient volumes and allocate them to the most efficient transportation mode.

### ***Slow Rate of Containerization***

Containers generally carry cross border or long distance transit goods of a relatively high value. They have been subject to higher tariffs in an attempt to cross-subsidize local traffic. Moreover, payment must be made for the transport of empty containers. Commercial practices, and the fact that much of the region's exports are commodities, have also militated against the advantages of containerization – for both road and rail. Inter-modal piggyback operations (e.g. trailers on rail wagons) are nonexistent.

### ***Empty Backhauls***

One of the main difficulties facing Central Asian truck (and rail) operators is locating return loads. Truck operators may deliver a load in Turkey, Iran or in Europe. They then either have a long wait to find a return load, or have to return empty to their home base. Fees for staying in the other country discourage waiting. Sometimes operators return empty as the border crossings are then easier. These factors add significantly to the cost of trucking operations. The same applies *pari passu* to foreign truckers coming into the region. With international shipments by road relatively expensive and unreliable there is thus considerable scope for freight forwarders to smooth out these flow imbalances.

### ***Logistics Centers***

The consensus is that Central Asian republics need to gear up for modern transport logistics; and that logistics centers should be promoted along international corridors – they are not yet feasible for domestic use. The development of a communicating network of logistics centers (or dry ports) as collection, load and distribution centers, incorporating customs clearance facilities, is perceived as providing the impetus for multimodal transport. Multi modal terminals enhance the opportunities for freight consolidation and distribution - especially for smaller consignments (a market currently inadequately served, as noted above). Although there are various possible institutional models it is often the case that some form of PPP initiative has proved appropriate. However, there is no reason in principle why such centers should not be a wholly private sector initiative, as is the case in Almaty for example, where there are already existing several privately operated freight terminals<sup>1</sup> with customs clearance, warehousing, container yards and intermodal facilities.

### ***Freight Forwarder Liability and Insurance***

The future success of the freight forwarding sector as one of the engines driving multimodal development in the region will depend crucially upon effective liability insurance for freight forwarders and cargo insurance for customers, with real recoveries in case of loss, damage and delays. The track record for making recoveries in the region has not generally been encouraging. Insurance is expensive because the various risks prevalent in CIS countries make premiums high; and insurance has not been compulsory for freight forwarders. Insurance and reinsurance is possible through foreign markets in all the states, but the insurance market itself is not enthusiastic due to the legal problems in making recoveries against forwarders and truck operators – despite the fact that in many states liability is in theory unlimited. In practice recoveries are seldom made. Obviously this highlights issues such as the reliability of court

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<sup>1</sup> Note, however, that some terminals in Kazakhstan were previously public sector facilities; whilst others were originally provided with state assistance in terms of low cost credit, land, and/or utilities etc.

procedures etc. The fact is that few forwarders have been willing or able to offer the comprehensive services as a principal available in Western Europe. In particular the use of the FIATA FBL (multimodal transport bill of lading) has been rare.

### **3 Latest Developments**

#### ***The Freight Forwarding Sector***

There are now many freight forwarders in the region – especially in Kazakhstan and Uzbekistan. Many of them focus primarily on railway transport – this is not surprising as, for example, 80% of international trade in Kazakhstan is by rail (and some freight forwarders were originally railway employees). Forwarders also operate in other modes, but relatively little in long-distance road transport, although they do help to alleviate the empty backhaul problem.

Some forwarders have grown into large companies, own or lease transport operational assets, and provide logistics services (including electronic tracking of cargoes). Almost all have international links with other forwarding firms, and are affiliated with FIATA, the international freight forwarding organization. There is now a national freight forwarding association representing the interests of forwarders in all states.

#### ***Data Access Problems***

The forwarders are becoming a dynamic influence on rail operators and on customs services, but still experience serious financial arrangement and logistics problems with these agencies. Access to data is also a major problem – there is little sharing or harmonization of databases between the railways, customs agencies and forwarders, and this leads to operating inefficiencies.

#### ***Market Entry/Quantity Licensing***

The case for entry restrictions to the freight forwarding market (quantity licensing) is not strong – free entry and competition in the market are essential for a vibrant industry. The normal commercial safeguards and obligations are generally agreed to be sufficient. Some forwarding firms have ISO 9012 certification, though this is expensive to obtain. Although this certification should probably remain optional, it should be encouraged as an indicator to prospective customers that a forwarder does adhere to certain business standards.

#### ***Best International Practices and Training***

The Freight Forwarders Training Courses Project (EUROPEAID/120540/C/SV/MULTI) has organized extensive training programs for Central Asian freight forwarders and these should be continued where possible. In addition the Project has produced a Best Practices Manual for Freight Forwarders Associations. This was submitted with the Final Progress Report in late 2007.

#### ***Definition of Forwarder Services and Liabilities***

A **Model National Law on Freight Forwarder Activity** has been drafted and the Working Group should promote its final acceptance. This contains a definition of freight forwarder services, including preparation of documents for carriage and for customs clearance. Insurance is not compulsory at this stage. The liability of the freight forwarder, and the limits thereto, for loss, damage or delay of cargoes are defined with respect to his role as agent or as principal. Many

forwarders only act in the former capacity, where they are not liable to the customer for the activities of third parties, warehouse operators, carriers, ports etc – only for those of their own employees. By contrast the freight forwarder acting as a principal also expressly accepts liability to the customer for the activities of all agents and sub-contractors with whom he contracts, as well as any liability resulting from the use of his own facilities, transport etc.

### ***Multi-modal Transport***

The consensus is that the immediate adoption of the FIATA FBL terms/UNCTAD ICC Rules and associated forms (as in Western Europe) as the basis for multi-modal transport in the region is premature – liability in multi-modal transport is admittedly a complex issue, and many operators are not yet ready to accept the responsibility (bank guarantees etc are needed). In fact the system has only just been accepted in Russia. As an intermediate step, therefore, the **Agreement of IGC TRACECA on Development of Multi-modal Transport** has been drafted to further development of an agreed legal framework. This defines the role of the Multimodal Transport Operator (MTO), who assumes responsibility for multi-modal operations under a single contract and issues a single multi-modal transport waybill accordingly. This waybill would be mutually recognized by governments in the region. Again, insurance is left optional in the agreement at this stage. The MTO's liability with regard to loss, damage and delay of cargoes will be similar to those of a freight forwarder acting as a principal (see above). As indicated earlier an MTO can be a freight forwarder or a carrier. The Working Group should promote regional agreement on this document and the necessary harmonization of legislation – this is seen as an important step towards acceptance of standard FIATA multi-modal forms in the region.

### ***Insurance***

Harmonization of availability and reliability of insurance services is considered vital to trade and general economic development of the region – that is, liability insurance for forwarders and cargo insurance for customers. There is now a well developed insurance and banking system in Kazakhstan - facilities exist for both single journeys and annual insurance, but insurance is not compulsory. Insurance services in other CAR's are less developed and again not compulsory. Many forwarding companies consider insurance premiums too expensive.

A more detailed investigation into insurance services in the region is planned in the context of this project (with inputs from international and regional experts); and a comprehensive EC-funded TA is to commence in the near future to investigate this issue and to recommend a practical way forward. Establishment of a regional insurance pool with a reinsurance fund, and some type of “green card” system for mutually recognized 3<sup>rd</sup> party insurance liabilities is a possibility worth pursuing, whereby economies of scale would allow for lower insurance premiums.

The central regional focus for such a pool scheme could be the regional freight forwarders association, which would liaise closely with the national forwarder associations – see below.

### ***Logistics Centers***

The Logistics Expert on this project has undertaken a pre-screening assessment of the availability of, and need for, logistics centers in the region – see separate report. This will be followed by a

detailed feasibility study, funded by the EC, with a view inter alia to analyzing the viability of establishing a regional network of logistic hubs.

As noted above there are already several impressive freight terminals/logistics centers operating in Kazakhstan. Some are being extended, whilst others are under construction or planned in various locations. These centers incorporate some or all of the following activities:

- intermodal transfer (rail/road);
- storage and warehousing;
- truck operations (owned or leased);
- freight forwarding;
- consolidation (limited, as some terminals only cater for large companies);
- customs clearance;
- handling of bulk and/or refrigerated cargoes and cars.

Some terminals mainly handle trucks, e.g. with goods from China, whilst for others it is mainly rail cargoes. In most cases imports heavily outweigh exports, with empty containers to return by rail a particular issue (costly for the shipper).

The Consultant's prima facie view, at least for Almaty, is that the existing centers are not operating near full capacity - in fact some operators reported financial problems in the current economic climate - and that with the additional facilities planned there could be the danger of oversupply (although the benefits of competition should always be borne in mind). Indeed there is some evidence that investments are being made in terminals without a proper market assessment. However, the situation is likely to be different in other regional centers, as the detailed feasibility studies will no doubt show.

It will be essential in the detailed feasibility studies to develop reliable databases (including origin/destination data), collect information on consignment sizes and extent of door-to-door versus LCL traffic, make theoretical allocations to least-cost modes and routes, and formulate realistic forecasts. The scope for potential cost decreases caused by increased competition will need to be assessed. It will also be important to assess the effects of policy/regulatory issues on the demand for terminal services, as these can change over time, e.g. prohibition of heavy trucks from city centers, requirements to transship between trucks of different nationalities at or near borders, changing requirements for customs clearance facilities, need for customs convoys etc.

#### ***Regional Cooperation/Harmonization for Freight Forwarders***

It has been agreed by all parties that the establishment of a regional freight forwarder association would be a worthwhile initiative to further coordination and cooperation between the national freight forwarder associations in the region. This would be a good forum for the exchange of experiences, solving common problems and sharing training materials. The regional association could in particular enable a regional approach to be taken to deal with the empty backhaul problem. Close liaison between this association (and national associations) and FIATA would clearly prove beneficial to facilitate use of the FIATA documents and training programs. The Working Group should take steps to promote these initiatives.

#### **4 Recommendations**

It is recommended that the Working Group focuses on taking forward the following issues relating to freight forwarding in order to support and strengthen the sector on a regional basis:

- The Model National Law on Freight Forwarder Activity has been drafted and the Working Group should promote its final acceptance.
- The Working Group should promote regional approval of the Agreement of IGC TRACECA on Development of Multi-modal Transport, and the necessary harmonization of legislation – this is an important step towards adoption of FIATA FBL/UNECE rules and single freight documents for multi-modal transport..
- It is planned to investigate regional insurance issues within this project – inputs from international and regional experts are planned. Moreover, a comprehensive EC-funded TA on insurance for freight services is to commence in the near future to consider practical ways to enhance the reliability of the regional freight forwarding industry. The Working Group should interact closely with these initiatives.
- The Working Group should interact closely with the forthcoming feasibility studies on logistics centers in the light of the issues raised in this note.
- The Working Group should take steps to promote formation of a regional freight forwarders association.
- ISO certification should be encouraged, but still remain optional.
- The training programs for freight forwarders should be continued where possible.



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

### **Vehicle Weight Limit Legislation**



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**



## **Vehicle Weight Limit Legislation**

### **1 Optimal Vehicle Axle Weights**

To obtain a definitive assessment of optimal, and rational legal maximum, axle weights for Central Asian highways, together with the costs and benefits of moving away from existing limits, it will be necessary to undertake a comprehensive economic analysis aimed at identifying axle weights that minimize the total costs of transportation, i.e. that minimize the total of:

- the vehicle operating and time costs incurred by the truck operator (generally the higher the unit load, the lower his costs - up to a certain limit where damage to his vehicle would be caused);
- the costs incurred by the road agency in maintenance/rehabilitation of roads necessitated by the damage caused by the passage of a given number of million standard axles – see definition below. (Note that road damage is also caused by poor road design and maintenance, and environmental factors – this damage should not be attributed to road users); and
- the “feedback” increased operating and time costs imposed on all road users via road pavement deterioration.

#### ***HDM4 Application***

Such an analysis will probably include application of the HDM4 or similar pavement deterioration and economic evaluation model – to be run so as to simulate the effects of specified alternative axle weight limit scenarios<sup>1</sup>.

#### ***Latest Research***

The latest research in this field indicates that such optimal (total cost-minimizing) axle weights could be significantly higher than existing legal maxima; and that the additional bearing strength added to the road pavement by a marginal extra layer thickness increases at an even greater rate than the pavement deterioration caused by a marginal increase in axle weight (conventionally assumed to increase at least by the fourth power). In other words, the cost of marginal strengthening of the road pavement to carry much higher axle weights could be worth it in terms of total cost minimization.

#### ***EU Standards***

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<sup>1</sup> The simulation would be run for alternative axle weights, assuming inter alia:

- a given pavement design life;
- given volumes of cargo to be carried over that period;
- alternative cumulative standard axles over that period needed to carry those cargo volumes corresponding to alternative axle weight limits;
- corresponding alternative vehicle operating and time costs for trucks;
- corresponding alternative road deterioration profiles;
- feedback effects in terms of vehicle operating and time costs for all road users caused by the road deterioration.

If a “total costs minimization” approach to legal maximum vehicle weight determination is taken it is questionable whether the input values and therefore the outputs for Central Asian countries will be the same as in EU countries.

### ***Axle Weights***

As stressed above it is axle weights which are the crucial factor determining road pavement deterioration, not gross vehicle weight. For example, it is quite possible that a 44-tonne truck with five axles would cause less pavement damage than a 40-tonne truck with four axles. It is the total of the equivalent standard axles (ESA = 8.2 tonnes) for each axle of a vehicle that reflects its pavement-damaging propensity. The passage of one 13 tonne axle causes as much damage as eight 8.2 tonne axles<sup>2</sup>.

### ***Weighing Stations***

Weighing stations should be capable of measuring the weight of each axle and therefore the total ESA for each vehicle. The legal maximum weight of a vehicle should be given in terms of its total ESA, or alternatively the legal maximum weight of a single (or tandem) axle. Such weighing machines are operational in most countries – either as permanent fixtures or portable. At present some weighing machines in the region are able to weigh the axles separately, whilst others can only weigh the gross vehicle weight – the latter need upgrading

## **2 Current Weight Limit Regimes**

However, the above are medium/long term developments, which countries in the region should put in hand in order to move closer to economic optimality in the road sector. There may be a need to adjust the “optimal” axle weight downwards to meet Government (highways agencies’) budget requirements, i.e. annual highways maintenance/rehabilitation budgets may not in practice be able to cope with economically optimal axle weights.

### ***Overweight Vehicles***

In the short term existing legal vehicle weight maxima based on gross vehicle weight will undoubtedly apply to interstate trucks in the region (though to this Consultant it is the maximum legal axle weight that is of greater significance for the reasons given above). As a transition measure it would seem appropriate that international trucks whose weight exceeds these legal maxima should be charged an amount that notionally reflects the road pavement damage they are deemed to cause (i.e. that takes account of the amount of the excess weight and the kilometerage traveled). In the absence of the detailed analyses referred to above such a charge must essentially be somewhat arbitrary.

