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CUSTOMS UNION
TECHNICAL REGULATIONS

CU TR 010/2011

Safety of Machines and Equipment

Contents

Foreword

1. These Technical Regulations have been developed in accordance with the Agreement on the Common Principles and Rules of Technical Regulation in the Republic of Belarus, Republic of Kazakhstan and Russian Federation of 18 November 2010.

2. These Technical Regulations have been developed for the purpose of establishing in the common customs territory of the Customs Union common mandatory requirements to machines and/or equipment applicable and enforceable during their development/design, manufacture, installation, adjustment, operation, storage, transportation, sales and disposal as well as ensuring free movement of machines and/or equipment released for circulation in the common customs territory of the Customs Union.

3. In case, with regard to machines and/or equipment, the Customs Union or the Eurasian Economic Community (hereinafter referred to as the "EurAsEC") adopts other Technical Regulations establishing requirements to machines and/or equipment, then machines and/or equipment shall comply with applicable requirements of these Customs Union and/or EurAsEC Technical Regulations.

Article 1. **Scope**

1. These Technical Regulations apply to machines and/or equipment to be released for circulation in the common customs territory of the Customs Union.

2. These Technical Regulations set minimum necessary safety requirements to machines and equipment to be observed during their development/design, manufacture, installation, adjustment, operation, storage, transportation, sales and disposal with the aim to protect human life or health, property, the environment and animal life and health and prevent actions that may mislead consumers.

3. These Technical Regulations apply to machines and/or equipment with discovered and identified hazards to be removed or reduced as required in Annexes No. 1 and 2.

4. These Technical Regulations do not apply to the following machines and/or equipment:

- machines and/or equipment related to the ensuring of integral and stable operation of communication networks and the use of the radio spectrum;

- machines and/or equipment intended for medical purposes and used in direct contact with a patient (X-ray, diagnostic, therapeutic, orthopedic, dental and surgical equipment);

- machines and/or equipment specially designed for operation in the field of nuclear energy use. For general-purpose industrial machines and/or equipment operated in the field of nuclear energy use, these Technical Regulations are applicable to the extent they do not contradict nuclear and radiation safety requirements;

- wheeled vehicles excluding machines and/or equipment installed on them;

- watercraft (vessels and floating facilities including machines and/or equipment operated on board);

- aircraft and spacecraft;

- railway rolling stock, technical facilities specially designed for use in railway transport, and metropolitan railways;

- fairground/amusement park machinery and equipment;

- weapons and military equipment;

- machines and/or equipment intended for operation by persons with disabilities;

- agricultural and forestry tractors and trailers excluding machines and/or equipment mounted on them;

- drilling platforms excluding machines and/or equipment operated on them.

5. These Technical Regulations apply to machines and/or equipment which are used at hazardous production facilities.

6. Where risks posed by machines and/or equipment are specified in whole or in part in other Customs Union and/or EurAsEC Technical Regulations, machines and/or equipment shall meet the requirements of such other applicable Customs Union and/or EurAsEC Technical Regulations.

7. When identifying machines and/or equipment, it shall be established whether particular machines and/or equipment correspond to the sample or their description, for which purpose the standards indicated in Article 6, paragraph 1 of these Technical Regulations, classifications, specifications and drawings, technical specifications, and operation documentation may be used.

8. Additional safety requirements for certain categories of machines and/or equipment are set in accordance with Annex No. 2.

Article 2. **Definitions**

1. The following terms and their definitions apply in these Technical Regulations:

‘breakdown’ means destruction of, or damage to, a machine and/or equipment and/or the occurrence of an uncontrollable explosion and/or emission of hazardous and harmful substances during the operation of machines and/or equipment;

‘admissible risk’ means the value of the risk arising out of the use of a machine and/or equipment and based on the manufacturer’s technical and economic capacities, which is appropriate for the level of safety to be ensured at all product lifecycle phases;

‘lifecycle’ means the time period from the start of designing a machine and/or equipment until the completion of its disposal, including interrelated stages (design, manufacture, storage, installation, adjustment, operation including upgrade, repair, maintenance and after-sales service);

‘incident’ means a failure of a machine and/or equipment and/or a deviation from the technological process mode;

‘critical failure’ means a failure of a machine and/or equipment which may result in harmful consequences for human life or health, property, the environment, and/or lives or health of animals and plants;

‘machine’ means an assembly of interlinked parts or components, at least one of which moves with the help of respective drives, control circuits and/or energy sources, and which are joined together for a specific application (e.g., treatment, processing, moving or packaging of a material);

‘mobile energy facilities’ means tractors, universal energy facilities and/or self-propelled chassis;

‘specified operation life’ means the total accrued operating time; when it elapses, any operation of the machine and/or equipment must be discontinued irrespective of its technical condition;

‘accrued operating time’ means the duration of operation or output amount of a machine and/or equipment;

‘specified service life’ means the duration of operation of a machine and/or equipment expressed in calendar units; when it elapses, the operation must be discontinued irrespective of the technical condition;

‘specified storage life’ means the duration of storage of a machine and/or equipment expressed in calendar units; when it elapses, the storage must be discontinued irrespective of the technical condition;

‘intended use’ means the use of a machine and/or equipment in accordance with its intended purpose specified by the manufacturer in the operation documentation;

‘safety rationale’ means a document which contains a risk analysis and information from design, operation and technological documentation regarding minimum required safety measures, accompanies machines and/or equipment at all lifecycle phases and is updated with information about risk assessment results at the operation phase after overhaul;

‘equipment’ means a technical device which is used separately or installed on a machine and which is required to perform the machine’s main and/or additional functions as well as to combine several machines into a single system;

‘failure’ means an event of disrupting the operable condition of a machine and/or equipment as a result of constructive faults during the design phase, non-observance of the required process of manufacture or repair or violation of operation rules or manuals/instructions;

‘limit state’ means a condition of a machine and/or equipment which makes its further operation inadmissible or inexpedient or the recovery of its operable condition impossible or inexpedient;

‘attachable machine’ means a mobile, towed, semi-towed, mounted or semi-mounted machine or a machine installed on a mobile energy facility, which is intended to perform operations related to the production and primary processing of agricultural products, etc.;

‘developer/designer’ means a legal entity or an individual which creates a new type of a machine and equipment, develops technical documentation for a prototype and makes the prototype;

‘system developer/designer’ means a legal entity or an individual which develops design documentation for machine and/or equipment systems (technological lines interrelated by the production cycle);

‘agricultural tractor-implement unit’ means a combined unit which includes a mobile energy facility with (a) towed, semi-towed or mounted machine(s) and is intended to perform agriculture-related technological operations;

‘system’ means an aggregate of machines and/or equipment combined by design and/or function to perform required functions;

‘hazard’ means a potential source of damage to human life and health, property and/or the environment;

‘hazardous area’ means any space where a person is exposed to hazards posed by a machine or equipment;

‘risk’ means a combination which includes the possibility of harm and the consequences of such harm for human life or health, property, the environment, life and health of animals and plants.

Article 3. **Rules of circulation in the market**

1. Machines and/or equipment may be released for circulation in the market if they comply with these Technical Regulations and other applicable Customs Union and/or EurAsEC Technical Regulations and on the condition that they have passed the required conformity assurance procedures specified in these Technical Regulations and other applicable Customs Union and/or EurAsEC Technical Regulations.

Machines and/or equipment, the conformity of which with the requirements of these Technical Regulations has not been assured, may not bear the common product market circulation mark of the Customs Union Members-States and shall not be released for circulation in the common customs territory of the Customs Union.

Article 4. **Ensuring safety of machines and/or equipment during their development/design**

1. During the development/design of a machine and/or equipment, hazards possible at all lifecycle phases shall be identified.