It should be emphasized that these charges are legitimate in principle in so far as they relate to excess damage caused to road pavements; and are not an “administrative” or “retaliatory” charge for entry to, or transit through, another country. They constitute an appropriate road user charge and source of revenues for a road maintenance/rehabilitation fund – whether that is dedicated,

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<sup>2</sup> An equivalent standard axle (ESA) is simply a measurement unit. It should not be confused with the legal maximum axle weight limit. It reflects the damage caused to the road pavement caused by an 8.2 tonne axle. If the actual weight on a single axle is 13 tonnes this implies pavement damage equivalent to 8 ESA’s as damage increases by at least the fourth power with reference to an increase in axle weight.

stand-alone or a budget line in general government revenues. (Domestic trucks should also be attributed the road damage costs they impose – this is usually achieved via the road user charging system (e.g. vehicle registration, licensing fees, fuel levies etc), which should be in line with their pavement damage-causing potential. The EU allows individual states to set their own limits for domestic trucks).

It seems reasonable in the short term to allow international/transit truckers the opportunity to pay the excess weight charges in the same manner as air passengers for excess baggage. It is unreasonable to impose on such operators the heavy costs of unloading the excess weight – this is a sure way to increase the costs of, and therefore discourage, trade. It is recommended that the Working Group try to develop a common scale of excess weight penalty charges acceptable to all the states that are a reasonably effective deterrent without being draconian. These may be derived with reference to the varying charges already operative in some states – these differential charges are the cause of some interstate animosity. These unified charges should be transparent and clearly publicized so as to avoid abuse. Countries would not need to levy these charges at all or could discount them if they felt the need to make a special effort to encourage trade.

#### ***Existing Legal Weight Limits***

It is unfortunate that the existing legal maximum weights for international traffic differ between Central Asian states. Ideally these weight limits should be harmonized, though there is significant opposition in certain states. In particular the maximum gross vehicle weight permitted in Kazakhstan (and Russia) is 38 tonnes for vehicle combinations, whereas in other Central Asian states the limit is 40 tonnes. The latter limit is the same under EC Directive 96/53 and the CIS Minsk Agreement MA99. For the reasons given above, of greater significance in the opinion of the Consultant is the difference between EC 96/53 and MA99 relating to the limit on a single axle weight – 11.5 tonnes under the former, but 10 tonnes under the latter – this limit, however, does not seem to be given much attention by the regional regulatory authorities compared with the gross vehicle weight<sup>3</sup>.

Central Asian states, apart from Turkmenistan, have acceded to the Minsk Agreement, although the aberration relating to the maximum gross vehicle weight in Kazakhstan (and Russia) remains.

It is very difficult to recommend moving from a 10 to an 11.5 axle weight limit without the detailed economic analysis described above. The increase in road damage caused by this 15% increase in axle weight is in fact about 90%<sup>3</sup>

#### ***Weighing Stations***

It makes sense that certifications of vehicle weights as measured at the weigh station in one CAR should be accepted throughout the region – this mutual recognition is in the spirit of the Cholpon Ata Agreement of April 2004. In addition the weigh stations themselves should be subject to regional calibration (random spot checks etc), accreditation and registration by an accepted

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<sup>3</sup> There are similar differences in tandem and triple axle weight limits.

authority. Thus all agencies (Police, Customs etc) would be required to respect the regional certificates and no re-weighing of vehicles would be countenanced<sup>4</sup>.

Weigh stations should, however, be upgraded throughout the region so that axles may be weighed separately as this is the main determinant of road pavement damage.

### **3 Recommendations**

It is recommended that the Working Group focuses on taking forward the following issues relating to weight limits;

- economic analysis of the total costs of transport operations in the region resulting from alternative weight limit scenarios; together with cost/benefit analysis of moving away from the existing weight limits regime;
- focus on axle weights instead of gross vehicle weights as a more appropriate indicator of road damage;
- upgrading of weigh stations so as to weigh axles separately;
- as a transition measure permitting overweight international vehicles to operate on payment of mutually agreed and clearly publicized, harmonized regional fees (based on distance traveled and excess load) ;
- movement towards adoption of EU legal weight limits if regional economic studies support it;
- mutual regional recognition of vehicle weights certified by accredited weighing stations.

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<sup>4</sup> This is covered in Appendix 2 to Annex 8 to the International Convention on the Harmonization of Frontier Controls of Goods, 1982



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

Conceptual note on insurance in CA



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORTATION STRATEGIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

**DRAFT CONCEPTUAL MEMO AND  
RECOMMENDATIONS TO BE DISCUSSED BY THE  
PANEL OF EXPERTS I**



**THE PROJECT CONTRACT NUMBER: EUROPEAID/122076/C/SER/MULTI**

# Conceptual memo

## Panel of Experts for the Cargo Transport and Road Transport Market Issues

### Coverage of activity:

- Insurance issues;

### Primary task:

- To contribute to harmonization of the transport standards among the project member-countries with a view to assist in achieving the parity of the carriers and freight forwarders' capacities and to promote development of the qualitative service maintenance.

### Special task:

- In accord with the ADB/CAREC regional transportation strategy – to promote renewal of good neighborly relations between the member-countries in the context of the selected subjects (insurance).

### Anticipated outcomes:

Based on the coordinated approach and national modal implementation methods:

- Preparation of the preliminary (pilot) survey, including detailed proposal on the following aspects: reforming of the transport insurance system; mutual recognition of insurance commitments, at least in the format of two countries; operational instruments for the purpose of establishing the reinsurance fund initiated at the regional level.

## Introduction

### International Motor Transport Insurance System "Green Card"

"Green Card" is the international system for protection of the injured in the traffic accidents, irrespective of country of their residence and registration of a transportation vehicle.

The "Green Card" history goes as far back as to the post-war period. The system commenced its activity in the territory of the European countries and Scandinavia starting from January 1, 1953. The post-war situation in Europe allowed for comparatively safe and free movement of transport across the national borders of the countries. However, the drivers that were insured in their countries had to face difficulties if they met with an accident in the territory of the other countries. Insurance companies that issued insurance policies faced the same problems and difficulties, since each country has its own laws and regulations.

In 1946, Transportation Committee of the Economic Commission for Europe in Geneva established a panel of experts on the motor transport issues. The primary task of the panel was to develop and establish a system that would ensure protection of the persons injured in traffic accidents happened through the fault of a foreigner, and to relieve the drivers visiting other countries of the necessity to meet the other countries' insurance regulations.

Nowadays, the system incorporates national insurance bureaus of the 44 member-countries: most of the European countries, a number of the North Africa and Mediterranean countries, as well as Belorussia, Latvia, Moldova, Ukraine, and Estonia.

The structure of the system is constituted by the member-countries' national bureaus and insurance companies authorized to sell "Green Map" policies. Nowadays, this European system allows a driver who bought the "Green Map" certificate freely travel actually over the whole territory of the Europe, and in

case of necessity to claim for insurance coverage directly in the country, where the traffic accident (TA) has occurred.

The “Green Card” National bureaux comprise professional organizations of the insurers engaged in the field of the compulsory insurance of auto-civil liability (hereinafter CIACL). The “Green Card” National bureaux are members of the unified organization – the Bureau Council.

The International Bureau is the principal control authority. Bureau Council is governing body of the International Bureau; The Bureau Council comprises the Front Office (located in London) and a number of commissions, which members represent different member-countries of the system.

The Bureau Council heads the organization and regulates day-to-day operations of the system. Headquarter is located in Brussels (Belgium). The Bureau Council operates under the auspices of the Panel of Experts of the Internal Traffic Committee of the ECE (the UN Economic Commission for Europe).

General Assembly, consisting of the member-countries’ representatives, is also a very important regulatory body; starting from 1994, the Assembly holds annual meetings to take critical decisions related to regulation of the “Green Card” system. For instance, new country incorporation issues are within the competence of the General Assembly of the Bureau Council of the “Green Card” international system.

Annex # 1 of the Composite resolution on facilitating the international runs /RE4/, adopted by the 66<sup>th</sup> session of the Internal Traffic Committee of the UN Economic Commission for Europe in February 17-19, 2004, is the framework document specifying the basic principles of the “Green Card” international system.

According to Annex # 2 of the “Composite resolution on the road transport (the Geneva recommendations # 5)”, each member-country of the system may officially recognize only one organization established by the authorized insurers as a national insurance bureau. Only those insurance companies that have special permit for practicing compulsory auto-civil insurance may become members of such bureau/ All of them are obliged to participate in financing of the National insurance bureau activity.

The so called “Common (Model) Concordant Bureau Agreement” is the legal platform of the system, which is made by and between the Bureau Council and the relevant National insurance bureau. The Agreement specifies propagation conditions, format and content of the “Green Card”, as well as functions and responsibilities of the bureau in charge of settlement and compensation of the third parties’ claims, mutual exchanges system, settlement of disputes between the bureaux, terms of making and cancellation of the agreement, and penalties.

## **International Motor Transport Insurance System “White Card”**

### **Eurasian Economic Community**

Efforts are taken to establish cooperation between the member-countries of the Eurasian Economic Community (hereinafter EurAzEs) in the field of insurance by creation of the analogue of the Green Card system operating in the territory of the EurAzEs represented by the following member-countries: Belorussia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan.

The Interstate EurAzEs Committee has passed resolution # 100 (Moscow, February 28, 2003) on approval of the Draft Agreement on cooperation in the field of insurance within the framework of EurAzEs. Later, on April 27, 2003, this Agreement was signed in Dushanbe.

It should be mentioned that the EurAzEs Integration Committee has sent draft agreement on the establishment of the international auto-civil liability insurance system “White Card” in the territory of the EurAzEs member-countries.

### **Economic Cooperation Organization (ECO)**

Economic Cooperation Organization (hereinafter ECO) is a regional intergovernmental organization established in 1985 by Iran, Pakistan and Turkey for the purpose of strengthening the economic, technical and cultural cooperation between the member-countries of the organization.



The ECO is the successor of the Regional Cooperation Development (RCD) organization functioned from 1964 to 1979.

At present, the ECO comprises Islamic Republic of Afghanistan, Republic of Azerbaijan, Islamic Republic of Iran, Republic of Kazakhstan, the Kyrgyz Republic, Islamic Republic of Pakistan, Republic of Tajikistan, Republic of Turkey, Turkmenistan and Republic of Uzbekistan.

Sustainable economic development of the member-countries, overcoming the barriers in development of the trade between the member-countries and development of transport-communication infrastructure to ensure interconnection of the member-countries and their connection with the rest of the world – all these aspects are the foremost objectives of the ECO activities.

The ECO activity is realized through the departments accountable for the General Secretary and his deputies, and aimed at the realization of the mutually beneficial projects and programs in the field of trade and investments, transport and telecommunications.

### **Actuality of the issue**

At the moment, there is no any unified auto-civil liability insurance system in the territory of the Central Asia (hereinafter CA) countries.

Upon availability of such system, a holder of the “Green/White Card” in case of traffic accident occurred outside the territory of his country may present it to the public or police officers, confirming thereby that his civil liability as a user of a vehicle is insured.

The injured person may forward his/her claim for damages to the National bureau responsible for claim settlement, which after complete compensation of damage or injury, as prescribed by the national legislation of the injured person’s country, applies to the National Bureau of the country that issued “Green/White Card” to the guilty person and where his/her vehicle is registered, with a demand to compensate the incurred expenses.

For the moment, there are certain preconditions for integration of the CA countries insurers. Similar political and economic actions of the countries’ authorities and oversight bodies, which formulate general laws and regulations of the insurance markets, are attributed to such preconditions. Similar business activity principles will promote, in a number of cases, development of cooperation between the colleagues.

Joining the “Green/White Card” international system is an important strategic task on the way to integration into the CA countries insurance market; this task will require solving of a number of financial, institutional and legal issues concerning development of the national infrastructure in accordance with the standards and requirements of the international insurance system.

### **Primary objectives and tasks**

Base on the UN Recommendation and the UN Resolution # 43 of 1952, and the “Green/White Card” international system practice, the primary objectives and tasks for the CA countries may be defined as follows:

1. to ensure protection of the people injured in traffic accident (hereinafter TA), happened through the fault of the other CA country’s citizen, by compensating their life, health or property damages, including the third party’s damages;
2. to relieve drives and carriers, traveling over the territory of the other CA countries, of the necessity to comply with the effective in those countries insurance regulations;
3. to promote free passage of transport vehicles and cargoes across the CA countries’ national borders;
4. to ensure maximum prompt settlement of the insurance events caused by the traffic accidents;
5. to introduce the standardized norms and principles for the settlement of the TA consequences;

6. to create conditions for joining the existing international insurance systems, or, at the transition stage, to develop and establish the regional unique system within the CA countries frame;
7. to create the common motor transport insurance market for the CA countries.

### **Basic principles**

Operation of the unified international transport insurance system shall be based on the following principles:

- a) it applies only to those CA countries, where compulsory insurance of car owners' civil liability is specified by the national legislation;
- b) legality of the "Green/White Card" system, irrespective of the private character of the agreement made by and between the National bureaus, shall be officially recognized by each CA country.

### **Legislative measures**

It is necessary to have national legislation that will:

- introduce in the country compulsory insurance of car owners' civil liability;
- regulate administration of that legislation;
- promote integration of the country into the international car owners' civil liability insurance system.

Inter alia, national legislation shall specify details of the compulsory insurance of civil liability of owners of cars registered in its country and temporarily used in the territory of the other CA countries, which follow practice of the international systems stipulating compulsory life, health and property insurance and compensation of losses sustained in the territory of those countries.

The requirement to adopt national legislation on the compulsory insurance of car owners' civil liability, there may be followed by the additional requirement: – this legislation shall be valid within a specified period of time and be effective.

For instance, when Russia was joining the "Green Card" International bureau, apart from the requirement to adopt the Federal Law "On compulsory insurance of car owners' civil liability", Russia was set forth the additional requirement: - this law shall be valid at least within 3 years.

Besides, the national legislation shall specify for the insurers certain guarantees and financial requirements (details are given below).

### **Government participation and role**

Availability of the governmental decision regarding joining the "Green/White Card" system and member-country's guarantees, including financial guarantees, is one of the principle conditions.

The government shall guarantee free flow of foreign funds over the border and provision of financial services.

The government bears no financial responsibility for participation of the insurers in the international system. However, the government may provide political support.

For instance, the Russian government forwarded the letter of the Minister of Finance of the Russian Federation to the Un Economic Commission for Europe. The letter contained application of the National bureau to join the international organization "Green Card" and documents confirming financial and professional competence of the bureau and recognition of the international "Green Card" certificates in the RF territory.

On the threshold of the Russia entry into the system, certain changes and amendments were introduced in to the Tax Code. According to these changes, the insurers' allocations to the funds, organized as required by the international car owners' civil liability insurance systems, currently may be included into the

composition of expenditures reducing the taxable income. This allowed resolving of inconsistency in the Tax Code and creating conditions for future entry of the Russia into the international “Green Card” system.

### **Guarantee deposit**

Opening of the guarantee deposit in a first-class bank or issuing of a bank guarantee for a determinate amount is the key condition for entering the international insurance system.

The deposit or guarantee value depends on a number of all vehicles registered in the country.

It should be taken into account that less number of vehicles may be considered as actual road users. These data are based on the results of the annual vehicle inspections.

Less number of vehicles will cross the border, since rather often citizens cannot afford themselves to travel by personal transport due to financial constraints or difficulties associated with the crossing of the borders of the neighboring countries.

Another question: is it feasible to take into account registered transport facilities, such as trolleybuses and agricultural machinery that actually will not be involved into the international insurance system.

For instance, in Russia the deposit rate is constituted by the 8 mln Euro for the first 20 mln of vehicles of the national motor park plus 0.2 Euro for each vehicle beyond the 20 mln. The national motor park size is estimated based on the State Traffic Safety Inspection’s inventory data. Around 38.4 mln of vehicles are registered in the country. Thus, to joint the “Green Card” system the Russian motor insurers will need to generate deposit or equivalent guarantees for the amount of over 11 mln Euro.

Only 12 Russian insurance companies, ready to raise the required deposit amount, manifested their will to have their own “Green Cards” and bear full responsibility in accord with the international system requirements. Insurers that will not take part in raising the guarantee fund will not be allowed to practice such business within 3 years, starting with the date the Russia joins the “Green Card” system. This condition was agreed with the Federal Insurance Supervision Service that will not issue relevant licenses to those insurance companies within a 3 year period.

### **Waitlist of the insurers**

Since insurers - members of the “Green/White Card” national bureau - shall bear responsibility on deposit or warranty liabilities, they should be included into the waitlist.

The waitlist includes insurance companies that meet the following requirements:

1. availability of declaration of readiness to operate within the framework of the international compulsory insurance system and readiness to issue financial guarantees for the specified amounts (for instance, for Russian insurers – up to 1 mln Euro);
2. availability of practical experience in the field of car owners’ liability insurance (not less than 5 years) and compulsory insurance (not less than 1 year);
3. compulsory specified lumpsum payment to the current liability fund, organized by the professional association of insurers (for instance for the Russian insurers the rate of payment is set to the equivalent of 500 thousand Euro);
4. making an agreement with the international re-insurers with a high credit rating of risk reinsurance;
5. meeting the requirements specified for participation of the professional association of insurers in the international compulsory insurance systems;
6. meeting other requirements set by the rules of their professional activity.

Final list of participants is approved after checking of their financial reliability.

The insurers that meet the above stated requirements shall be included into the list of insurers practicing international compulsory insurance.

## **Bank selection**

It is recommended to select a reliable national bank that will issue financial guarantees to the partnership foreign bank having high reliability rating. Bank shall be selected on the competitive basis, probably by the insurers that will be included into the waitlist.

## **National Bureau establishment**

It is recommended to establish the “Green/White Card” National bureau that should be later officially recognized by the government of the country.

All insurers engaged in the field of compulsory car owners liability insurance shall become members of the National bureau.

Data on organization that will assume obligations and will be recognized as a National bureau shall be submitted to the “Green/White Card” International bureau – Bureau Council.

Two options may be considered upon solving of that issue:

- National bureau may be represented by the acting professional association of the insurers;
- Or a new organization may be established that will include only participants of the “Green/White Card” system.

The difference is that if the National bureau is established under the auspices of the acting professional association of the insurers, the liability on the “Green/White Card” operations will be automatically distributed among all members of the association.

If new organization is established, obligations on meeting the standards and liability on the “Green/White Card” policies will be distributed only among those insurers that will sell such policies.

Thus, the order of specifying the insurers’ joint liability in the framework of the international CIACL system depends on what option is selected.

For instance, in Ukraine it is impossible to buy “Green Card” policy in every insurance company. If an insurer wants to operate in the field of the international car owners’ liability insurance system, he should be a full-fledged member of the Motor (Transport) Insurance Bureau of Ukraine (MTIBU). According to the MTIBU data, only 15 Ukrainian insurers may be attributed to that category, though the total number of insurance companies registered in the country amounts to 400.

Finally it should be mentioned that the National bureau’s functions may be represented by an independent organization, which has nothing in common with the CIACL organization in the country. Such organization is not obliged to use the national CIACL model as a basis for realization of the “Green/White Card” rules. Voluntary insurance model is an alternative option.

## **National Bureau responsibility**

The National bureau responsibility includes the following basic functions:

- a) as a bureau responsible for compensation of losses, it prints out the “Green/White Card” certificates and distributes them among the interested insureds through its national insurers;
- b) as a bureau responsible for settlement of the claims, it regulates the claims of the injured parties (claims that were advanced in its country), and takes actions against the parties, having “Green/White Card” certificates, guilty of causing damage to the injured.
- c) rendering of advisory and legal services.

For instance, the Motor Transport Insurance Bureau of Poland (this country joined the “Green Card” system in 1958) considers all claims related to the transboundary insurance events – traffic accidents with participation of foreign drivers. The Poland Bureau also enjoys the arbitration rights. One of the basic principles stipulates that all insurance events shall be treated according to the criteria applied to the traffic

accidents with participation of the cars with the Polish registration numbers, i.e. discrimination of the vehicles with the other countries' registration numbers is prohibited.

### **National Bureau financing**

Terms of financing of the National bureau's activity, including types and rates of the insurers' contributions to the bureau, are specified by the national legislation or the constituent documents of the National bureau.

As to the rate of the annual membership fees to the International bureau, it may be specified separately. For instance, for the moment the annual membership fee for the Russian Federation was set by the "Green Card" International bureau at the rate of 70 thousands Euro.

### **Bilateral agreements**

In general, operation of the "Green/White Card" system is based not on the multilateral interstate agreement, but on a great number of bilateral agreements made by and between the National bureaus, being parties to the "Green/White Card" system, operating in the different countries.

Therefore, the National bureaus should make bilateral agreements on mutual recognition and relevant guarantees that also specify operational procedures of the "Green/White Card" system.

### **National Bureau Committee**

Within the framework of their professional association, the concerned insurers may establish a temporary structure that will be responsible for coordination of their efforts and implementation of the measures aimed at facilitation of the country's entry into the "Green/White Card" system.

For instance, to ensure practical implementation of the measures promoting entry of Russia into the "Green Card" system, the Russian Motor Transport Insurance Union has established special National Insurance Bureau Committee "Green Card" that will coordinate all these activities.

### **Tentative (transit) membership**

National bureau that made inquiries about the membership may gain a tentative (transit) member status, after appropriate formalities have been settled.

The tentative (transit) membership period may last from 4 to 10 years. During that period the Bureau Council keeps watching the relevant National bureau activity and, in case of necessity, renders the procedural assistance.

Thus, for instance, the "Green Card" National bureau that comprised 14 insurance companies was established in Azerbaijan in 1999. The country gained a tentative member status at the General Assembly of the member-countries of the system in June, 1999, in Oxford. Full-fledged member status was to be gained by the end of 2001, but a number of circumstances prevented from that.

Ukraine had the "Green Card" international insurance system's transit member status from 1997. Ukraine gained a full-fledged member status in May 2004 by decision of the "Green Card" Bureau Council General Assembly.

### **Liability limits**

Rates of liability limits (health and property damage compensation coverage) vary from country to country. For instance, health damage insurance liability limits amount to:

- In Sweden — over 36 mln. USD;
- In the Netherlands – 1 mln. USD;
- In Italy — 880 thousand USD;

- In Germany — 580 thousand USD;
- In Spain — over 110 thousand USD;
- In Latvia — about 3.5 thousand USD.

At the same time, in countries like Belgium, France, Great Britain, Ireland, Norway, Luxemburg, and Finland loss compensation rates (in case of health or life damage) are not limited. In Belgium and Luxemburg limits are not set even for property damage insurance liability.

Thus, member-countries of the “Green Card” system may have different liability limits.

According to the rules of the “Green Card” International bureau, insurers shall settle civil liabilities according to the laws of that country, where traffic accident has occurred.

In many European countries, compensations paid for actual damages, including health and life damages, caused by traffic accidents constitutes the lion’s share in the overall compensation coverage and very often they are of a life-long character.

### **Policy value**

Policy value rates also vary from country to country (prior to 2007 data):

- In Ireland insurance policy value amounts to 968.82 USD;
- In England — 560.83;
- In Germany — 536.92;
- In Poland — 80.1;
- In Russia — 65.1;

In Ukraine, a 15 day “Green Card” policy for a light vehicle is set to 347.68 Euro; for a bus – 1380.49 Euro, and for a truck - - 715.81 Euro.

It should be mentioned, that policy value may considerably depend on:

- a type of a vehicle;
- a territory of the prior use of a vehicle (in the capital or in locality with population below 100 thousand people);
- length of a driver’s service experience.

### **Insurance rates**

The most important problem is to determine optimal ratio between the insurance premium, paid by an insurant, and insurance compensation in the event of damage.

It should be mentioned that due to a considerable social importance of the CIACL system, the tariff policy shall be implemented in a way ensuring both, maximum protection of the rights of the injured in the traffic accidents and maintaining of the balance of interests of all CIACL system participants.

Insurance rates shall be economically feasible.

When establishing liability insurance system it is possible to use tariff rate setting method; tariff rates are used to estimate insurance premium rates. However, when using this method it is rather difficult to properly consider other factors that influence extent of the risk specified by the agreement: for instance, age of an insurant, useful life of a car, pattern of use, etc.

Besides, it is also possible to apply bonus-malus system ratios encouraging accident-free operation of a vehicle. As a result, drivers by renewing their policies may get price discounts or bonuses, depending on the accident rate.

Bonus-malus ratio is one of the ratios used for estimation of the CIACL policy value. This ratio takes into account a driver’s professional experience and is based on a number of traffic accidents (if any) with

participation of an insurant that was found guilty in those accidents (including cases of the mutual guilt of traffic accident participants).

It is supposed that in Russia the extent, structure and order of application of insurance rates shall be set by the Russian Federation Government. At that, share of insurance premiums meant for compensatory payments shall not be less 80%.

In future, insurance companies will be able to freely establish the CIACL policy rates only on the condition, that:

- all insurance companies have proved their financial soundness and capability to ensure fulfillment of their obligations even in conditions of the insurance market unsteadiness;
- adequate volume of reliable statistical data is available;
- actuarial standards for rate calculation methods have been set and professional requirements to the insurance companies' actuaries have been determined;
- qualitative information infrastructure of insurance companies has been established.

Tariff policy shall be regulated in close cooperation with the Ministry of Finance, insurance supervision agency, and professional associations of insurers, car owners and carriers.

It is necessary to develop standard methods for estimation of property, life or health damage caused to the injured parties.

### **Red ink (unprofitable) insurance**

It needs to be taken into account that market volume of the sold "Green/White Card" certificates will depend on two factors: number of vehicles going abroad and value of the certificates.

The experts note that there was no any actual progress in the development of the "Green Card" market during the last few years, only a slight increase. The insurers have nothing to do, but to draw over clients to their sides, or to practice dumping method.

The insurers' or agents' discounts may constitute almost a half of the "Green Card" policy value. Such dumping methods may considerably disturb the insurance market moral and financial image.

"Green Card" is considered as one of the most unprofitable types of insurance. First, the liability amounts may be unlimited; second, claim settlement dates for international motor transport insurance are very extended.

In the western countries, the "Green Card" is unprofitable; in most cases it performs a social function and involves, inter alia, considerable life-long compensations for health damage that a guilty party cannot afford.

For instance, the Ukrainian experts mentioned that in 2005 they still had claims of 1998 to be settled. Average unprofitability of this type of insurance amounted to about 50%. If take into account the insurers' expenses for reinsurance (up to 20% of the received premiums) and operating expenses, the unprofitability factor will increase even more.

The Ukrainian insurers still consider this type of insurance as very unprofitable. At least, they declare that. When abroad, the Ukrainian insurers (from their words) have to pay enormous amounts of money for their countrymen involved in traffic accidents there that resulted in causing damage to the property and health of the foreigners.

The First Deputy Chairman of the close insurance corporation "Galinstrakh", Mr. Igor Melnichuk agrees that the new rates are too high for the Ukrainian car owners (road-users). At the same time, he considers these rates as rather low and economically unsound for the insurers. He argues that: "Compensation rates in the eastern Europe countries are increasing every year. In Hungary, Poland, Slovakia and Czechia, average payable insurance compensation amount per traffic accident happened through the fault of a light vehicle has doubled in 2003 as against 1998. And now, when these countries joined the European Union, cost of spares, medical services, and salary rates are being adjusted to the west-european standards, the "Green Card" insurance compensation rates will also increase. In Poland we had already faced sharp increase in prices for petrol and foodstuffs. There is no doubt that our nearest European neighbors will

also increase their insurance compensation rates by 50%. Before that, insurance compensation rates in the Eastern Europe were two times less than in the Western Europe. Besides, the extent of a new 15 day insurance policy for a light vehicle (which is now valid for the whole Europe) amounts to about 29 USD, while for the western Europeans insurance extent is two times higher. It needs to be mentioned here that when in Europe we have to reimburse for damage proceeding from the local laws, rather than from the paying capacity of our population. As to the trucks and buses, the situation is even worse. Unprofitability of companies that insure these types of transport amount to 75-80%, i.e. if you received 100 grivnas, 75-80 of them you have to give back! Plus reinsurance program that need to be paid. Add taxes, salaries of the staff, petrol for the company's vehicles, office supplies, affiliates expenses..."

Now let's come to the losses that the insurers suffer from all kinds of "Green Card" counterfeits and unfairness of some agents.

We may mention cases, when agents issue a "Green Card" policy for a bus and give it to a client, and in the report to the insurer they state that they had insured a light vehicle. It means that the insurer will get less amount of money. Such falsification may be disclosed only if traffic accident happened abroad.

In Poland one will need to pay a very high percentage for falsification – up to 15-20%. "Green Card" is a large common system comprising 44 national systems, therefore it is practically impossible to remember by hart all rules and specifics" – say Polish experts.

Thus, there is a risk that sound insurance companies will work with the "Green/White Card" system by necessity to support their image and to ensure provision of full set of insurance services to their respected corporate clients.

### **Single agent**

The insurers, practicing dumping discounts, may (if inflow of money will discontinue) face the reserves deficit and, as a consequence, will run out of money required for payment of compensations.

The Ukrainian experts believe that in order to eliminate this risk, it is necessary to establish a "Single agent" that will sell policies at the prices specified by legislation. This will allow solving a number of problems, such as unreasoned discounts, counterfeit and fabricated "Green Cards", etc.

In Ukraine, the MTIBU is planning to arrange selling of "Green Cards" at the border by the Single agent that will offer to the drivers insurance policies of all insurers practicing in that market.