2. For the identified hazards, risk assessment shall be made by calculation, experiment or expert assessment or on the basis of operation data for similar machines and/or equipment. Risk assessment methods can be established in the standards indicated in Article 6, paragraph 1 of these Technical Regulations.

3. During the development/design, the admissible risk for a machine and/or equipment shall be determined and specified. At the same time, the level of safety corresponding to the specified risk shall be ensured through:

- the completeness of scientific research, design, development and experiment activities;

- the set of necessary calculations and tests based on methods verified in accordance with the established procedures;

- the selection of materials and substances for use in certain types of machines and/or equipment depending on their operation parameters and conditions;

- the criteria for limit states to be defined by the developer/designer;

- the specified service life, specified operation life and time periods for maintenance, repair and disposal to be defined by the developer/designer;

- the identification of all hazards associated with predictable potential misuse of a machine and/or equipment;

- the limitations on the use of machines and/or equipment.

4. If the assessed risk exceeds the admissible level, the design of a machine or equipment shall be changed to reduce the risk and any intervention by personnel in the operation modes of the machine and/or equipment shall be excluded (unless stipulated otherwise by the operation manuals/instructions).

5. Where it is impossible by changing the design to achieve technical parameters of a machine and/or equipment which would define the admissible risk or where this is not economically feasible, the operation manuals/instructions shall include information imposing limitations on the use of this machine and/or equipment and/or warning about the necessity to take safety measures.

6. During the development/design of machines and/or equipment, both levels for physical factors (levels for noise, infrasound, air and contact ultrasound, local and overall vibration, and electromagnetic fields) and levels for emissions of hazardous and harmful substances shall be defined and shall ensure safe operation of machines and/or equipment.

7. During the development/design of a machine and/or equipment, its safety rationale shall be prepared.

The original safety rationale for machines and/or equipment shall be kept by the developer/designer, and its copy shall be kept by the manufacturer of machines and/or equipment and by the operator organization.

8. The preparation of the operation manuals/instructions shall be an integral part of the development/design of a machine and/or equipment.

The operation manuals/instructions shall include:

- data regarding the design, principle of operation, parameters/properties of machines and/or equipment;

- instructions for the installation/assembly, setting up and adjustment, maintenance and repair of a machine and/or equipment);

- instructions for the use of a machine and/or equipment and safety measures to be taken during the operation of the machine and/or equipment; these shall include commissioning, intended use, maintenance, all types of repair, regular diagnostics, testing, transportation, package, conservation, and storage conditions;

- specified parameters (specified storage life, specified service life and/or specified operation life) depending on design specifics. When the specified parameters (specified storage life, specified service life and/or specified operation life) of a machine and/or equipment elapse, it shall be withdrawn from operation and a decision shall be taken regarding its repair, disposal,

[or] its check and setting new specified parameters (specified operation life, storage life, service life;

- list of critical failures and possible errors by personnel which may cause an incident or breakdown;

- actions by personnel in case of incident, critical failure or breakdown;

- criteria for limit states;

- instructions for the withdrawal from operation and disposal;

- information regarding the qualifications of service personnel.

9. Where a machine and/or equipment are intended for use by non-professional operators, the operation manuals/instructions shall take into account such operators' knowledge, skills and experience.

Article 5. **Ensuring safety of machines and/or equipment during their manufacture, storage, transportation, operation and disposal**

1. During the manufacture of machines and/or equipment, their compliance with the requirements of the development/design documentation and of these Technical Regulations shall be ensured.

2. During the manufacture of a machine and/or equipment, the manufacturer shall implement the complete set of safety measures specified by the development/design documentation. The opportunity shall be foreseen to control the performance of all technological processes which may affect safety.

3. During the manufacture of a machine and/or equipment, tests shall be carried out as prescribed by the development/design documentation.

4. During the manufacture of a machine and/or equipment, safety requirements shall be met as defined in the development/design documentation in accordance with these Technical Regulations, taking due account of technological processes and control systems used. The manufacturer shall make a risk assessment for machines and/or equipment prior to their release for circulation in the market.

5. Any deviations from the development/design documentation for a machine and/or equipment during the manufacture shall be agreed on with the developer/designer. Any risk arising from the use of the machine and/or equipment manufactured in accordance with the agreed development/design documentation shall not exceed the admissible risk defined by the developer/designer.

6. The manufacturer of a machine and/or equipment shall provide operation manuals/instructions for machines and/or equipment.

7. A machine and/or equipment shall have legible and indelible warnings or hazard symbols.

8. A machine and/or equipment shall have a clearly visible, legible and indelible identification inscription which includes:

- manufacturer's name and/or trademark;

- name and/or designation of the machine and/or equipment (type, make, and/or model, where applicable);

- month and year of manufacture.

9. If the data specified in paragraph 8 hereof can not be affixed on a machine and/or equipment, it is allowed that they are only included in the operation manuals/instructions attached to this machine and/or equipment. At the same time, the manufacturer's name and/or trademark and the name and/or designation of the machine and/or equipment (type, make, and/or model (if any)) shall be affixed on the package.

10. The data specified in paragraph 8 hereof shall be included in the operation manuals/instructions. In addition, the operation manuals/instructions shall include the name and location of the manufacturer/his authorized representative and importer and their contact data.

11. The operation manuals/instructions shall be in the Russian language and in the national language(s) of the Customs Union Member State(s) is so required by the laws of the Customs Union Member State(s).

The operation manuals/instructions shall be made out in print. It can be accompanied by a set of operation documents on electronic media. At the manufacturer's discretion, operation manuals/instructions attached to a non-household machine and/or equipment may be made out in electronic form only.

12. Materials and substances that are used for the package of a machine and/or equipment) shall be safe.

13. Machines and/or equipment, their units and parts shall be transported and stored in accordance with safety requirements specified in the development/design and operation documentation.

14. Maintenance, repair and checks of a machine and/or equipment shall meet the requirements set by the operation manuals/instructions and maintenance and repair program during the entire period within which these activities are performed.

15. Any changes in the design of a machine and/or equipment which may occur during their repair shall be agreed on with the designer (constructor).

16. After overhauling a machine and/or equipment, a risk assessment shall be carried out. The risk value shall not exceed the admissible level. Where necessary, technical and administrative measures shall be developed with the aim to achieve admissible risk values.

17. For repaired machines and/or equipment which fail to meet the requirements of the development/design documentation, measures shall be developed to ensure risk values set in the safety rationale, taking into account the organization's technological processes and control system.

18. The operation manuals/instructions shall include recommendations for safe disposal of a machine and/or equipment.

19. During the development/design of a machine and/or equipment, measures to prevent non-intended use of a machine and/or equipment) after the specified operation life or specified service life has elapsed shall be determined and included in the operation manuals/instructions.

Article 6. **Ensuring conformity with safety requirements**

1. The conformity of machines and/or equipment with these Technical Regulations is ensured by direct implementation of the requirements hereof; or the requirements of intergovernmental standards; or, in the absence of such intergovernmental standards (not yet adopted), the requirements of those national (governmental) standards of the Customs Union Member States, the application of which on a voluntary basis ensures compliance with the requirements of Customs Union Technical Regulations; and the requirements of standards setting examination/test and measurement rules and methods including sampling rules which are necessary to apply and fulfil the requirements of these Technical Regulations and to perform product conformity assessment/assurance procedures (hereinafter referred to as the "Standards") for relevant types of machines and/or equipment.

The voluntary fulfillment of the requirements of the said Standards proves the compliance of machines and/or equipment with safety requirements of these Technical Regulations.

Article 7. **Conformity assessment**

1. Machines and/or equipment released for circulation in the market in the common customs territory of the Customs Union are subject to assessment of conformity with the requirements of these Technical Regulations.