The MTIBU Directorate together with the insurers reached the final stage in preparation of the measures related to implementation of a pilot project on making the internal and international insurance agreements at the checkpoints at the Ukrainian border. The Bureau Directorate has approved the whole package of documents regulating the Single agent's activity and established cooperation with the administration of the State Border Service of Ukraine and its subdivisions on the border. The final stage involves a tender based selection of a legal entity – Single agent that will be delegated powers to make insurance agreements on the border on behalf of all insurers being the MTIBU members.

However, this project is progressing not so easily and smoothly, since a number of insurers apprehend that the Single agent will primarily serve the interests of the leading participants of that market.

### **Compensation payment**

The international insurance system is a complicated mechanism developed to ensure timely payment of insurance compensations to the injured parties.

The basic damage compensation principle of the international insurance system provides for settlement of all traffic accident related claims, irrespective of the fact whether an insurer, which insured the guilty party's damage liability, has or not its representative establishment in the country, where the accident has occurred.

It should be noted, that abroad compensation to the injured party will be paid either by a foreign insurer or by the foreign National bureau, which later will draw up the corresponding account to the local insurer.



Besides, the local insurer may have abroad its correspondent-companies, which with the privity of the foreign national bureau, will proceed to the settlement of the losses.

The insurer may also appoint its representative abroad that will be dealing with the compensation payment issues. The representative may be represented either by an insurer or by the specialized company.

The insurer shall choose a corporate partner prior to the moment the county enters the Bureau Council. Each insurer has a right to choose its own company-regulator, but standards and requirements to those companies are approved by the foreign National bureau.

In the event that local insurer fails to discharge its "Green/White Card" related obligations, this will need to be done by the local National bureau out of its own guarantee fund. In this case, the local insurer becomes the National bureau's debtor.

Repayment period may be specified. For instance, in Ukraine, for the insurers this period is 2 months. The MTIBU shall effect indemnity payment within a month period. In case of delay in payment both, the insurer and the MTIBU will have to pay penalty at the rate of 12% of the annual interest rate.

In accordance with these requirements of the international insurance system, it is necessary to determine the order of generating the funds taking into accounts the specifics of the damage compensation mechanism.

### **Payment procedure**

Insurance compensation is paid based on the notification of claim produced by the National bureau of the country, where traffic accident has occurred. Notification is sent either to the insurer (to check whether the policy was registered or not) or to the National bureau. After that, payments are effected.

The procedure specifies that the insurer has no right to doubt credibility of the claims, i.e. relations between the countries should be based on the mutual trust.

For instance, a vehicle went abroad and met with an accident resulted in a damage to another vehicle. The foreign National bureau requests to confirm the code of the local insurer and after that produces a debit note to it. At that, the foreign National bureau is not obliged to enclose either copies of the documents or the police charge sheet. The local insurer shall pay for the debit note. And only after payment, the local insurer may demand the appropriate investigation, supporting documents, etc.

### **Payment related flow of documents**

Special attention should be paid to the flow of documents upon settlement of losses, since this process is characterized by certain complicity and bureaucratic features.

According to the set rules, flow of documents may have a long-term cycle. All required document shall be provided in hard copies and in the original format. It takes much time to forward documents from the agent responsible for collection of the insurance event related documents directly to the insurer.

As to the document collection stages and recording of an insurance event, the CIACL insurance event settlement procedure may be similar to the "Green/White Card" procedure. However, there may be some differences of a technical character. For instance, customizing of traffic accident related notification form. At present, the standardized traffic accident related protocol-notification form is used in the territory of all member-countries of the "Green Card" system.

Operational efficiency and mutual confidence shall be the underlying principles of cooperation within the framework of the "Green/White Card" system. Information shall be processed as quickly as possible. This implies utilization of new software programs.

All documents shall be sent by electronic systems, except for the originals of the false "Green/White Cards" and procedural documents. Introduction of electronic flow of documents eliminates the necessity to sent original documents by post.

At present, the “Green Card” international system works for the following rule: no supporting documents. Nowadays this rule becomes one of the commonly used rules in business activities, even in the countries with currency control.

It is anticipated that starting from 2006, the “Green Card” international bureau will undergo the following changes:

- only computer control, no paper records;
- all documents will be scanned and sent as the attachments to the e-mail messages;
- paper record archives will be no longer available, except for the originals of the false “Green Cards” and procedural documents.

Indemnity period is a very important factor. The banks practice cable transfer of funds between the “Green Card” foreign bureaus and their members, without supporting documents. It means, that counterparts work on the mutual trust basis.

### **Insurance payment limitations**

The “Green/White Card” is valid exceptionally in the traffic accident cases, and is intended for covering the expenses of a person suffered material, physical and moral damage.

Payment limitations are almost the same in different countries. Unrepaired damage principle (damage is not compensated to a vehicle (including its property) that was driven by a person found guilty in the traffic accident) is practiced everywhere. However, passengers that were in the vehicle of the insurant are considered as injured and having right for compensation. They are considered as the third party the driver is liable to.

Insurance compensation is not paid in a number of cases, for instance; contamination or damage to the environment; fire caused by the traffic accident outside the roadway and in the surrounding area; damage or destruction of antiques, articles made of precious metal, precious and semiprecious stones; religious faith articles, collection of paintings, manuscripts, currency notes and securities.

Insurance payment may be denied in cases when traffic accident was caused the deliberate actions or gross negligence, or by mass disorders, military conflicts, natural calamity, and detonation of explosive ordnance.

If your vehicle was damaged by hail, the “Green card” will not help in that case. It is also will be useless in case (provided that it was proved) of your deliberate or ill-intended actions. It will help neither in case of natural calamities and fires, nor in case of outbreak of hostilities, since it is a document confirming the fact that the certain car owner’s civil liability is insured.

### **Information infrastructure**

Creation of the multipurpose information system both, at the individual insurers’ level and at the level of the single national information resources is very important for the development of the international insurance system.

It is necessary to equip the border, customs and patrol services with the information system and software programs.

It is necessary to create a unified base for insurance events and to negotiate the information sharing issue (information on the traffic accidents related administrative and criminal cases) with the relevant MIA departments and judicial agencies.

It is recommended to create and regularly update the special information website dedicated to the “Green/White Card” international system. The site may be created at the National bureau and Bureau Council level.

It is also recommended to organize Call-center, where drivers or injured may be provided first line support and legal assistance, etc.

It is very important to use the specialized statistical software products for evaluation of the insurance rates and reserves

### **Reinsurance program**

Development of the reinsurance program is one of the key requirements to entering the international insurance system. The insurer's risk shall be reinsured by one of the respectable reinsurance companies.

The insurers have a right to decide where and how to reinsure the "Green/White Card" bag.

Besides, the insurers can make arrangements for making a sweetheart Agreement on the insurer's cooperation in the field of reinsurance of the "Green/White Card" international insurance agreements.

The Agreement is made for the purpose of ensuring that free choice and transparency rules are observed, considering the insurers' joint liability on the "Green Card" associated risks. The Agreement is also aimed at ensuring the reliable reinsurance protection.

## Recommendations to discuss

- 1) To recognize the advisability and necessity for the development of the integrated international auto-civil liability insurance system in the Central Asia countries (hereinafter CA).
- 2) To make a decision on entering the “White Card” system (near-term outlook) and “Green Card” system (long-term outlook).
- 3) To initiate contacts with the control authorities of the “Green/White Card” system (e.g. the Bureau Councils) to discuss prospects and capacities for initiating the entry preparatory measures.
- 4) To approve the following basic objectives and tasks:
  - To ensure protection of the injured in the traffic accident happened through the fault of the other country’s citizen by compensating damage done to the life, health and property of the injured party, including damage done to the third parties;
  - To exempt car drivers and carriers visiting other CA countries from the necessity to meet accepted in those countries insurance regulations;
  - To promote free passage of transport means and cargo across the national borders of the CA countries;
  - To ensure promptly settlement of insurance events happened with involvement of the transport means;
  - To introduce standardized norms and principles for regulation of the traffic accident consequences;
  - To create conditions for joining the existing international insurance systems, or, probably, at the transition stage – to develop and establish their own unique system within the frame of the CA countries;
  - To create a common car insurance market for the CA countries.
- 5) To approve the following basic principles:
  - The “Green/White Card” system shall be applied only to those CA countries, which practice compulsory insurance of car owners’ liability as stipulated by the national legislation;
  - Legitimacy of the “Green/White Card” system shall be official recognized by each CA country.
- 6) It is necessary to develop national legislation on the compulsory insurance of the car owners’ auto-civil liability that will promote integration of the country into the international “Green/White Card” insurance systems.
- 7) The government of the country shall issue the appropriate member-country guarantees, including guarantee on the free flow of currency across the border and guarantee on provision of financial services.
- 8) The government of the country shall render political support to the established National bureau, and confirm its financial and professional competence. It shall recognize the international “Green/White Card” auto-civil liability insurance certificates in the territory of its country.
- 9) It is necessary to analyze tax legislation and make appropriate amendments that will eliminate inconsistencies in tax legislation and create conditions for joining the “Green/White Card” system.
- 10) To develop a guarantee deposit amount estimation method. To determine the deposit currency and formation procedure. Or procedure of issuing a bank guarantee for the deposit amount.
- 11) To ensure timely drawing up of the insurers’ waitlist and put on the list insurance companies that meet the following requirements:

- availability of declaration of readiness to operate within the framework of the international compulsory liability insurance system and readiness for providing financial guarantees for a specified amount of money;
  - availability of practical experience in the field of car owners' liability insurance not less than \_\_\_ years and in the field of compulsory insurance not less than \_\_\_ year);
  - compulsory specified lumpsum payment to the current liability fund, organized by the professional association of insurers at the rate of \_\_\_\_\_;
  - positive results of the financial reliability audit;
  - making the agreement with the international re-insurers with a high credit rating of risk reinsurance;
  - meeting of the requirements specified by the professional association of the insurers for participation in the international compulsory insurance systems;
  - meeting of other requirements specified by the rules of their professional activity.
- 12) To organize a tender based selection of a reliable national bank that will issue financial guarantees to the partner foreign bank.
  - 13) To establish the "Green/White Card" National bureau. Two options may be considered upon solving of that issue:
    - The National bureau" functions and responsibilities may be rested upon the acting professional association of the insurers;
    - Or a new organization may be established;
  - 14) To determine the National bureau's functions, tasks and powers.
  - 15) Terms of financing of the National bureau's activity, including types and rates of the insurers' contributions to the National bureau and the Bureau Council.
  - 16) To set criteria and insurers' membership terms taking into account the principle of joint liability of insurers within the framework of the international "Green/White Card" system.
  - 17) To ensure that the National bureau is officially recognized by the government of the country.
  - 18) To determine whether the "Green/White Card" rules will be realized on the basis of the CIACL model or on the basis of the voluntary insurance model.
  - 19) To develop bilateral agreements on mutual recognition and appropriate guarantees that will, inter alia, specify the "Green/White Card" operational procedure. To take measures on making these agreements.
  - 20) To ensure practical implementation of measures, the professional association of insurers shall consider possibility of establishment of a temporary coordination structure that will be responsible for coordination of efforts of the concerned insurers and implementation of measures aimed at solving of the issues associated with the entry of a county into the "Green/White Card" system.
  - 21) In case of gaining of the tentative (transit) member status, to make every efforts to cut the tentative (transit) member status period.
  - 22) To determine the health and property damage liability limits.
  - 23) To determine the insurance policy value.
  - 24) To develop the optimal rate policy. To specify the volume, structure and order of application of insurance rates. To remember, that "Green Card" is unprofitable, that it performs a social function.
  - 25) To develop measures on reducing payments for damage and losses resulted from the fraud activities. For this purpose to consider possibility of establishing of a "Single agent" that will sell policies at the prices set by the legislation
  - 26) To adopt the efficient mechanism that will ensure timely payment of compensations to the injured persons.

- 27) To determine the order of establishing the guarantee funds taking into account the specifics of the damage compensation mechanisms.
- 28) To develop the optimal procedures for consideration and settlement of the claims on the mutual confidence basis.
- 29) To avoid undue document flow related complications and bureaucracy during settlement of the losses. The information shall be processed as promptly as possible. All documents shall be sent by the electronic systems, except for the originals of the false "Green/White Cards" and procedural documents.
- 30) To adopt a joint list of payment limitations.
- 31) To develop a multifunctional information system both, at the level of individual insurers and at the level of a common national information resource.
- 32) To adopt the program on equipping the border, customs and patrol services with the information system and software programs.
- 33) To create a unified base for the insurance events. To negotiate the information sharing issue (information on the traffic accidents related administrative and criminal cases) with the relevant MIA departments and judicial agencies.
- 34) To create and regularly update the special information website dedicated to the "Green/White Card" international system. The site may be created at the National bureau and Bureau Council level.
- 35) To organize Call-center, where drivers or the injured may be provided first line support, and legal and other experts' assistance.
- 36) To ensure usage of the specialized statistical software products for evaluation of the insurance rates and reserves.
- 37) To develop the optimal reinsurance program and an insurer's liability reinsurance mechanism.

### Green Card execution

Information of the Russian insurance company that offers execution of Green Card for the Bulgarian insurance company "Bulstrad PLC" is given below.

The policy is executed within 10-15 minutes in the car owner presence.

The following **documents** and **information** are required for the Green Card execution:

1. Photocopy of a vehicle registration certificate.
2. Photocopy of a driver's license.
3. If a vehicle is driven by proxy, a photocopy of the proxy.
4. Dates, routes and territory of policy.

**Cost of Green Card execution** depends on a type of a vehicle and a route. There are several types of vehicles:

1. Light vehicle (minivan – up to 9 seats)
2. Trailer to a light vehicle
3. Truck
4. Trailer to a truck
5. Bus

#### Cost of Green Card execution for a light vehicle

Coverage area	15 days	1 month	2 months	4 months	6 months
All countries of the "Green Card" system	45	60	90	145	200
The EU countries	35	45	60	95	130
Belarus, Moldova, Ukraine	35	45	60	95	130

Payment is made in rubles at the RF Central Bank's exchange rate of Euro valid at the date of payment plus 2%. Value of the Green Card execution for the transport means of the 2 - 5 categories (see above) is notified on the request.

In case of changing of license plate, car owner, loss or stealing of insurance certificate, a new certificate is issued for the same period of time. In that case only execution charges shall be paid.

Comparative table: stages of the Russia, Belorussia, and Ukraine joining the “Green Card” system.

Russia	Belorussia	Ukraine
1997 – Registration of the Russian “Green Card” Bureau.	1999 – Registration of the Belorussian Transport Insurance Bureau	1996 – Creation of the Ukrainian Motor Transport Bureau
2002 – Adoption of Law “On compulsory insurance of car owners’ civil liability”	1999 – Submission of application to enter the “Green Card” international bureau	1996 – Adoption of the resolution “On the procedure of the compulsory insurance of car owners’ civil liability”
November-December, 2002 – Submission of application (it was planned to join the system in 2005)	1999 – Decree # 8 of the President of the Republic of Belarus “On compulsory insurance of car owners’ civil liability. The decree is in force as of July 01, 1999	1998 – Ukraine is a member of the “Green Card “ system (beginning of the transit period))
October, 2004 – Submission of application (it was planned to join the system by 01.01.2006)	2002 – Incorporation of the “Green Card” international bureau into the Bureau Council	2002 – Transit period was extended for 2 years. Total time of transit period made up 6 years.
May, 2006 – It was planned to submit application for joining the system as from 01.01.07	2003 – Introduction of the national “Green Card” certificate	2004 – Adoption of Law # 1961-IV “On compulsory insurance of car owners’ civil-legal liability”





## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

**Agreement  
on the international car owners' civil liability insurance  
system in the territory of the EurAzEs countries  
(International insurance system "White Card")**



**Agreement**  
**on the international car owners' civil liability insurance system in the territory**  
**of the EurAzEs countries**  
**(International insurance system "White Card")**

Government of the Republic of Belarus, Government of the Republic of Kazakhstan, Government of the Kyrgyz Republic, Government of the Russian Federation, and Government of the Republic of Tajikistan, hereinafter referred to as Parties,

proceeding from the necessity to increase the volume of guarantees for compensation of people injured in the traffic accidents with involvement of the other countries' vehicles,

and realizing the provisions the Eurasian Economic Community's Agreement of April 27, 2003 on cooperation in the field of insurance,

and willing to simplify the international highway service procedure,

and based upon the international experience in the field of interstate cooperation on the issues related to insurance of the car owners' civil liability,

have agreed as follows:

**Article 1: Key terms used in the Agreement**

The following key terms are used for the purpose of the present Agreement:

**Agent** – is a legal entity registered as an insurer or insurance broker appointed by a foreign insurer with the consent of the National bureau on the insurance of the auto-civil liability of the country, where that legal entity is established with a view to consider and settle the claims (losses) resulted from a traffic accident with involvement of a foreign country's vehicle, which owner (driver) has a traffic insurance card issued by the abovementioned insurer;

**Traffic insurance card** – car owners' civil-legal (civil) liability insurance agreement made with an insurer - a member of the National Bureau responsible for ensuring civil liability of one of the Parties; this agreement is valid in the territory of the other Parties practicing compulsory insurance of car owners' civil-legal (civil) liability;

**National legislation** – legislative and subordinate acts of each Party, including legal documents of the state authorized insurance supervision agency;

**Service Bureau** – National auto-civil liability insurance bureau responsible in the territory of its country for consideration and settlement of the claims laid to the foreign car owners (drivers) having the traffic insurance card;

**Injured party** – a person having, as specified by the national legislation, a right for compensation of damage resulted from an insurance event;

**Pay Office** – National bureau for insurance of auto-civil liability of a country which insurer issued a traffic insurance card to an insurant;

**Insurant** – a person, whose civil liability is covered by a traffic insurance card;

**Insurer** – an insurance company having right to insure the car owners' civil-legal (civil) liability; the company is a member of the National auto-civil liability insurance bureau;

**Transportation vehicle** – any mechanical transportation vehicle, including trailers and semi-trailers of any of the Parties, to which provisions of the compulsory car owners' civil-legal (civil) liability insurance system may be applied;

**Insurance event** – an event that caused damage, death or injury, which according to the legislation of the country where the even has occurred, comes within the purview of law on the compulsory insurance of the civil-legal (civil) liability of vehicle owners;

**Council of the National bureaus on insurance of the auto-civil liability of EurAzEs** – the organization that includes all National bureaus on insurance of the auto-civil liability; this organization is responsible for the management and day-to-day activity of the international "White Card" system;

**National bureau on insurance of the auto-civil liability** – the organization that was established and operates in accordance with the order and on the conditions specified by the national legislation to ensure functioning of the international "White Card" insurance system. Each National bureau performs two functions: it acts as the Pay Office and Service Bureau.

## **Article 2: Objective of the Agreement**

The objective of the present Agreement is to create in the territory of the EurAzEs member-countries of the international car owners' civil liability insurance system that will provide car owners (drivers) the insurance coverage for the period of their involvement in the foreign country traffic; the extent of the insurance coverage shall be specified by the legislation of the receiving country and shall guarantee compensation of damage resulted from the traffic accidents with participation of vehicles registered in the foreign countries, as specified by the national legislation.

## **Article 3: Key measures required for implementation of the Agreement**

1. According to the present Agreement each Party shall:

- establish National auto-civil liability insurance bureau (hereinafter Bureau) that shall be officially recognized by the government of the country; The Bureau's members may be represented by the insurers engaged in the field of insuring the car owners' civil-legal (civil) liability. The Bureau financing terms, including types and rates of the insurers' premiums to the Bureau are determined by the national legislation of the Parties;

- adopt internal legislation required for implementation of the present Agreement;

- not impede the Bureau's activity on meeting its liabilities to the Bureaus of the other member-countries being parties to the present Agreement.

2. Each Party, which is not practicing the compulsory insurance of car owners' civil-legal (civil) liability, shall introduce in its territory the above mentioned insurance practice.

3. Relations that are established between the Parties' Bureaus in the course of implementation of the present Agreement provisions, as well as issues not covered by the present Agreement, shall be regulated by the bilateral agreements made by and between the Parties' Bureaus on the base of the Model agreement, which form is developed and approved by the Council of the National bureaus on insurance of the EurAzEs auto-civil liability (hereinafter the Bureau Council).

#### **Article 4: Issuance of the traffic insurance cards and their action**

1. Each Pay Office shall provide its members with the traffic insurance cards that need to be executed and issued to the insureds.
2. The traffic insurance card is an additional agreement and may be issued only to a car owner (driver), who has signed the car owners' civil-legal (civil) liability insurance agreement on the terms specified by the national legislation (the basic insurance contract).
3. The rate of the insurance premium under the additional agreement (cost of the traffic insurance card) is specified by the national legislation of the Parties.
4. Traffic insurance card is issued for a period of an insured's temporary stay in the territory of the county, being party to the present Agreement, but not less than for a period specified by the national legislation of the country of.  
The traffic insurance card duration shall not exceed duration of the basic insurance contract.
5. The traffic insurance card is valid only in the territory of the countries indicated in the traffic insurance card.
6. Availability of the traffic insurance card is not required in the territory of the Parties, which are not practicing compulsory insurance of the car owners' civil-legal (civil) liability.
7. The content and format of the traffic insurance card are approved by the Bureau Council.

#### **Article 5: Consideration of the injured parties' claims**

1. In case an insured is a participant of a traffic accident occurred in the territory of the country being a party to the traffic insurance card system, he shall notify other participants of this traffic accident of the availability of the traffic insurance card and provide them card details; he shall also notify the Service Bureau of the occurred traffic accident. The traffic accident information may be also brought to the notice of the agent (if available) appointed at the request of the insurer that issued traffic insurance card.
2. Service Bureau, upon receiving the insured's or the injured party's claim notifying that traffic accident with the involvement of the other country's vehicle whose owner (driver) has traffic insurance card, has occurred in the territory of the country within the Service Bureau's competence, shall (without waiting for the official compensation claim on the part of the injured party) proceed to the investigation of the accident circumstances. The Service Bureau shall also immediately notify the corresponding Pay Office or its member, which issued traffic insurance card, of any possible claim.
3. If during the investigation of the accident, the Service Bureau will identify the insurer of a car involved into the accident, and will find out that the agent of that insurer was appointed in accordance with the provisions of the present Agreement, the Service Bureau shall forward the whole information directly to the agent for further settlement of the case.
4. All claims of the injured parties are considered and settled by the Service Bureau or the agent in accordance with the provisions of the legislation of the country of the insurance event occurrence; the legislation also specifies the procedure, terms and dates of assessing the extent of damage and insurance compensation rate, and list of documents required for receiving insurance compensations, etc.

5. Service Bureau shall consider the claims with regard to taking into account interests of the corresponding Pay Office or its member that issued traffic insurance card. According to the procedure, the Service Bureau shall notify the insurer or the corresponding Pay Office prior to taking final decision.

6. Service Bureau has the exclusive competence in all issues related to the interpreting of the national legislation and settlement of claims.

7. Service Bureau is responsible for the activity of the agent appointed by it for the settlement of the claim.

8. If the claim of the injured person exceeds the extent of insurance coverage specified by the legislation on the compulsory insurance of car owners' civil liability of the country where traffic accident has occurred, the Service Bureau is obliged to request the insurer that issued the traffic insurance card to settle that part of the claim, which exceeds the extent of insurance coverage.

9. Service Bureau has no right, without written consent of the insurer or the corresponding Pay Office, to entrust settlement of a loss to any agent, which may have any financial interest in this deal by virtue of any contractual commitments. If Service Bureau does it without the consent its right for receiving the compensation decreases half as much against the sum received upon the usual terms. .

10. If according to the national legislation the basic insurance contract is terminated starting with the date of payment for the first insurance event, the insurant, found guilty in the traffic accident occurred in the territory of a foreign country, is obliged to return the traffic insurance card to the Service Bureau or to the agent, and to make:

- a new car owners' civil-legal (civil) liability insurance agreement with the local insurer (through its agent being in the territory of the country where accident has occurred) or
- a compulsory car owners' civil-legal (civil) liability insurance agreement with the insurer of the country where the accident has occurred operating in the territory of that country.

In both cases it will be necessary to get the traffic insurance card, if required.

#### **Article 6: Agent appointment order and operational conditions**

1. Terms of issuance, rejection and recall of the agent license are determined by the Service Bureau with due account of the provisions of the agreement with the Pay Office and national legislation.

2. The agent regulates the losses on behalf of the Service Bureau that approved its appointment and on the instruction of the insurer that requested this appointment, proceeding from the circumstances of the traffic accident with participation of a vehicle which owner (driver) is an insurant of the mentioned insurer.

3. If the claim of the injured person exceeds the insurance coverage extent specified by the legislation on the compulsory insurance of car owners' civil liability of that country where the accident has occurred, the agent shall follow the provisions of paragraph 8 of Article 5 of the present Agreement.

4. The Service Bureau that approved appointment of the agent recognizes this agent as an exclusive agent authorized to consider and settle the claims. The Service Bureau shall notify the injured persons of the agent's powers and forward to the latter all materials related to these claims. However, the Service Bureau has a right to demand from the agent to transfer the powers to consider a certain claim without explaining the reasons of such demand.

5. If for some reasons the Service Bureau that approved appointment of the agent compensates instead of that agent the losses to the injured persons, it receives the disbursed compensation directly from the Pay Office that requested appointment of the agent according to the order and in the volume specified by Article 7 of the present Agreement.

6. In accordance with the provisions stated in paragraph 2 of this Article, the agent acts independently upon availability of the agreement made with the insurer that requested his appointment; the agreement shall specify the terms of compensation of the amounts paid to the injured persons and compensation estimation method.

7. If the agent that compensated the damage in accordance with provisions stated in paragraph 2 of the present Article cannot to return the amount of compensation made on behalf of the insurer that requested his appointment, the compensation shall be made by the Service Bureau that approved his appointment. At that, the Service Bureau that paid the expenses shall receive compensation from the Pay Office the insurer is a party to in accordance with the established order and in the volume specified by Article 7 of the present Agreement.

8. The Bureau shall notify the concerned Bureau of the cessation of the agent's activity.

### **Article 7: The order and terms of repayment of expenses**

1. If the Service Bureau or the appointed agent have settled all the traffic accident related claims, they shall within a maximum one year period, starting with the date of the last payment to the injured party, forward to the member of the National Bureau (by fax or by e-mail) repayment request that includes the following:

1) Amounts paid as compensation to the injured party;

2) Amounts paid to the outside organizations during consideration and settlement of all losses, as well as all other direct expenses related to the deciding of the case that the insurer acting in the country, where the loss occurred might have spent in similar cases.

3) Amount of compensation for covering all other expenses and charges, the rate of which is determined by the rules approved by the Bureau Council.

2. The repayment request shall specify that due amounts shall be remitted in full measure (remittance charges at one's own expense), be indicated in the national currency of the beneficiary's country, and be paid within two month period starting with the date of the claim. Upon expiry of that period, starting with the date of the claim and till the date when the beneficiary's bank receives the payment, interests will be charged automatically at the rate of \_\_\_% of annual interests of the due amount.

3. The repayment requests shall not include amounts of penalties, bail bonds or other financial levies imposed on the insurant that are not covered by the compulsory car owners' civil liability insurance system of the country where the accident has occurred.

4. Each Pay Office guarantees, on behalf of its members, payment of compensation amounts claimed from them both, on the part of the Service Bureau, where the traffic accident has occurred, and on the part of the agent appointed for the settlement of the claim.

5. If within a two month period, starting with the date of receiving the repayment request, the insurer that issued traffic insurance card will not effect the payment, the Pay Office this insurer is a member to, shall itself (within a month period after receiving a non-payment notification from the Service Bureau of the country where the accident has occurred or from the agent appointed for the settlement of the claim) effect repayment itself.

In case of delay of compensation payment, Pay Office shall pay penalty at the rate of \_\_\_ annual interest of the due amount.

### **Article 8: Guarantee of the Bureau's solvency**

Each Party guarantees its Bureau's solvency in respect of its liabilities to the other Party's Bureau by depositing a specified amount of money (not less than \_\_\_\_\_ USD) to its National (Central) Bank.

### **Article 9: The Bureau Council**

1. The Bureau Council comprises two representatives of each Party, appointed by their Bureaus, and one representative of the EurAzEs Integration Committee.

2. The Bureau Council elects its Chairman and Deputy Chairman from among the representatives, appointed by the Bureaus of each Party, for a specified period of time and in accordance with the rotation principle.

3. The Bureau Council holds its meetings at least two times a year.

4. Bureau of each Party has one vote. The Bureau Council's decision will be effective only if three fourths of all Bureau Council's members voted for that. It is allowed to vote by proxy, but one Bureau may represent interests only of another one Bureau.

5. The Bureau Council's functions:

1) coordination of the Bureau's activities;

2) development and approval of the Model Agreement between the Bureaus, as well as of other relevant documents required for the functioning of the international car owners' civil liability insurance system;

3) other functions, appearing from the objectives and tasks of the Bureau Council.

6. The Bureau Council Secretariat is the executive body of the Bureau Council; it is financed at the expense of membership fees of the Parties' Bureaus. The rate of the fee is determined by the Bureau Council.

7. The Bureau Council Secretariat office is located in the city of Almaty.

### **Article 10: Resolution of disputes**

1. All disputes between the Bureaus that may arise from the interpretation or implementation of the present Agreement shall be settled by the arbiters appointed in accordance with the procedure established by the Bureau Council; the arbiters' decisions are final and binding upon both parties.

2. All Bureaus are notified of any decision taken by the arbiters. The rate of arbitration charges and the Bureau that shall compensate these charges are determined by the arbiter.

### **Article 11: Final provisions**

1. The present Agreement is made for an uncertain period and comes into force at the date when the last notification of the Parties, confirming that all national procedures required for effecting the Agreement have been accomplished, is submitted to the depositary represented by the Eurasian Economic Community Integration Committee.