Conformity assessment against the requirements of these Technical Regulations shall be performed in the form of conformity assurance and state control (supervision).

Machines and/or equipment that have been in use or have been manufactured for their manufacturers' own needs as well as machine components and spare parts intended for repair/maintenance of machines and/or equipment are not subject to conformity assurance against the requirements of these Technical Regulations.

Article 8. **Conformity assurance**

1. Conformity assurance of machines and/or equipment shall be performed in accordance with uniform procedures approved by the Commission of the Customs Union.

2. Conformity assurance of machines and/or equipment against the requirements of these Technical Regulations shall be performed in the form of:

certification by an accredited certification/conformity assessment/assurance body (hereinafter referred to as a "certification body") included in the Customs Union Common Register of Certification Bodies and Testing Laboratories/Centres;

declaration of conformity on the basis of first-party evidence and/or evidence obtained through the participation of a certification body or accredited testing laboratory/centre included in the

Customs Union Common Register of Certification Bodies and Testing Laboratories/Centres (hereinafter referred to as an "accredited testing laboratory/centre").

3. Certification is applicable to machines and/or equipment included in the List of Objects of Technical Regulation Subject to Conformity Assurance in the Form of Certification against the Requirements of the Customs Union Technical Regulations on the Safety of Machines and Equipment given in Annex No. 3.

4. Declaration of conformity shall be carried out by the applicant for machines and/or equipment included in the of List of Objects of Technical Regulation Subject to Conformity Assurance in the Form of Declaration of Conformity with the Requirements of the Customs Union Technical Regulations on the Safety of Machines and Equipment given in Annex No. 3.

5. Instead of declaring conformity of machines and/or equipment included in the List referred to in paragraph 4 hereof, certification according to the certification schemes equivalent to the conformity declaration schemes for machines and/or equipment under these Technical Regulations may be performed at the applicant's discretion – also in case the applicant lacks or has insufficient evidence of his own to prove compliance with the requirements of these Technical Regulations.

6. A declaration of conformity or certificate of conformity is the only document confirming compliance of machines and/or equipment with the requirements of these Technical Regulations.

7. Both a declaration of conformity and certificate of conformity have equal legal force and are valid in the common customs territory of the Customs Union for machines and/or equipment to be released for circulation in the common customs territory of the Customs Union within the period of validity for such declaration of conformity or certificate of conformity and, for each unit (machine and/or equipment), within its service life.

8. Information about the declaration of conformity or certificate of conformity for a machine and/or equipment shall be included in its passport.

9. When conformity assurance is performed, machines and/or equipment shall be checked for their compliance with the requirements of these Technical Regulations either specified directly or set forth in the standards referred to in Article 6 of these Technical Regulations.

10. When conformity assurance is performed for machines and/or equipment, the applicant shall prepare a set of documents for machines and/or equipment in support of their compliance with safety requirements of these Technical Regulations, which includes:

safety rationale;

technical specifications (where applicable);

operation documents;

list of standards referred to in Article 6, with which requirements the machines and/or equipment must comply (where applied by the manufacturer);

supply contract/agreement (for a batch or single product) or shipment documents (for a batch or single product);

certificate for the manufacturer's management system (where applicable);

data of conducted examinations (where applicable);

test reports for a machine and/or equipment covering tests carried out by the manufacturer, seller, person acting in the capacity of foreign manufacturer and/or testing laboratories/centres (where applicable);

certificates of conformity or test reports for materials and components (where applicable);

certificates of conformity for machines and/or equipment issued by foreign certification bodies (where applicable);

other documents which directly or indirectly prove the compliance of machines and/or equipment with safety requirements of these Technical Regulations (where applicable).

Article 9. **Conformity declaration procedures for machines and/or equipment**

Declaration of conformity for machines and/or equipment is carried out according to the following schemes:

Scheme 1d for mass production of machines and/or equipment includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8; carry out production control and take all necessary measures so that the production processes ensure compliance of machines and/or equipment with the requirements of these Technical Regulations; carry out sample tests in a testing laboratory or accredited testing laboratory/centre; and issue and register the declaration of conformity.

Scheme 2d for a batch of machines and/or equipment or for a single product includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8; carry out sample tests in a testing laboratory or accredited testing laboratory/centre; and issue and register the declaration of conformity.

Scheme 3d for mass production of machines and/or equipment includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8; carry out production control and take all necessary measures so that the production processes ensure compliance of machines and/or equipment with the requirements of these Technical Regulations; carry out sample tests in an accredited testing laboratory/centre; and issue and register the declaration of conformity.

Scheme 4d for a batch of machines and/or equipment or for a single product includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8; carry out sample tests in an accredited testing laboratory/centre; and issue and register the declaration of conformity.

Scheme 5d is applicable to machines and/or equipment:

which are used at hazardous production facilities;

in case it is impossible to carry out the complete set of tests before installation on the operation site;

if, for the purposes of conformity assurance, the applicant does not apply the standards referred to in paragraph 1 of Article 6 of these Technical Regulations, including for innovative products.

This scheme includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8; carry out production control and take all necessary measures so that the production processes ensure compliance of machines and/or equipment with the requirements of these Technical Regulations; and apply to a certification body for type examination;

The certification body shall examine the type on the basis of the documents received from the applicant. In case the applicant has not applied the standards referred to in paragraph 1 of Article 6 of these Technical Regulations, the certification body shall evaluate whether it is possible to replace the requirements of the said standards with the requirements declared by the applicant. Depending on the documents submitted by the applicant, type examination may be carried out in one of the following ways:

examination of a sample that is representative of all subsequently manufactured machines and/or equipment;

review of the submitted documents and sample testing or testing of crucial/critical components of machines and/or equipment;

If the type examination results are positive, the certification body shall issue a type certificate according to the common format approved by the Commission and hand it out to the applicant. The type certificate shall be an integral part of the declaration of conformity, and the declared requirements to the machine and/or equipment which are specified in the type certificate and recognized as sufficient evidence of conformity with the requirements of these Technical Regulations shall be used by state control/supervision bodies during inspections of compliance with these Technical Regulations;

The applicant shall issue and register a declaration of conformity.

Scheme 6d for mass production of machines and/or equipment (where the manufacturer has a certified management system), includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8, which shall include (a copy of) the management system certificate issued by a management system certification body included in the Customs Union Common Register of Certification Bodies and Testing Laboratories/Centres; carry out production control and take all necessary measures so that the production processes ensure compliance of machines and/or equipment with the requirements of these Technical Regulations; carry out sample tests in an accredited testing laboratory/centre; and issue and register the declaration of conformity.

For the purposes of declaring conformity under schemes 1d, 3d, 5d or 6d, the applicant may be a legal person registered in accordance with the laws of the Customs Union Member State in its territory or a natural person likewise registered as individual entrepreneur, either acting in the capacity of the manufacturer or performing, on the contractual basis, such functions of the foreign manufacturer as ensuring that supplied products comply with the requirements of these Customs Union Technical Regulations and assuming responsibility for non-compliance of the

supplied products with the requirements of these Customs Union Technical Regulations (a person acting in the capacity of the foreign manufacturer).

For the purposes of declaring conformity under schemes 2d or 4d the applicant may be a legal person registered in accordance with the laws of the Customs Union Member State in its territory or a natural person likewise registered as individual entrepreneur, either acting in the capacity of the manufacturer or seller or performing, on the contractual basis, such functions of the foreign manufacturer as ensuring that supplied products comply with the requirements of these Customs Union Technical Regulations and assuming responsibility for non-compliance of the supplied products with the requirements of these Customs Union Technical Regulations (a person acting in the capacity of the foreign manufacturer).

Article 10. **Composition of supporting documents that give grounds for issuing a declaration of conformity**

1. The documents mentioned in paragraph 10 of Article 8 of these Technical Regulations as well as the standards referred to in of Article 6 of these Technical Regulations are used as supporting documents that give grounds for issuing a declaration of conformity.

2. The following conditions for the use of these documents may be considered:

1) for test reports:

test reports include values of parameters proving compliance with all requirements which are specified in these Technical Regulations and are applicable to these particular declared products;

test reports cover the declared machines and/or equipment;

2) certificates of conformity, declarations of conformity or test reports for feedstock, materials or components, if they determine safety of the final product which is subject to conformity assurance;

3) certificates for the quality management system, if they cover the manufacture of the declared machines and/or equipment;

4) other documents which directly or indirectly prove compliance of machines and/or equipment with the established requirements; certificates of conformity for the declared machines and/or equipment issued under voluntary certification schemes (provided that the voluntary certification has proved compliance with all necessary requirements).

3. A declaration of conformity shall follow the common format approved by the Commission of the Customs Union.

A declaration of conformity shall be registered in accordance with the procedures approved by the Commission of the Customs Union. A declaration of conformity becomes valid on the date of its registration. The validity period of a declaration of conformity shall not exceed 5 years.

4. The applicant shall keep the declaration of conformity and supporting documents within 10 years after the expiry of the declaration of conformity.

The set of conformity-proving documents shall be provided to the state control (supervision) bodies upon request.

Article 11. **Certification procedures for machines and/or equipment**

1. Certification of machines and/or equipment is carried out according to the following schemes:

Scheme 1c for mass production of machines and/or equipment includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8 and apply for certification to a certification body;

The certification body shall take samples for testing from the applicant;

An accredited testing laboratory/centre included in the Customs Union Common Register of Certification Bodies and Testing Laboratories/Centres (hereinafter referred to as an "accredited testing laboratory/centre") shall test samples of machines and/or equipment;

The certification body shall review factory inspection results covering the manufacturer and test results covering the samples of machines and/or equipment; in case the results are positive, it shall issue the certificate of conformity to the applicant;

The certification body shall conduct surveillance of certified machines and/or equipment through sample tests in an accredited testing laboratory/centre and/or factory inspection;

Scheme 3c for a batch of machines and/or equipment or for a single product includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8 and apply for certification to a certification body;

The certification body and an accredited laboratory/centre shall take samples for testing from the applicant;

The accredited testing laboratory/centre shall test samples of machines and/or equipment;

The certification body shall review test results covering the samples of machines and/or equipment; in case the results are positive, it shall issue the certificate of conformity to the applicant;

Scheme 9c for a limited batch of machines and/or equipment for installation at production facilities in the common customs territory of the Customs Union includes the following actions:

The applicant shall prepare the set of documents mentioned in paragraph 10 of Article 8 and apply for certification to a certification body;

The certification body shall review the set of documents submitted by the applicant and, in case the results are positive, issue the certificate of conformity to the applicant.

For the purposes of certification under schemes 1c or 9c, the applicant may be a legal person registered in accordance with the laws of the Customs Union Member State in its territory or a natural person likewise registered as individual entrepreneur, either acting in the capacity of the manufacturer or performing, on the contractual basis, such functions of the foreign manufacturer as ensuring that supplied products comply with the requirements of these Customs Union Technical Regulations and assuming responsibility for non-compliance of the supplied products

with the requirements of these Customs Union Technical Regulations (a person acting in the capacity of the foreign manufacturer).

For the purposes of certification under scheme 3c, the applicant may be a legal person registered in accordance with the laws of the Customs Union Member State in its territory or a natural person likewise registered as individual entrepreneur, either acting in the capacity of the manufacturer or seller or performing, on the contractual basis, such functions of the foreign manufacturer as ensuring that supplied products comply with the requirements of these Customs Union Technical Regulations and assuming responsibility for non-compliance of the supplied products with the requirements of these Customs Union Technical Regulations (a person acting in the capacity of the foreign manufacturer).

2. The applicant may apply for certification to any certification body whose scope of accreditation covers machines and/or equipment included in the List of Machines and Equipment Subject to Assurance of Conformity with the Requirements of the Customs Union Technical Regulations on the Safety of Machines and Equipment in the Form of Certification as approved by the Commission of the Customs Union.

An application for certification is made out by the applicant and shall include:

- the applicant's name and address;

- the manufacturer's name and address;

- details of the machine and/or equipment (its composition) and its identification parameters (name, code according to the Customs Union Classifier for Foreign Economic Activities, document according to which the machine and/or equipment has been manufactured (e.g. intergovernmental or national standard, factory standard, technical specifications etc.), type of production: mass production or batch, agreement/contract details, etc.);

- applicable standard(s) referred to in paragraph 1 of Article 6 of these Technical Regulations;

- certification scheme.

3. The certification body shall review the application and take a decision whether it is possible to conduct certification.

In case of a positive decision, the certification body shall sign a contract for the conduct of certification with the applicant.

The certification body shall carry out certification activities in accordance with the certification scheme, prepare a certification decision and, in case the result is positive, issue a certificate of conformity to the applicant.

4. In case the result of certification is negative, the certificate body shall forward to the applicant its grounded decision to refuse to issue a certificate of conformity.

5. Testing (a) type sample(s) or testing a single unit of a machine and/or equipment is carried out by an accredited testing laboratory/centre on behalf of the certification body. The test report shall be submitted to the certification body.

6. Factory inspection of the manufacturer's production facilities is carried out by a certification body. Factory inspection findings shall be documented in a report.

In case the manufacturer has a certified quality management system for the production or for the development and production of machines and/or equipment, the certification body shall evaluate whether this system is capable to ensure that the machines and/or equipment under certification are produced on a stable basis in conformity with the requirements of these Technical Regulations.

7. In case the results of all the checks required by the certification scheme are positive, the certification body shall issue a certificate of conformity and hand it out to the applicant.

A certificate of conformity shall follow the common format approved by the Commission of the Customs Union.

The certification body shall file details of the issued certificate of conformity with the Common Register of Issued Common-Format Certificates of Conformity and Registered Common-Format Declarations of Conformity.

8. A certificate of conformity shall be valid for no more than 5 years for mass-production machines and/or equipment and may be unlimited for a batch.

9. A certificate of conformity may have an annex containing a list of particular products it covers.

Such annex shall be made up in case:

it is necessary to detail a group of similar products manufactured by the applicant and certified according to the same requirements;

it is necessary to specify factories that are part of larger manufacturing groups with common product manufacturing conditions.

Article 12. **Affixing the common product market circulation mark of the Customs Union Member States**

1. Machines and/or equipment which comply with the safety requirements of these Technical Regulations and have passed the conformity assurance procedure according to Article 8 of these Technical Regulations shall bear the common product market circulation mark of the Customs Union Member States.

2. The common product market circulation mark of the Customs Union Member States shall be affixed on machines and/or equipment before their releasing for circulation in the market.

3. The common product market circulation mark of the Customs Union Member States shall be affixed on each piece of machine and/or equipment by any method ensuring that it remains clear and legible during the entire service life of the machine and/or equipment.

The common product market circulation mark of the Customs Union Member States shall be affixed on the product itself.

4. The common product market circulation mark of the Customs Union Member States may be affixed only on package and attached operation documents if it is not possible to affix it directly on a machine and/or equipment.

5. The common product market circulation mark of the Customs Union Member States may be affixed on machines and/or equipment in case they comply with the requirements of all Customs Union and/or EurAsEC Technical Regulations which are applicable to them and which require affixing the common product market circulation mark of the Customs Union Member States.

Article 13. **Safeguard clause**

The Customs Union Member States shall take all measures restricting or banning the release of machines and/or equipment for circulation in the common customs territory of the Customs Union as well as withdrawing machines and/or equipment from the market, in case they do not comply with the requirements of these Technical Regulations.