2. Changes and amendments to the present Agreement can be made if they are agreed by the parties; they shall be supported by the corresponding protocols that come into force in accordance with the procedure specified in paragraph 1 of the present Article.

3. Each party may withdraw from the present Agreement by sending written notification to other Parties, to the depositary and the Bureau Council not later than 12 before withdrawal from the Agreement.

4. After expiration of a one calendar month period, starting with the date when the Party sent notification about its withdrawal from the Agreement, members of that Party's Bureau discontinue issuance of the traffic insurance cards valid in the country willing to withdraw from the Agreement; members of the other Parties' Bureaus also discontinue issuance of those cards.

5. In the event that the Bureau of any of the Parties fails to meet its liabilities under the present Agreement, the Bureau Council may take a decision on exclusion of that Bureau from the Bureau Council that will result in withdrawal of the Party from the present Agreement.

6. The present Agreement is an open-end Agreement, and any country sharing the Agreement objectives and principles may become a party to the Agreement (on the condition that all other Parties have no objections) by submitting the application documents to the depositary. Accession is considered effective starting with the date when the depositary has received the last no-objection notification message.

Done in the city of \_\_\_\_\_ "\_\_\_" \_\_\_\_\_ 200\_\_ in one original copy in Russian language. The signed copy of the present Agreement is kept by the EurAzEs Integration Committee that will forward the certified copy to each Party.

On behalf of the Government of the Republic of Belarus

On behalf of the Government of the Republic of Kazakhstan

On behalf of the Government of the Kyrgyz Republic

On behalf of the Government of the Russian Federation

On behalf of the Government of the Republic of Tajikistan





## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

**Scheme of the ECO “White Card”**



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**

**Final draft of the ECO Scheme of the temporary insurance of the ECO countries transport  
civil liability to the third parties**

**Scheme of the ECO “White Card”**

**Proposed by:-**

**Bime Markazi, Iran  
(Central Insurance Agency of Iran)**

**January, 2008.**

## **Preamble**

The state insurance companies of the countries being parties to the Transit Transport Framework Agreement (TTFA)

Referring to Article 22 and Annex 5 of the Transit Transport Framework Agreement (TTFA) calling to the creation of the Scheme of the temporary insurance of the ECO countries transport civil liability to the third parties (the ECO White Card); and

Having considered Article 3 of Annex 5 of the TTFA regarding creation of the Scheme of the temporary insurance of the ECO countries transport civil liability to the third parties,

Have agreed as follows:

## **Section I**

### **Definitions and terms**

#### **Article 1: Objective of the Scheme**

The objective of the “Scheme of the temporary insurance of the ECO countries transport civil liability to the third parties” (hereinafter referred to as “Scheme”) is to promote the international traffic by creation conditions for the establishment of the third party risk insurance system that will meet requirements of the hosting country, and to ensure that in case of traffic accident the injured parties are compensated according to the national laws and regulatory statement of that country.

Criteria and details of the financial guarantee, which is used by the National Bureau to completely settle the claims resulted from the traffic accident and related to the ECO White Card Scheme, are given in Annex II.

#### **Article 2: Definitions**

The below given words and expressions are use for the purposes of the present Scheme and shall be understood and interpreted as follows:

2.1 Insurance Subcommittee of the Transit-Transport Coordination Committee (TTCC) - is one of the Subcommittees established within the framework of the ECO Transit Transport Framework Agreement (TTFA) and includes two representatives of each Party, representing insurance supervision agency and organization authorized to act as a National Bureau.

2.2 Bureau Council of the ECO countries (ECO BC) - is a body comprising representatives of all National Bureaus of the Scheme member-countries. It acts in accordance with the terms specified by Article 4, Section II.

2.3 Transport Insurance National Bureau (hereinafter – National Bureau) - is a professional organization authorized by its country; this organisation is a member of the ECO BC and is responsible for performing the tasks required for operation of the Scheme.

2.4 Insurer - is an insurance company engaged in the field of compulsory third party transport liability insurance; an Insurer is a member of a National Bureau.

2.5 Insurant - is any person, whose liability in respect of utilization of a vehicle is covered by the insurance policy.

2.6 Insurance policy - is a compulsory insurance document issued by an insurance company to cover an insurer's civil liability in respect of utilization of a vehicle.

2.7 Insurance card of the ECO countries transport civil liability to the third parties (hereinafter the ECO White Card) - is the international certificate certifying availability of an insurance policy issued by the National Bureaus, as specified by the Articles of Section III;

2.8 Carrier vehicle - is any motor-drawn ground vehicle (except for rail vehicles), including any trailer (coupled or single), subject to the compulsory insurance of its third party liability in the country of its utilization.

2.9 Traffic accident (TA) – any event resulting in damage to the health and/or property, which according to the law of the country the damage was done, is subject to the compulsory insurance of its third party liability.

2.10 Injured party – is any person having right to claim compensation of damage done to his health or property by a vehicle.

2.11 Claim – is one or more claims for compensation of the traffic accident related damage laid by the injured party.

2.12 Claim Correspondent – is an insurer or other person appointed by another insurer(s) with the approval of the National Bureau of the insurer's country, which is authorized to consider and settle the claims resulted from the traffic accidents with participation of the vehicles having insurance policies issued by the above mentioned insurer.

## **Section II**

### **Structure, functions and responsibilities of the Scheme functional units**

#### **Article 3: Structural basis**

3.1 The Scheme has its own legal, technical and financial basis and guarantees provided to the carriers, handling transportation between the countries of the contracting Parties; insurance policies are issued by the insurer authorized to practice such kind of activity in the dispatching country.

3.2 As to the material aspect, the Scheme is based on the ECO "White Card" system, as specified by the provisions of Section III.

3.3 The Scheme's activity is coordinated and regulated by the ECO countries' Bureau Council (ECO Bureau Council).

3.4 The ECO Bureau Council's reports are submitted for the consideration of the Insurance Subcommittee of the TTCC. Other issues, like unresolved issues of the National Bureaus, changes and amendments to the Scheme and any other issues requiring consideration of the TTFA executive bodies are also submitted for the consideration of the TTCC Insurance Subcommittee.

3.5 Each National Bureau on behalf of its insurers settles the claims resulted from the traffic accident occurred in the territory of the other Scheme member-country though the fault of a driver being a citizen of his own country, who has valid White Card policy of the ECO; the National Bureau also settles the claims resulted from the traffic accident happened through the fault of a driver being a citizen of the other Scheme member-country and who has valid White Card policy of the ECO issued by an insurer of the corresponding National Bureau of the country.

#### **Article 4: Bureau Council of the ECO countries (ECO Bureau Council)**

4.1 The ECO Bureau Council takes measures to ensure efficient realization of the Scheme and has established close cooperation with the TTCC Insurance Subcommittee on the issues related to the insurance activities in the ECO region.

4.2 The ECO Bureau Council is responsible for coordination and regulation of the financial, technical and legal activities of the National Bureaus in respect of realization of the Scheme.

4.3 The Chairman of the ECO Bureau Council is appointed in alphabetical order on the rotation basis from among the National Bureaus' representatives. The Chairman is appointed for one year.

4.4 Annual regular meeting with participation of the National Bureaus' representatives is called by the Chairman. The Chairman sends notice of meeting, agenda of the meeting and other relevant documents to all National Bureaus by fax, registered or courier mail 45 days prior to the meeting. If the Chairman is not able to head the meeting, the National Bureaus' representatives appoint the chairman from among the being present an the meeting.

4.5 Extraordinary meetings are called upon receiving by the Chairman of a written request from any representative of a National Bureau accompanied with the proposed agenda of the meeting. Within a one week period after receiving of the written request, the Chairman sends notifications to all National Bureaus of the contracting parties 21 days prior to the extraordinary meeting.

4.6 The quorum required for the holding of the ECO Bureau Council meting shall be represented by two thirds of the total number of the National Bureaus' representatives.

4.7 Decisions taken by the ECO Bureau Council are valid and binding upon the parties provided that they were taken by the majority vote. Each National Bureau, irrespective on the number of its representatives, has only one vote at such meetings.

4.8 The ECO Bureau Council determines the volume of the annual budget and financial contributions paid by each National Bureau.

4.9 Prior to establishment of its own permanent office, the ECO Bureau Council makes use of the ECO Secretariat's capacities and its office to perform its functions.

4.10 The Chairman's duties and functions are defined by the ECO Bureau Council.

#### **Article 5: Transport Insurance National Bureau**

5.1 Transport Insurance National Bureau approved by the government has its own independent structure that is based on the mutual liabilities of its members-insurers authorized to practice compulsory insurance of civil liability regarding utilization of the transport vehicles in their territories; this structure allows the Bureau performing its functions related to the given Scheme. In this context, each National Bureau officially provides a guarantee to the National Bureau of the hosting country to insure third part liability of a transport vehicle found guilty in the traffic accident.

The National Bureaus shall make bilateral agreements to fulfill their activities within the limits of their rights and obligations. Terms and model of such agreement are given in Annex III.

5.2 Each National Bureau is responsible for printing out/publishing of its ECO White Card policies or delegates this responsibility to its insurers.

5.3 Each National Bureau authorizes its insurers to issue the ECO White Cards to its insureds only for the transport vehicles registered in any member-country within the limits of their competence.

### **Section III**

#### **The ECO White Card status**

##### **Article 6: Issuance and validity of the ECO White Card**

6.1 The ECO White Card is purchased by the drivers for a temporary trip to a certain country or the ECO member-country; the card is presented in case of traffic accident or upon crossing the borders and, if required, in the territory of the ECO Scheme member-countries.

6.2 The ECO White Card is an equivalent of the national certificates for compulsory insurance of the transport vehicles third party liabilities in each member-country of the ECO Scheme visited by a transport vehicle driver.

6.3 The ECO White Card certifies that a visiting driver has at least minimum third party liability, as required by the law and regulatory provisions of the hosting countries.

6.4 All ECO White Cards are issued at least for 15 days, and are recognized as valid starting with date of the insurer's attachment.

6.5 If National Bureau of the country where traffic accident occurred has any doubts regarding validity of a certain White Card, it sends by fax or e-mail an enquiry to the National Bureau of the country that issued the mentioned White Card, and the latter National Bureau shall within three month period, starting with the date of receiving the enquiry, provide a corresponding answer. In case of non-reply, the mentioned White Card is recognized as valid upon expiry of the specified period.

6.6 Any ECO White Card presented in the country of its validity is guaranteed by the National Bureau. However, the National Bureau's guarantee is not applied in the cases, when the White Card was issued to a vehicle, which is not officially registered in the country of that National Bureau.

##### **Article 7: The ECO White Card Contents and Format**

7.1 The contents of the ECO White Card are published in the national language of the country of the National Bureau and in English language; the contents of the card includes the following information:

- a. Name and address of a corresponding National Bureau;
- b. Name and address of an insurer and its signature and seal;
- c. Name and address of an insured or an insurance policy holder;
- d. Names of the member-countries of the Scheme;
- e. Duration period, i.e. date of issue and expiry date;
- f. License number and category of a corresponding vehicle;
- g. Card serial number and protective means (e.g. hologram);
- h. White Card shall be of white color with 5 mm green lines on the edges; the card shall be of the following format: width – 190 mm, length – 270 mm.

7.2 White Card specimen is given in Annex I.

7.3 The ECO Bureau Council is accountable for any changes or corrections in the format and form of the Eco White Card.

## **Section IV**

### **Estimates and compensations**

#### **Article 8: Consideration of claims**

8.1 If National Bureau is informed about the traffic accident occurred in the territory of its country with participation of a vehicle of the other member-country of the Scheme, it without waiting for the official claim shall proceed to investigation of the accident circumstances. It shall also at the earliest opportunity notify of the accident the Insurer that issued the ECO White Card or insurance policy, and, if applicable, the corresponding National Bureau. If in the course of investigation the National Bureau finds out that the Insurer of a vehicle involved in the accident is identified, and that claim Correspondent of the mentioned Insurer was approved in accord with provisions of Article 9, it shall immediately forward this information to the claim Correspondent to undertake further actions.

8.2 Upon receiving of the claim resulted from the mentioned accident, the National Bureau (provided that the claim Correspondent of the Insurer was approved) shall immediately forward the claim to the claim Correspondent, which shall proceed to consideration and settlement of the claim in accord with provisions of Article 9. If approved claim Correspondent is not available, National Bureau shall immediately notify the Insurer that issued the ECO White Card or insurance policy, or, if applicable, the corresponding National Bureau of the fact that it has received a claim and will proceed to consideration.

8.3 National Bureau has a right to settle any claim amicably or the claim may be brought to the court.

8.4 National Bureau considers all claims independently in accord with the legal and regulatory provisions applicable in the country of the accident regarding the liability, compensations to the injured parties, and compulsory insurance for the benefit of the Insurer that issued ECO White Card or, if applicable, for the benefit of the corresponding National Bureau. National Bureau of the country of accident is competent in all issues concerning interpretation of the law applicable in that country. This National Bureau, on urgent demand, informs the Insurer or the corresponding National Bureau prior to taking final decision.

8.5 If the terms of claim settlement is beyond the terms and limitations of the legislation on compulsory third party liability insurance applicable in the country of accident, but is covered by the insurance policy, the Insurer is consulted regarding that part of the claim, which is beyond those terms and limitations. The consent of such Insurer is not required, if the applicable law obliges the National Bureau to consider contractual guarantees, which are beyond the mentioned terms and limitations specified by the law on civil liability insurance of transportation vehicles in the country of accident.

#### **Article 9: Claim Correspondent**

9.1 Each National Bureau specifies the terms on which it provides, withholds or recalls its approval of claim Correspondents of its country within the limits of its competence and in accord with the provisions of the Scheme.

9.2 Only National Bureau is entitled at request of one of its Insurers to send to another National Bureau a request for approval of a claim Correspondent of that National Bureau. The request is sent by fax or e-mail and is supported by the confirmation that the proposed claim Correspondent is accepting the required approval. The corresponding National Bureau provides or withholds the

approval within a three month period starting with date of receiving the request, and notifies the requested National Bureau and claim Correspondent of its decision and its effective date. In case of non-notification, the approval is considered as the provided upon expiry of the mentioned period.

9.3 Claim Correspondent considers all claims in accord with the legal or regulatory provisions applicable in the country of the accident regarding the liability, compensations to the injured parties, and compulsory insurance of a vehicle civil liability to the third parties on behalf of the National Bureau that provided approval and on behalf of the Insurer that requested his approval.; the liability relates to the damage resulted from the accident happened in that country with participation of vehicles insured by the Insurer that requested his approval. If the terms of claim settlement is beyond the terms and limitations of the legislation on compulsory third party liability insurance applicable in the country of accident, but is covered by the insurance policy, claim Correspondent shall follow the provisions specified by Article 8.5.

9.4 The National Bureau, which has provided its approval to the claim Correspondent, recognizes him as a sole person authorized to consider and settle the claims on behalf of the National Bureau and on behalf of the Insurer that requested his approval. The National Bureau notifies the injured parties of its powers and forwards any notices associated with such claims to the Correspondent. However, the National Bureau may at any time and without explanation of its decision to take over the Correspondent's claims for consideration and settlement.

9.5 If for some reason the National Bureau, which has provided approval, will need to pay compensation to any of the injured parties instead of the claim Correspondent, the compensation will be reimbursed directly by the National Bureau that has provided approval in accordance with the terms specified by Article 10.

9.6 In accord with the terms of Article 9.3, the claim Correspondent has a right to coordinate with the Insurer, which requested his approval, the terms of reimbursing the amounts paid to the injured parties, and a method for costing the expenses related to the settlement of claims; however, such coordination shall not be mandatory to any of the National Bureaus. If the claim Correspondent cannot get reimbursement of the advance payments made, in accordance with the terms specified by Article 9.3, on behalf of the Insurer, which requested his approval, it will be reimbursed by the National Bureau that provided its approval. Later, the latter National Bureau will be compensated by the National Bureau the mentioned Insurer is a party to, as specified by Article 10.

9.7 If National Bureau is informed that one of its Insurers decided to waive the claim Correspondent's services, it shall immediately bring this fact to the notice of the National Bureau that provided its approval. The latter National Bureau has a right to independently fix the date for cancellation of its approval. If National Bureau, which provided its approval, decides to recall its approval or receives the information that the claim Correspondent has decided to waive its approval, this National Bureau shall promptly notify of this fact the National Bureau that requested approval of the claim Correspondent. The first National Bureau shall also notify the second National Bureau of the approval recall or cancellation date.

#### **Article 10: Compensation terms**

10.1 Soon after the National Bureau has settled all the traffic accident related claims, it (within a maximum one year period, starting with the date of the last payment to the injured party) shall forward to the Insurer of the National Bureau that issued the ECO White Card or insurance policy, or, if applicable, payment request to the corresponding National Bureau; payment request shall include the following:



- 10.1.1 Amounts paid as compensation to the injured party amicably or on the decision of the court;
- 10.1.2 Amounts paid to the outside organizations in the course of consideration and settlement of each claim, as well as all other specific legal proceedings costs that the Insurer acting in the country of accident might have spent in the similar cases;
- 10.1.3 Claim processing duties, including all other related costs, are estimated in accord with the rates and rules approved by the ECO Bureau Council. If all claims resulted from the same traffic accident were settled without any payment of compensation, than only amounts specified in paragraph 10.1.2 and minimum duty set by the ECO Bureau Council (see paragraph 10.1.3) may be demanded.
- 10.2 Request for payment of due amounts that need to be paid in the beneficiary's country and in its national currency (minus charges) within two months starting with date of the request, as well as penalty (12% of annual interest rate of the due insurance sum, starting with the date of request till the date the beneficiary's bank receives payment) are applied automatically. Payment request may also specify that amounts given in national currency shall be paid in USD or Euro based on the official exchange rate valid as of the data of the request in the country of the National Bureau that requested the payment.
- 10.3 In no case payment requests shall include fines, pledges or other financial charges imposed to the Insurer that are not covered by the transport usage civil liability insurance policy in the country of traffic accident.
- 10.4 Supporting documents, including objective evidence that due compensation amounts were paid to the injured parties, are sent immediately upon demand, but without delay in payment of compensation.
- 10.5 Compensation of all amounts mentioned in paragraphs 10.1.1 and 10.1.2 may be requested in accord with the terms specified in this article, even though the National Bureau failed to settle all accident related claims. Claim processing duty, mentioned in paragraph 10.1.3, may be also requested if the principal amount to be compensated exceeds the amount specified by the ECO Bureau Council.
- 10.6 If after settlement of a claim, the claim or a compensation demand related to the same traffic accident is iterated, the balance of the processing duty amount (if any) is estimated according to the provisions valid for the moment of submission of the reiterated claim or compensation demand.
- 10.7 If no claims arise from the traffic accident, compensation of claim processing duty is not demanded.

#### **Article 11: Guarantee liability**

11.1 Each National Bureau guarantees to compensate to its Insurers any amount demanded by the National Bureau of the country of the accident, as specified by the provisions of Article 10.

If the Insurer does not effect payment specified by Article 10 within two months, the National Bureau, the mentioned Insurer is a party to, shall effect the payment itself according to the provisions of the given document upon receiving guarantee demand from the National Bureau of the country of accident.

The National Bureau acting as a guarantor shall effect payment within a month period. On expiry of that period, penalty at the rate of 12% of annual interest of the due amount is applied automatically; penalty is imposed starting with the date of the guarantee demand till the date of receiving the payment receipt by beneficiary's bank.

Guarantee demand shall be sent by fax or e-mail within twelve months 12 after forwarding the demand, as specified by Article 10. On the expiry of the specified period and without limitation of the outstanding penalty, the National Bureau's responsibility as a guarantor is limited to the amount demanded from its Insurer plus 12 month interest to premium at the rate of 12% of annual interest rate. No guarantee demand shall be accepted if it is made two years later after sending of the payment request.

11.2 Each National Bureau guarantees, that its Insurers authorize their claim Correspondents, whose approval they have requested, to settle claims in accordance with the provisions of the first paragraph of Article 9.3, and send all trusted claims related documents to the mentioned claim Correspondents or to the National Bureau of the country of accident.

## **Section V**

### **Amendments**

#### **Article 12: Scheme amendment procedure**

Any amendment to the Scheme is proposed by the TTCC Insurance Subcommittee and comes into force by approbation of the TTCC of the ECO.

## **Section VI**

### **Settlement of disputes**

#### **Article 13: Procedure**

All disputes that may arise between the National Bureaus regarding interpretation or validity of the Scheme provisions shall be considered and settled by the ECO Bureau Council. Provided that a dispute failed to be settled, Insurance Subcommittee shall bring it to the consideration of the TTCC.

## **Section VII**

### **Official language**

#### **Article 14: Official language of the Scheme**

English language is the official language of the Scheme.

## **Section VIII**

### **Membership**

#### **Article 15: Entering into the Scheme**

The ECO member-countries that have not yet signed or ratified the ECO Transit Transport Framework Agreement (TTFA) may enter into the Scheme on tentative basis. Other countries, which are not Eco member-countries, may become parties to the Scheme by the unanimous decision of the ECO member-countries taken at the meetings of the TTCC of the ECO countries.

**Section IX**

**Coming into effect and termination**

**Article 16: Approval and the effective date of the Scheme**

The Scheme was adopted by the first meeting of the TTCC Insurance Subcommittee held in Teheran on May 29-30, 2007, and comes into force after approval of the TTCC of the ECO countries.

**Article 17: Termination**

For the purpose of implementing the TTFA and its annexes, the parties to the agreement will use the Scheme unless and until all parties to the agreement will join the international Green Card system.

**Annexes: (Annexes are given at the following pages)**

**Annex I –White card specimen**

**Annex II – Financial guarantee criteria**

**Annex III – Terms and model of the bilateral agreement made between the Transports Insurance National Bureaus.**

Done (place) on (date) in a single copy in English language.

For the Islamic Republic of Afghanistan \_\_\_\_\_

For the Republic of Azerbaijan \_\_\_\_\_

For the Islamic Republic of Iran \_\_\_\_\_

For the Republic of Kazakhstan \_\_\_\_\_

For the Kyrgyz Republic \_\_\_\_\_

For the Islamic Republic of Pakistan \_\_\_\_\_

For the Republic of Tajikistan \_\_\_\_\_

For the Republic of Turkey \_\_\_\_\_

For Turkmenistan \_\_\_\_\_

For the Republic of Uzbekistan \_\_\_\_\_

## **Annex II: Financial guarantee criteria**

Development of financial guarantee mechanism is a precondition for the efficient implementation of the ECO White Card Scheme; based on that guarantee the Transport Insurance National Bureaus provide an adequate guarantee to the ECO countries' Bureau Council to ensure settlement of claims resulted from the traffic accidents related to the Scheme. In this context, it is necessary to develop effective measures that will be used by the Transport Insurance National Bureaus to guarantee payment of the outstanding debts by the corresponding Transport Insurance National Bureaus or their Insurers, as well as payment of the outstanding membership fees to the ECO countries' Bureau Council, as specified by the provisions of the Scheme.

The ECO countries' Bureau Council shall furnish a certain bank guarantee or shall deposit cash money to the ECO Trade and Development Bank

Each Transport Insurance National Bureaus shall pay financial contribution at the rate of 500.000 USD (five hundred thousand USD) or its Euro equivalent to the above mentioned Bank by 4 (four) equal tranches. The first tranche shall be paid within eight weeks, starting with the date of receiving of the letter of notification (letter-account) sent by the ECO countries' Bureau Council to each Transport Insurance National Bureaus. Each of the following tranches shall be paid within 90 day period after expiry of the previous tranche.

Each National Bureau deposit the copies of all documents related to the financial guarantee to the ECO countries Bureau Council.

Formulation of the bank guarantee or cash deposit shall comply with the standard requirements of the ECO countries' Bureau Council.

The ECO countries' Bureau Council has a right to use the Guarantee or Deposit for settlement of the outstanding debts of the corresponding Transport Insurance National Bureaus. The outstanding debts include the outstanding compensation payments to the other Transport Insurance National Bureaus or their Insurers, as well as outstanding membership fees to the ECO countries' Bureau Council, as specified by the provisions of the Scheme.

In case of cash deposit, accumulated interest is added to the deposit of the corresponding Transport Insurance National Bureau.

If the amount of the accumulated interest exceeds 50% of the amount of the initial deposit, it may be transferred to the corresponding Transport Insurance National Bureau by written request.

The mentioned Guarantee or Deposit shall be used only for the purposes specified above.

Any application of the Bank Guarantee or the Cash Deposit shall be replenished by the corresponding Transport Insurance National Bureau within a six week period. Replenishment procedure is initiated as soon as the Transport Insurance National Bureau is notified about application of the Bank Guarantee or Cash Deposit.

The corresponding transport insurance National Bureau shall validate initiation and execution of the replenishment procedure without any delay by official notification of the ECO Bureau Council.

### **Annex III: Terms of bilateral agreements made by and between the Transport Insurance National Bureaus.**

1. Bilateral agreements made by and between the contracting National Bureaus are signed in three copies, one copy for each Bureau. The third copy is sent to the ECO countries' Bureau Council, which, after consultation with the interested parties, informs them on the commencement of their agreements;

2. Such agreements shall include the items, specifying:

2.1 Identification of the contracting National Bureaus, their status as the ECO Bureau Council members and territory under their competence;

2.2 Their commitments to observe the terms and provisions of the given Scheme;

2.3 Their commitments to observe the specified and mutually agreed terms and provisions;

2.4 Mutually binding powers, provided by the mentioned National Bureaus on behalf of their own names and on behalf of their members, to settle claims amicably or judicially through the extrajudicial or judicial proceedings that may result in payment of compensations resulted from any traffic accident within the framework of the format and objectives of these uniform regulatory provisions;

2.5 The agreement is of infinite character, provided that each of the contracting National Bureaus has a right to terminate it by sending notification twelve months in advance to the other party and to the ECO countries' Bureau Council;

2.6 Automatic termination or discontinuation of the agreement in the event that any of the contracting Bureau may no longer enjoy the rights of the ECO countries' Bureau Council's member and is withdrawn from the membership;

3. 3. Model agreement form is given at the next page.

**Model bilateral agreement made by and between the Transport Insurance National Bureaus**

**Bilateral agreement**

**Agreement made by and between the ECO countries' Bureau Council's members**

Transport Insurance National Bureau ..... and Transport Insurance National Bureau .....  
Member of the ECO countries' Bureau Council and Member of the ECO countries' Bureau Council

Hereby commit to observe the terms and provisions of the Scheme of the temporary insurance of the ECO countries transport civil liability to the third parties (the Scheme of the ECO White Card). This commitment also applies to any further amendment to the mentioned temporary Scheme.

Hereby grant mutually binding powers regarding recognition of any judicial or extrajudicial proceedings that may result in payment of losses/damage or amicably settlement of any claim resulted from traffic accident within the context of the given temporary Scheme.

The agreement is made for the infinite period of time. However, any party to the agreement has a right to terminate it by sending contemporary notification twelve months in advance to the other party and to the Secretary General of the ECO countries' Bureau Council.

It is agreed that this agreement is terminated or discontinued automatically in the event that any of the parties may no longer enjoy the rights of the ECO countries' Bureau Council's member and is withdrawn from the membership.

The effective date of the agreement will be communicated to the parties by the Chairman of the ECO countries' Bureau Council after receiving of a copy signed by both parties.

Bureau - .....  
Signature - .....  
Position - .....  
Date of signature - .....