Annex No. 1
to the Customs Union Technical Regulations
on the Safety of Machines and Equipment
(CU TR 010/2011)

BASIC REQUIREMENTS FOR SAFETY OF MACHINES AND/OR EQUIPMENT

1. It shall be possible to adjust and maintain machines and/or equipment without exposing personnel to any hazards in the conditions specified by the manufacturer.

2. During the development/design and manufacture of machines and/or equipment, responsible persons shall:

remove or reduce hazards;

take measures to protect against hazards;

inform users on protection measures, indicate whether any particular training is required and specify any need for technical protection measures.

3. During the development/design and manufacture of machines and/or equipment and during the preparation of operation manuals/instructions for a machine and/or equipment, admissible risk related to the operation of machines and/or equipment shall be taken into account.

4. In case abnormal operation may lead to a hazard, the design of a machine and/or equipment shall prevent such abnormal operation. Should it be impossible, the operation manuals/instructions shall draw the user's attention to such situations.

5. During the development/design and manufacture of machines and/or equipment, ergonomic principles shall be implemented to reduce the impact of discomfort, fatigue and mental stress on personnel to the lowest possible level.

6. During the development/design and manufacture of machines and/or equipment, the constraints to which the operator's actions are subjected due to the use of personal protection equipment shall be taken into account.

7. A machine and/or equipment shall be supplied with all accessories and tools necessary for the safe adjustment, maintenance and intended operation.

8. A machine and/or equipment shall be so developed/designed and manufactured that the feedstock, materials and substances used during the manufacture and operation do not compromise the safety of human life or health, property, the environment and animal life or health.

Where liquids and gases are used, any hazards associated with their use shall be excluded.

9. Additional lighting for the safe operation of a machine and/or equipment shall be foreseen.

Internal parts and areas of a machine and/or equipment which require frequent visual inspection, adjustment and maintenance shall have lighting ensuring safety.

When operating a machine and/or equipment, shaded, obstructing, blinding or strobing areas shall be excluded.

10. A machine and/or equipment or each of their component parts shall be so packaged that they can be stored in safe, undamaged and sufficiently steady way.

11. Where the weight, size or shape of a machine and/or equipment or of their various component parts makes it impossible to move them manually, such machine and/or equipment or each of their component part shall be:

fitted with attachments for lifting gear;

shaped in a way enabling the use of standard lifting gear.

12. Where a machine and/or equipment or one of their component parts will be moved manually, they shall be able to be moved easily or equipped with accessories for picking it up.

Special safe locations for tools, parts and units which are necessary during the operation shall be provided.

13. Control systems of a machine and/or equipment shall ensure safe operation in all specified operation modes and under all external impacts associated with specified operation conditions.

The control systems shall prevent the occurrence of any hazardous situations due to logic errors or personnel mismanagement.

Depending on the complexity of controlling and monitoring operation modes of a machine and/or equipment, control systems shall include automatic operation mode regulators or automatic stops where a disrupted operation mode can cause the occurrence of a hazardous situation.

14. Control systems of a machine and/or equipment shall include alarms and other devices to warn about malfunctions in a machine and/or equipment which lead to the occurrence of hazardous situations.

Malfunction warning devices of a machine and/or equipment shall ensure that the perception of information by personnel is unambiguous, reliable and fast.

15. Controls of a machine and/or equipment shall be:

easily accessible, clearly identifiable and marked with inscriptions or symbols or designated otherwise;

designed and located in a way excluding their involuntary movement and ensuring that they are manipulated in a reliable, steady and unambiguous manner,

located with due account of the required effort to move them, sequence and frequency of their use and significance of functions;

manufactured in such way that their shape and dimensions match the method by which they are held (by fingers, by hand) or pressed (by finger, palm, foot);

located outside the hazardous area with the exception of controls which, due to their intended functions, require personnel to stay in the hazardous area, subject to additional safety measures to be taken.

16. Where one control is intended for the performance of several different actions, the action which is being performed shall be displayed by monitoring devices and shall be verifiable.

17. A machine and/or equipment shall be started and restarted after stoppage (whichever the cause) by one start control only. This requirement does not apply to restarting industrial equipment operated in an automatic mode, if this mode provides for restarting after stoppage.

Where a system of machines and/or equipment has several controls to start the system or its separate parts and if an incorrect sequence of their use can lead to the occurrence of hazardous situations, the control system shall include devices preventing any incorrect sequence.

18. Each system of machines and/or equipment shall include a control which can safely bring it to a complete stop. Controlling the stop of a machine and/or equipment shall have priority over controlling the start.

After a machine and/or equipment have stopped, the energy source shall be disconnected from the machine and/or equipment drivers, unless the disconnection of energy sources can lead to the occurrence of a hazardous situation. Control systems of a machine and/or equipment (with the exception of hand-guided portable machines) shall include emergency brake and emergency stop (switch-off) devices where such devices can reduce or prevent a hazard.

19. The emergency stop control shall:

be clearly identifiable and easily accessible;

stop the machine and/or equipment quickly and without generating any hazard;

remain, after its activation, in the stop position until deactivated by the user;

return to the deactivated position without causing the machine and/or equipment to restart;

be red and differ from other controls by shape and dimensions.

20. Controlling a system of machines and/or equipment shall exclude any hazard that can occur as a result of their joint operation or failure of any part.

Controlling a system of machines and/or equipment shall enable personnel, where necessary, to block the start of the system start as well as to bring it to a stop.

21. The control panel of a system of machines and/or equipment shall enable personnel to make it sure that no personnel or other persons are present in hazardous areas; or the control system shall prevent the operation of a system of machines and/or equipment when personnel or other persons are present in a hazardous area. Each start shall be preceded by a warning signal, the duration of which allows persons who are present in a hazardous area to leave it or prevent the start of the system.

The control panel of a system of machines and/or equipment shall have facilities to display information about incorrect operation of any part of the system as well as emergency stop (switch off) devices for the system and/or its separate parts.

22. Where the control system of a machine and/or equipment has an operation mode selector, each selector position shall correspond to one operation mode only and the selector shall be reliably secured in each position.

23. If higher personnel protection is required in some operation modes of a machine and/or equipment, the selection of these operation modes by the selector shall ensure that:

the automatic control mode can be blocked;

structural elements move only when continuous effort is attached to the movement control;

the operation of the machine and/or equipment is terminated where such operation can lead to a hazard for personnel;

any parts of the machine and/or equipment other than those involved in the selected operation mode are prevented from operation;

the velocity of any parts of the machine and/or equipment involved in the selected operation mode is reduced.

24. The selected control mode shall have priority over any other control modes with the exception of the emergency stop.

25. Full or partial termination of power supply and its subsequent recovery as well as any disruption of power supply control circuit shall not lead to hazardous situations including:

an unexpected start of a machine and/or equipment after power supply is recovered;

non-performance of the already made stop command;

falling or ejection of moving parts of the machine and/or equipment and objects, semi-finished products and tools which are fastened to them;

reduction in the efficiency of protection devices.

26. Any disruption (malfunction or damage) of the control circuit of a machine and/or equipment shall not lead to hazardous situations including:

an unexpected start of a machine and/or equipment after power supply is recovered;

non-performance of the already made stop command;

falling or ejection of moving parts of the machine and/or equipment and objects, semi-finished products and tools which are fastened to them;

reduction in the efficiency of protection devices.

27. A machine and/or equipment shall remain firm in the intended operation conditions ensuring safe operation without overturning, falling or an unexpected shift.

Operation manuals/instructions shall specify relevant fasteners.

28. Parts of machines and/or equipment and their connectors shall withstand stresses and tensions to which they are subjected during operation.

The materials used shall be adequately durable for the intended operation and take into account the occurrence of hazards associated with such phenomena as fatigue, ageing, corrosion and wear.

29. Operation manuals/instructions for machines and/or equipment shall specify the type and frequency of inspection and maintenance required to ensure safety. Where appropriate, wearing parts the criteria for their replacement shall be indicated.

30. Where, regardless of measures taken, a machine and/or equipment is still exposed to the risk of destruction, protective barriers shall be installed in such a way that fragments of collapsed machine and/or equipment parts or units can be contained within the barriers.

31. Pipelines shall be able to withstand required loads, securely fixed in place and protected against external mechanical impacts.

Measures shall be taken to ensure protection from hazardous consequences that may occur in case pipelines collapse, unexpectedly shift and emit high-pressure jets when collapsing.

32. Measures shall be taken to prevent hazards posed by parts, their fragments and waste ejected by a machine and/or equipment.

33. Accessible parts of machines and/or equipment shall have no cutting edges, sharp corners and coarse surfaces which can cause injury and are not technologically related to the performance of their functions by machines and/or equipment.

34. Where a machine and/or equipment are intended to perform several different operations involving manual movement of the workpiece in between each operation, a possibility shall be ensured to use each functional element separately from other elements hazardous for personnel.

35. Where a machine and/or equipment are intended to operated in various modes and/or at various speeds, a possibility shall be ensured to select and set up these modes in a safe and reliable manner.

36. Moving parts of a machine and/or equipment shall be located in such a way as to exclude the occurrence of injuries or, where hazards persist, warning symbols and/or inscriptions, guards or protective devices shall be used to prevent any contacts with a machine and/or equipment which can cause an accident.

37. Measures shall be taken to prevent moving parts from unintended blocking. In case, despite the measures taken, such blocking can occur, special tools shall be provided to enable safe unblocking. Unblocking procedures and methods shall be specified in operation manuals/instructions, and the machine and/or equipment shall be labeled accordingly.

38. The selection of guards or protective devices to be used to protect against hazards associated with moving parts of a machine and/or equipment shall be based on risk assessment.

39. Guards ad protective devices shall:

have durable and stable design;

be safe;

be located at an appropriate distance from a hazardous area;

not obstruct the control of the production process in hazardous areas;

allow for the adjustment and/or replacement of tools and maintenance of machines and/or equipment.

40. Immovable protective barriers must be securely fixed in place so that any access to the protected area can be possible only with the help of tools.

41. Movable protective barriers shall:

possibly remain fixed to a machine and/or equipment when open;

have blocking devices to prevent a machine and/or equipment from operation while movable barriers are open.

42. Movable protective barriers and protective devices shall be developed/designed and included in the control system of a machine and/or equipment in such a way that:

moving parts cannot be put into motion as long as they are accessible by personnel;

persons who may possibly be affected are out of reach during the start;

they can only be installed with the help of tools;

the absence or failure of a component of these devices prevents moving parts from starting or stopping;

the protection against any ejected parts is ensured by means of an appropriate barrier.

43. Devices that limit access to those areas of moving parts of machines and/or equipment which are necessary for the work shall:

be installed manually or automatically (depending on the type of work involved);

be installed with the help of tools;

reduce hazards posed by ejected parts.

44. Protective devices shall be linked with control systems of machines and/or equipment in such a way that:

moving parts cannot be put into motion as long as they are accessible by personnel;

personnel cannot stay within the reach of moving parts of a machine and/or equipment when they are put into motion;

the absence or inoperability of a component of protective facilities makes it impossible for moving parts to start or stop.

45. Protective devices shall only be installed/dismantled with the help of tools.

46. Where machines and/or equipment use electric energy, they shall be developed/designed, manufactured and installed in such a way as to exclude any electric shock hazard.

47. Where machines and/or equipment use energy other than electric energy (e.g. hydraulic, pneumatic, thermal energy), they shall be developed/designed, manufactured and installed in such a way as to avoid any hazard associated with these types of energy.

48. Any errors during the assembly of a machine and/or equipment which can be a source of hazard shall be excluded. If impossible, warnings shall be directly affixed on a machine and/or equipment. The information about possible errors during the reassembly shall be given in the operation manuals/instructions.

49. Hazards caused by a mixture of liquids and gases and/or incorrect connection of electric conductors during the assembly shall be excluded. If impossible, appropriate information shall be indicated on pipes, cables and/or connection units.

50. Measures shall be taken to eliminate any hazard caused by contact with or proximity to parts of a machine and/or equipment or materials at high or low temperatures.

The risk that hot or cold working or waste substances can eject from a machine and/or equipment shall be assessed. Where such hazard exists, measures to reduce it shall be taken.

Protection against injuries caused by contact with or immediate proximity to parts of a machine and/or equipment or by dealing with substances at high or low temperatures shall be provided.

Metal surfaces of hand tools, metal handles and locks of machines and/or equipment shall be covered with thermal insulation materials. In case (unintentional) skin contact with metal surfaces of the equipment is possible, their temperature shall be within admissible limits.

51. Machines and/or equipment shall be developed/designed in such a way as to exclude any fire or overheating hazard caused by either machines and/or equipment or by gases, liquids, dust, vapors or other substances produced or used by machines and/or equipment.

Machines and/or equipment shall be developed/designed in such a way as to exclude any inadmissible risk of explosion caused by either machines and/or equipment or by gases, liquids, dust, vapors or other substances produced or used by machines and/or equipment. This requires the following:

hazardous concentrations of explosive substances shall be avoided;

uninterrupted automatic control over the concentration of explosive substances shall be conducted;

ignition of a potentially explosive atmosphere shall be prevented;

consequences of an explosion shall be minimized.

52. During the development/design of a machine and/or equipment, noise, infrasound and air and contact ultrasound parameters shall be ensured at levels which do not exceed the parameters admissible for the operation of machines and/or equipment.

53. Operation manuals/instructions shall specify noise parameters for machines and/or equipment and uncertainty parameters.

54. During the development/design of a machine and/or equipment, admissible parameters of generated vibration affecting personnel shall be provided.

The design of a machine and/or equipment shall provide for an admissible risk resulting from the impact of generated vibration on personnel.

55. For hand-held and hand-guided machines and for machines equipped with a workplace for personnel, operation manuals/instructions shall specify full root mean square of the corrected vibration acceleration which affects personnel, and uncertainty parameters for the assessment of this value.

56. Machine and/or equipment shall be developed/designed and manufactured in such a way that ionizing radiation does not cause any hazard.

57. Where laser equipment is used, the following is required:

accidental radiation shall be prevented;

protection from direct, reflected, scattered and secondary radiation shall be ensured;

absence of hazards from optical equipment for the observation or adjustment of laser equipment shall be ensured.

58. During the development/design of a machine and/or equipment, measures shall be taken to protect personnel from adverse effects of non-ionizing radiations, static electric and permanent magnetic fields, industrial-frequency electromagnetic fields and electromagnetic radiations within radio and optical ranges.

59. Gases, liquids, dust, vapors and other wastes emitted by a machine and/or equipment in the course of operation shall not be a source of hazard for human life and health and environment.

Where such hazard exists, machines and/or equipment shall be equipped with devices for the collection and/or removal of these substances. Such devices shall be located as close as possible to the emission source. Also, they shall be equipped with devices for uninterrupted automatic emission control.

60. Machines and/or equipment shall be equipped with devices which prevent personnel from being locked inside a machine and/or equipment and, where impossible, with signaling devices to call for assistance.

61. Parts of machines and/or equipment in the areas where personnel may be present shall be developed/designed in such a way as to prevent sliding, stumbling or falling on or off these parts.