## **DEVELOPMENT OF THE COORDINATED NATIONAL TRANSPORT POLICIES**

**REPUBLIC OF KAZAKHSTAN, THE KYRGYZ REPUBLIC,  
REPUBLIC OF TAJIKISTAN, REPUBLIC OF TURKMENISTAN,  
REPUBLIC OF UZBEKISTAN**

Comparative table “Green” and “White Card”



**REFERENCE: EUROPEAID/122076/C/SER/MULTI**



## Comparative Table

	<b>GREEN CARD</b>	<b>EurAzEc WHITE CARD</b>	<b>ECO WHITE CARD</b>
<b>DEFINITION</b>	<p><b>Insurance Document</b></p> <p>In the official language, “Green Card” is understood as the international certificate for insuring car owners’ civil liability in any form approved by the Bureau Council.</p> <p>In common language – it is the insurance policy, which blank is made of the green color paper (the name is conditioned by the color of the paper), which after proper completion and execution, confirms availability of the compulsory car owners’ civil liability insurance practice in the territory of all countries being parties to the “Green Card” system.</p>	<p><b>Traffic Insurance Card</b></p> <p>Traffic Insurance Card is the car owners’ civil liability insurance agreement made with the insurer - a member of the National Bureau responsible for ensuring civil liability of one of the Parties; this agreement is valid in the territory of the other Parties practicing compulsory insurance of car owners’ civil liability.</p>	<p><b>Car insurance card ECO that ensures the third party liability (hereinafter referred to as “White Card ECO”)</b> is the international certificate of the existing insurance policy established under the guidance of the National Bureau.</p>
<b>COVERAGE</b>	<p>The “Green Card” National Bureaus are parts of the unified organization – Bureau Council, which headquarter is in Brussels. The Council operates under the auspices of the Panel of Experts of the Internal Traffic Committee of the ECE (the UN Economic Commission for Europe).</p> <p>Organization that includes all National Insurance Bureaus of the member-countries; in total 44 countries: Moldova, Ukraine, Belorussia, majority of the European countries, and a number the North African and Mediterranean countries.</p> <p>The organization is headed by the Bureau Council responsible for the management and current activity of the international insurance system known as “Green Card”.</p>	<p>EurAzEs (the Eurasian Economic Community) – the Russian Federation, Belorussia, Republic of Kazakhstan, the Kyrgyz Republic, Republic of Uzbekistan and Republic of Tajikistan.</p>	<p>Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkey, Turkmenistan, Uzbekistan.</p>
<b>OBJECTIVES AND TASKS</b>	<p>The primary objective is to settle the claims of the injured in the traffic accidents with the involvement of the foreign automobilists as prescribed by the national legislation of the country where the accident has occurred.</p>	<p>The objective is to establish in the territory of the EurAzEs countries of the international system for ensuring the car owners’ civil liability.</p>	<p>To promote transport rotation by affording the third party liability risk insurance, meeting the host county requirements in the event of traffic accidents, and ensuring that the injured party is compensated in accordance with the legislation</p>

	<p>The “Green Card” system was given effect on January 1, 1953, and during 50 years of its existence has undergone considerable changes. However, the below stated aspects were and remain its primary tasks:</p> <ul style="list-style-type: none"> <li>- Promotion of free flow of traffic across the state borders of the member-countries of the system.</li> <li>- In the event of traffic accidents with the involvement of foreign automobilists, to ensure that the injured party claims are settled and the damage is paid in the earliest at the earliest possible date in accordance with national legislation.</li> </ul>		<p>and provisions of that country.</p>
<p><b>CONDITIONS (FOR THE INSURANCE COMPANIES AND PARTIES TO THE SYSTEM)</b></p>	<p>The “Green Card” system admission requirements are the same for all applicants: availability in the country of the officially registered bureau, governmental guarantees for free flow of foreign funds over the border, compulsory insurance of the car owners’ civil liability (all types of vehicles) and financial services provision guarantees. Besides, the applicant county shall be the UN member.</p> <p>The state initially acquires the status of a “transit” or a provisional member of the system. There are a number of restrictions for the “transit” members of the system, namely: “Green Cards” may be sold only to the citizens of that state; besides, there are also a number of financial requirements: availability of a certain security deposit supporting the financial guarantees in the event of the national bureau or the insurers’ insolvency, or in the event when the bureau does not pay membership fees.</p> <p>The size of the deposit depends on the number of vehicles registered in the territory of the country.</p>	<p>As specified by the civil liability insurance agreement, each party is obliged:</p> <ul style="list-style-type: none"> <li>- to establish the National car owners’ civil liability insurance bureau (hereinafter referred to as Bureau) officially recognized by the Government of the country, which members may be represented by the insurers ensuring the car owners’ civil-legal (civil) liability.</li> </ul> <p>The Bureau financing terms, including the rates and types of the insurers’ contributions. Are determined by the national legislation of the Parties;</p> <ul style="list-style-type: none"> <li>- to adopt the internal legislation, required for execution of the present Agreement;</li> <li>- not to obstruct the Bureau’s activity on performing its financial obligations in respect of Bureaus of other countries being parties to the present Agreement.</li> </ul> <p>According to the provisions of the Agreement, each Party, which does not practice the compulsory insurance of the car owners’ civil liability, shall take measures on introduction of the above mentioned compulsory insurance practice in its territory.</p>	<p>Each National Bureau shall pay financial contributions at the rate of 500 000 USD.</p> <p>The National Bureaus shall conclude between themselves bilateral recognition and guarantee agreements.</p> <p>They are also responsible for printing out insurance cards.</p>

		Each Party guarantees the Bureau's solvency in respect of its liabilities to the other Party Bureau by depositing certain funds at the rate of no less than _____ USD into its National (Central) Bank.	
<b>INSURANCE TERMS</b>	At least for 15 days and the most for 1 year.	<p>Traffic insurance card is issued for a period of an insurant's temporary stay in the territory of the county, being party to the present Agreement, but not less than for a period specified by the national legislation of the country of destination.</p> <p>The traffic insurance card duration shall not exceed duration of the basic insurance contract.</p> <p>The traffic insurance card is valid only in the territory of the countries indicated in the traffic insurance card.</p>	At least 15 days.
<b>VALUE AND COMPENSATION OF LOSSES</b>	<p>The rate of policy value depends on the insurance company, insurance terms and category of a vehicle.</p> <p>Insurance compensation (in case of insured accident) is paid by the Loss Settlement Bureau of the country, where the insured accident has occurred.</p> <p>The "Green card" is issued the day before the travel or not more than 5 days prior to the effective date of the insurance. (Preliminary issuance period may be extended up to 30 days in case of insuring large vehicles).</p> <p>A third party's life, health or property damage caused by the traffic accident occurred through the fault or negligence of a driver, who took out the insurance, is recognized as an insurance event.</p>	<p>Each Pay office provides its members with the traffic insurance cards that need to be completed and submitted to the insurers.</p> <p>Traffic insurance card is an additional agreement and may be issued only to a car owner (driver), who signed the car owners' civil-legal liability insurance agreement (basic insurance agreement) subject to conditions specified by the national legislation.</p> <p>Insurance premium rate (the value of the traffic insurance card) is fixed by the national legislation of the Parties.</p> <p>Availability of the traffic insurance card is not required in the territory of the Parties, which are not practicing compulsory insurance of the car owners' civil-legal (civil) liability.</p> <p>If for some reasons the Service Bureau, which approved appointment of the agent, compensates (instead of the agent) the losses to the injured party, it receives the paid compensation directly from the Pay office that requested appointment of the agent, in the order and at the rate specified by the Agreement.</p> <p>If the Service Bureau or the appointed agent have</p>	<p>Soon after the National Bureau has settled all the traffic accident related claims, it (within a maximum one year period, starting with the date of the last payment to the injured party) shall forward to the insurer of the National Bureau that issued White Card or to the insurance company (by fax or by e-mail) payment request for the amounts that were paid as compensations to the injured party, additional amounts that were spent for claim settlement; other expenses.</p> <p>All documents, confirming the above mentioned expenses, shall be forwarded too.</p>

		<p>settled all the traffic accident related claims, they (within a maximum one year period, starting with the date of the last payment to the injured party) shall forward the Pay Office that issued the traffic insurance card (by fax or by e-mail) payment request that includes the following:</p> <ol style="list-style-type: none"> <li>1) Amounts paid as compensation to the injured party;</li> <li>2) Amounts paid to the outside organizations in the course of consideration and settlement of all loses, as well as all other direct expenses related to the deciding of the case that the insurer acting in the country, where the loss occurred might have spent in similar cases.</li> <li>3) Amount of compensation for covering of all other expenses and charges, the rate of which is determined by the rules approved by the Bureau Council.</li> </ol> <p>The payment request shall specify that due amounts shall be remitted in full measure (remittance charges at one's own expense), be indicated in the national currency of the beneficiary's country, and be paid within two month period starting with the date of the claim. Upon expiry of that period, starting with the date of the claim and till the date when the beneficiary's bank receives the payment, interests will be charged automatically at the rate of ___ % of annual interests of the due amount.</p>	
<p><b>CONTROL AND COORDINATION AUTHORITIES</b></p>	<p>International Bureau is the principal control authority.</p> <p>Bureau Council is the governing body of the International Bureau; the Bureau Council is constituted the Secretariat (located in London) and a number of commissions, which members represent different member-countries of the system.</p> <p>General Assembly, comprising the member-countries' representatives, is also a very important regulatory body. Starting from 1994,</p>	<p>National Bureau Council on insuring the EurAzEs auto-civil liability is the organization that includes all National Bureaus on insuring the auto-civil liability; this organization is in charge of the management and current activity of the international motorcar insurance system "White Card".</p> <p>National Bureau on insuring the auto-civil liability is an organization that was established and operates in accordance with the order and terms specified by the national legislation, to</p>	<p>Sub-Committee on insuring the Transit Bureau on transport coordination.</p> <p>The ECO Bureau Council.</p> <p>National Bureau.</p>

	<p>the Assembly holds annual meetings to take critical decisions related to regulation of the “Green Card” system.</p> <p>Each National Bureau shall envisage possibility for establishing Information centers.</p>	<p>ensure functioning of the international motorcar insurance system “White Card”. Each National Bureaus performs two functions, namely, acts as a Pay Office and Service Bureau.</p> <p>Pay Office is the National Bureau on insuring the auto-civil liability of the country, which insurer has issued traffic insurance card to an insurant.</p> <p>Service Bureau is the National Bureau on insuring the auto-civil liability, which is in charge (in its country) of examination and settlement of the claims advanced to the foreign owners (drivers) of the cars having traffic insurance card;</p> <p>Agent is a legal entity registered as an insurer or an insurance broker appointed by the foreign insurer with the consent of the National Bureau on insuring the auto-civil liability of the country, where this legal entity is established for the purpose of examination and settlement in that country of the claims (losses) resulted from the traffic accident with participation of a foreign country’s motorcar, which owner (driver) has traffic insurance card issued by the above mentioned insurer.</p> <p>The Bureau Council comprises two representatives of each Party, appointed by their Bureaus, and one representative of the EurAzEs Integration Committee.</p> <p>The Bureau Council elects its Chairman and Deputy Chairman from among the representatives, appointed by the Bureaus of each Party, for a specified period of time and in accordance with the rotation principle.</p> <p>The Bureau Council’s Secretariat office is located in the city of Almaty.</p> <p>The Service Bureau’s rights and obligations:</p> <p>Service Bureau has the exclusive competence in all issues related to the interpreting of the national legislation and settlement of claims.</p>	
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		<p>Service Bureau is responsible for the activity of the agent appointed by it for the settlement of the claim.</p> <p>Service Bureau has no right, without written consent of the insurer or the corresponding Pay Office, to entrust settlement of a loss to any agent, which may have any financial interest in this deal by virtue of any contractual commitments.</p> <p>If Service Bureau does it without the consent its right for receiving the compensation decreases half as much against the sum received upon the usual terms.</p> <p>The Pay Office's rights and obligations:</p> <p>Each Pay Office guarantees, on behalf of its members, payment of compensation amounts claimed from them both, on the part of the Service Bureau, where the traffic accident has occurred, and on the part of the agent appointed for the settlement of the claim.</p> <p>If within a two month period, starting with the date of receiving the compensation claim, the insurer that issued traffic insurance card will not effect the payment, the Pay Office, this insurer is a member to, shall itself (within a month period after receiving a non-payment notification from the Service Bureau of the country where the accident has occurred or from the agent appointed for the settlement of the claim) effect compensation payment.</p> <p>In case of delay of compensation payment, Pay Office shall pay penalty at the rate of ___ annual interest of the due amount.</p>	
<b>CARD FORMAT</b>	All "Green Cards" of the same format, corresponding to the standardized format, are approved by the UN competent committee.	The traffic insurance card content and format are approved by the Bureau Council.	The card should be completed in two languages: in the language of the National Bureau and in English. It is approved by the ECO Bureau Council.
<b>PROCEDURES</b>	If you have on hand the "Green Card" policy,	1. In case an insurant is a participant of a traffic	When National Bureau is informed about the

	<p>you are a client of the Green Card National Bureau of the country you are at the present moment in.</p> <p>Settlement of the insurance event is always within the competence of the National Bureau.</p> <p>One should always follow the following procedure: First of all, it is necessary to call to the "Green Card" Bureau, phone number of which is given in the policy (green card). Availability of the police charge is the essential condition for appealing to the "Green Card" Bureau, so you will have to face police investigation.</p> <p>The second step is settlement of the losses. This procedure involves issuing of invoices to the insurance companies and their further mutual exchange. The system works efficiently, since everything is specified very clearly: if a foreigner arrives to another country and crashes his car there, the corresponding insurance company pays out to him the insurance sum and later forwards the claim to the insurer that issued the green card. Provided that the latter for some reason or another denies satisfying the claim, this country may be easily dismembered from the system at the next meeting of the London assembly.</p> <p>If traffic accident occurred through your fault, you need to:</p> <p><b>Step 1:</b></p> <p>Leave the vehicle at the place of occurrence, switch on warning lights and put the warning triangle.</p> <p><b>Step 2:</b></p> <p>Call traffic police to the place of traffic accident occurrence.</p> <p><b>Step 3:</b></p> <p>Presents the "Green Card" policy to the traffic police officer.</p>	<p>accident occurred in the territory of the country being a party to the traffic insurance card system, he shall notify other participants of this traffic accident of the availability of the traffic insurance card and provide them card details; he shall also notify the Service Bureau of the occurred traffic accident.</p> <p>The traffic accident information may be also brought to the notice of the agent (if available) appointed at the request of the insurer that issued traffic insurance card.</p> <p>2. Service Bureau, upon receiving the insurer's or the injured party's claim notifying that traffic accident with the involvement of the other country's vehicle whose owner (driver) has traffic insurance card, has occurred in the territory of the country within the Service Bureau's competence, shall (without waiting for the official compensation claim on the part of the injured party) proceed to the investigation of the accident circumstances. The Service Bureau shall also immediately notify the corresponding Pay Office or its member, which issued traffic insurance card, of any possible claim.</p> <p>3. If during the investigation of the accident, the Service Bureau will identify the insurer of a car involved into the accident, and will find out that the agent of that insurer was appointed in accordance with the provisions of the present Agreement, the Service Bureau shall forward the whole information directly to the agent for further settlement of the case.</p> <p>4. All claims of the injured parties are considered and settled by the Service Bureau or the agent in accordance with the provisions of the legislation of the country of the insurance event occurrence; the legislation also specifies the procedure, terms and dates of assessing the extent of damage and insurance compensation rate, and list of documents required for receiving insurance compensations, etc..</p>	<p>traffic accident with involvement of the other country's vehicle, it shall immediately, without waiting for the official claim proceed to the investigation of the accident circumstances. The same Bureau shall notify the insurer, which issued white card, or insurance company or the National Bureau of the country, which representative got into the accident.</p> <p>Further the National Bureau of the country of the accident occurrence get into touch with the people responsible for consideration of the claims in the National Bureau of the other country.</p> <p>If the information coincides (card, personality, etc.) they forward the information about the accident to the National Bureau of the country of vehicle registration; from that moment, those who authorized to consider the claim shall undertake the case and settle all the case related issues (they act on behalf of the National Bureau and in behalf of the insurer, which requested its approval).</p>
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	<p><b>Step 4:</b></p> <p>Notify the “Green Card” National Bureau of the traffic accident.</p> <p>The “Green Card” National Bureau addresses and phones are given on the first page of the policy. The country code is given in the first brackets, the city code – in the second brackets, and figures without brackets – is a phone number itself.</p>	<p>5. Service Bureau shall consider the claims with regard to taking into account interests of the corresponding Pay Office or its member that issued traffic insurance card. According to the procedure, the Service Bureau shall notify the insurer or the corresponding Pay Office prior to taking final decision.</p>	
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**NOTE:**”The “Blue Card” is the actual equivalent of the “Green Card” developed in the Soviet times particularly for the member-countries of the Council for Mutual Economic Assistance. The socialist camp countries had made mutual settlement agreements. At present, only Russia and Hungary, which accepts the “Ingosstrakh” policies, are members of the “Blue Card” system.