62. Maintenance areas for machines and/or equipment shall be located outside hazardous areas.

Maintenance of machines and/or equipment shall be possibly performed after they are stopped. If, for technical reasons, such conditions cannot be met, safety of maintenance activities shall be ensured.

63. A possibility to install diagnostic fault-finding equipment on machines and/or equipment shall be ensured.

A possibility for prompt and safe dismantling and replacement shall be ensured for those machine and/or equipment components which require frequent replacement (especially where their replacement in the course of operation is required or where they are susceptible to wear and ageing, and this may be lead to a hazard). To perform these actions by means of tools and

measurement instruments in accordance with the operation manuals, safe access to such components shall be ensured.

64. Facilities (ladders, stairs, galleries, pathways etc.) for safe access to the workplace and to all maintenance areas shall be provided.

65. Machines and/or equipment shall be equipped with devices for disconnection from all energy sources. Such devices shall be identified by color and size. It shall be possible to block them where their activation may pose a hazard for persons within the area exposed to such hazard.

A possibility to lock down energy supply disconnection devices shall be ensured if personnel located in any accessible area are unable to check whether the energy supply is discontinued.

It shall be possible to safely dissipate any energy remaining in the circuits of a machine and/or equipment after the energy supply is discontinued. Where applicable, certain circuits may remain connected to their energy sources to protect information and/or emergency lighting. In this case, measures shall be taken to ensure personnel's safety.

66. Machines and/or equipment shall be developed/designed in such a way as to limit the necessity of personnel's intervention, unless specified otherwise by operation manuals/instructions.

Where personnel's intervention cannot be avoided, it shall be safe.

67. A possibility shall be ensured that those internal parts of machines and/or equipment which contain hazardous elements can be cleaned without getting inside machines and/or equipment and unblocked from the outside. Safe cleaning shall be ensured.

68. Information necessary to control a machine and/or equipment shall enable its unambiguous understanding by personnel. This information shall not be excessive and shall not put extra strain on personnel during the operation.

69. Where personnel can be exposed to a hazard caused by malfunction, machines and/or equipment shall be equipped with devices giving a warning sound or light signal.

Signals by warning devices of machines and/or equipment shall enable their unambiguous understanding. Personnel shall be enabled to check the operation of such warning devices.

70. Where a hazard remains despite measures taken, a machine and/or equipment shall have warning inscriptions/symbols which shall be easily understood and made in the Russian language and in the national language(s) of the Customs Union Member State(s) is so required by the laws of the Customs Union Member State(s).

Annex No. 2
to the Customs Union Technical Regulation
on the Safety of Machines and Equipment
(CU TR 010/2011)

ADDITIONAL SAFETY REQUIREMENTS FOR CERTAIN CATEGORIES OF MACHINES AND EQUIPMENT

Agricultural and Other Self-Propelled and Mobile Machines

1. Machines the occurrence of hazards from which is associated with their movement shall also comply with the safety requirements set out in this Annex.

2. Visibility from the operator's workplace shall be sufficient to ensure the safety of the operator and personnel within the hazardous area when the machine and its working elements are used as intended. Where applicable, appropriate means shall be ensured to remove hazards caused by insufficient visibility.

3. The operator located at his workplace shall have the possibility to actuate the controls necessary for the operation of the machine. The exception applies to those activities which for safety reasons must be performed by means of controls located away from the operator's workplace.

4. The steering system of wheeled machines shall be designed and manufactured in such a way as to reduce the effort force on the steering wheel or control bars which occurs due to external impacts on the guided wheels.

5. The differential lock control shall be designed and installed in such a way that there is a possibility to unlock the differential while the machine is in motion.

Where a machine is completed with equipment exceeding its dimensions (e.g. stabilizers, jibs etc.) in order to perform manufacturing processes and/or given functions, the operator shall have a possibility to make sure prior to putting machine into motion that this equipment is in a given position which causes no hazard while the machine moves.

6. When the engine/motor is being started, any arbitrary movement of the machine shall be excluded.

Machines shall meet the requirements for slowing down, stopping, braking and immobilizing so as to ensure safety in the operation modes, under the loads and at the speeds specified in the operation documents.

7. The operator shall have an opportunity to slow down or bring a self-propelled machine to a standstill by means of the working control. Where safety so requires, in case the control system fails or the energy supply disrupts, machines shall be equipped with an emergency slow-down or stop device which has a fully independent and easily accessible control.

Where safety so requires, machines shall be equipped with a parking brake which ensures full immobility of the machine.

8. Where remote control of a machine or system of machines is necessary, each control unit shall be clearly identifiable with the machine for which it is intended.

The remote control system shall be designed and manufactured in such a way that it can only control the respective machine and/or particular operations.

A machine equipped with a remote control system shall be designed and manufactured in such a way as to only respond to signals from a particular control unit.

9. Pedestrian-controlled machines shall be able to move only as a result of the operator's sustained impact on the respective controls. When the engine/motor is being started, any arbitrary movement of the machine shall be excluded.

10. The control systems for pedestrian-controlled machines shall be designed in such a way as to minimize all risks associated with arbitrary movement of the machine towards the operator.

The speed of a pedestrian-controlled machine shall be compatible with the operator's walking speed.

Where a machine has a rotating tool, any possibility that it switches on while the machine moves backward shall be excluded, unless the machine is directly set in motion by this rotating tool. In the latter case, the reverse speed of the machine shall not pose any hazard for the operator.

Any failure of the energy source for the steering control (where applicable) shall not prevent from steering the machine during the entire time required to stop it.

11. A machine shall be designed, manufactured and, where applicable, mounted on a chassis in such a way that uncontrolled oscillations of the machine's centre of gravity neither affect the machine's stability nor exert any excessive strain on its structure.

A self-propelled machine shall be designed and manufactured in such a way that it remains stable under the intended operation conditions.

12. Where there is a risk that a self-propelled machine can turn over in the intended operation conditions, it shall be equipped with a roll-over protection device. The design of this device shall ensure that the operator inside the machine has sufficient limited deformation volume in case of turnover.

Seats of a machine shall be appropriately designed or equipped with a retention system which allows the operator to remain in his seat without restricting his movements required to control the machine.

13. Where, in accordance with the intended operation conditions, there is a risk that various objects may fall on a self-propelled machine, it shall be equipped with a protection device against falling objects.

The design of this device shall ensure that the operator has sufficient limited deformation volume in case an object falls on the machine.

14. Machines intended to tow or to be towed shall be equipped with tow-coupling devices designed, manufactured and located in such a way as to ensure easy and safe connection and disconnection and to prevent accidental disconnection during the operation.

15. Semi-trailed and semi-mounted machines shall have landing gear with bearing surfaces corresponding to the load and ground conditions.

16. Demountable mechanical power take-off devices which connect self-propelled machines/tractors to first rigid supports of towed machines shall be designed and manufactured in such a way that any part moving during the operation is protected along its entire length.

The power take-off shaft of a self-propelled machine/tractor, to which a demountable mechanical power take-off device is attached, shall be guarded by a special protective screen fastened to a self-propelled machine/tractor or by any other accessory ensuring equivalent protection.

It shall be possible to open the protective screen for access to the demountable power take-off device. When this device is attached, sufficient space shall remain to avoid damage to the protective screen by the drive shaft while the self-propelled machine/tractor is in motion.

The input shaft of a towed machine shall be enclosed in a protective casing fixed to the machine.

Torque limiters or freewheels may be fitted to the universal joint of the drive shaft on the towed machine side only. A demountable mechanical power take-off device shall be marked/labeled as required.

17. All towed machines which for their operation require a demountable mechanical power take-off connecting them to self-propelled machines/tractors shall have a system for attaching the device designed in such a way as to protect the device itself and its protective screens from damage caused by contact with the ground or parts of the machines when the latter are to be disconnected.

Outer parts of protective screens shall be designed, manufactured and located in such a way that they cannot rotate together with the demountable mechanical power take-off device. A protective screen shall enclose the drive shaft up to the ends of inner joint yokes (for simple universal joints) and at least up to the middle of the outer joint for wide-angle universal joints.

Where means of access to workplaces in a machine are positioned in the vicinity of the demountable mechanical power take-off device, they shall be designed and manufactured in such a way as to exclude any possibility of using protective screens as steps unless otherwise provided by the design.

18. Compartments for mounting batteries shall be designed and manufactured in such a way as to exclude hazards caused by the dropping of electrolyte onto the operator in the event of rollover and to avoid the accumulation of electrolyte vapors at the operator's workplace.

A machine shall be designed and manufactured in such a way that the batteries can be disconnected by means of an easily accessible device/switch intended for that purpose.

19. Depending on hazards, a machine shall be equipped with fire extinguishers located in easily accessible places and/or built-in fire extinguishing systems.

20. The operator shall be protected from exposure to hazardous substances where the main function of the machine is their spraying.

21. Machines having operators' workplaces shall be equipped with respective signaling devices to transmit signals from the towing machine to the towed one (where applicable).

22. Workplaces for agricultural machine operators who are located outside the cabin during the operation shall be protected from strewing earth, technological material and mud.

23. Folding elements designed to reduce transport-configuration width and/or height shall have mechanical or other means of securely holding them in place while in the transport configuration.

24. Self-propelled machines and mobile energy facilities intended for operation in mountainous areas shall be equipped with signaling devices which warn about a maximum permissible banked turn.

25. [Compliance with] safety requirements for mounted, semi-mounted, towed and semi-towed agricultural machines shall be evaluated by testing as part of a tractor-implement unit comprising a mounted, semi-mounted, towed [or semi-towed] machine and a mobile energy facility/tractor.

26. Where self-propelled machines and mobile energy facilities are intended for use in hazardous environments or where machines and mobile energy facilities themselves generate a hazardous environment, appropriate devices shall be provided to ensure the operator's normal performance and his protection against foreseeable hazards.

27. Where the operator's workplace has a cabin, it shall make it possible for the operator to promptly leave the machine and shall have at least one emergency exit.

28. Machines which are attachable to mobile energy facilities and in their transport configuration obstruct the light signaling devices of the mobile energy facility as well as self-propelled machines shall be equipped with their own external light devices.

Lifting Machines

1. Lifting machines shall be designed and manufactured in such a way that they retain their geometric shape, durability, rigidity, stability, resistance to wear and corrosion as well as equilibrium (the latter applies to certain portal crane jib types) in the process of operation (in service and out of service) and at other phases of their lifecycle (manufacture, installation, testing, dismantling etc.).

The durability, rigidity, stability and equilibrium balance of estimated metal structure elements as well as respective safety indicators of lifting machine mechanisms shall be proved by calculations with due account of specified operation modes.

2. Rail-mounted lifting machines shall be equipped with special devices preventing derailment and unauthorized movement under the impact of wind loads.

Where a derailment risk persists despite the availability of such devices, for example, due to eventual seismic impact or broken rails, additional devices preventing the equipment from eventual falling shall be used.

3. Lifting machines shall be designed and manufactured in accordance with operation conditions, working time and working modes anticipated for mechanisms. Where lifting machines are intended to be engaged in intensive technological processes, their lifting mechanisms shall be equipped with accrued operation time recorders.

All free-standing jib cranes shall have accrued operation time recorders (with load moment limiters).

Materials for manufacturing lifting machines shall be selected in accordance with anticipated operation environments (in service and out of service) such as temperature, corrosive, flammable and explosive atmospheres etc. The quality of materials shall be proved by manufacturer's certificates.

4. Pulleys and drums for steel wire ropes shall have a diameter at least as defined by the group classification covering the mechanism in which they are installed. Pulley and drum grooves shall correspond to the diameter of the installed steel wire rope.

When selecting a steel wire rope, the design effort shall be determined by the design of the mechanism in accordance with the number of block and tackle rope parts. The minimum coefficient of utilization (safety factor) of a steel wire rope shall be at least as defined by the group classification of the mechanism in which the rope is installed. The minimum coefficient of utilization (safety factor) of a steel wire rope for each individual sling leg shall be at least 6, provided that the maximum angle between legs of a multi-leg sling is no more than 90°. The design load for each leg of a multi-leg sling shall be defined on the condition that the load is held by three or fewer legs.

Steel wire ropes designed for lifting or holding loads (with the exclusion of ropes for cableways and endless slings) shall have no splices other than rope end splices;

The end splicing quality and steel wire rope fixing technique shall be selected so as to ensure the appropriate safety level for the mechanism and the lifting machine as a whole.

5. Sprocket sizes shall be selected in accordance with the group classification of the mechanism and the chain pitch.

When selecting a chain, the design effort shall be determined by the design of the mechanism in accordance with the number of block and tackle chain parts. The minimum coefficient of utilization (safety factor) of a chain shall be at least as defined by the group classification of the mechanism in which the rope is installed.

Fixing and joining methods for link chains shall be selected so as to ensure the appropriate safety level for the mechanism and the lifting machine as a whole.

The minimum coefficient of utilization (safety factor) of a chain for each individual sling leg shall be at least 6, provided that the maximum angle between legs of a multi-leg sling is no more than 90°. The design load for each leg of a multi-leg sling shall be defined on the condition that the load is held by three or fewer legs.

Where sling design includes textile ropes and webbings, the minimum coefficient of utilization (safety factor) of a textile rope or webbing for each individual sling leg shall be at least 7, provided that the maximum angle between legs of a multi-leg sling is no more than 90°.

Splicing (sewing) of textile ropes and webbings shall not reduce the required minimal coefficient of utilization of each individual sling leg.

6. Movement control devices shall operate in such a way that lifting machines on which they are installed are kept safe.

Lifting machines shall be designed and manufactured or equipped with special devices in such a way that the range of movement of machine components is kept within the specified limits. Where appropriate, a warning signal shall be given when such devices start operating.

Where free-standing and rail-mounted lifting machines can accidentally appear in the close vicinity of one another thereby causing a risk of collision, they shall be equipped with systems enabling to avoid this risk.

Lifting machines shall be designed and manufactured in such a way as to prevent loads which they carry from hazardous dislocation or free and uncontrolled falling down including situations where the power supply is partially or temporary discontinued or the operator stops the machine.

The process of lowering a load solely by means of a friction brakes system shall not be the only possible method under normal operating conditions, with the exception of those machines which cannot operate otherwise.

Load holding devices shall be designed and manufactured in such a way as to exclude any possibility that loads can accidentally fall down.

7. The operating position of a lifting machine shall ensure the highest possible visibility of its moving parts trajectories to prevent possible collisions with persons, equipment or other machines which move at the same time in the close vicinity and thereby pose a certain hazard.

Rail-mounted lifting machines shall be designed and manufactured in such a way as to protect persons from injuries associated with loads, lifting platforms or, where available, counterweights. Where applicable, any access to the load movement area under normal operating conditions shall be excluded.

Where there is a risk during inspection or maintenance that human body parts below or above a lifting platform can be crushed between an immovable element and the platform, sufficient free space shall be ensured to serve as retreat, or mechanical devices blocking the movement of the lifting platform shall be installed.

8. The lifting platform of a lifting machine operating at immovable sites shall move along rigid guides. Lifting systems with scissor-type pivot mechanisms are also deemed as rigidly guided.

Where persons have access to its lifting platform, a lifting machine shall be designed and manufactured in such a way as to ensure that the lifting platform remains immobile when accessed, in particular during loading or unloading.

A lifting machine shall be designed and manufactured in such a way that the difference between levels of the lifting platform and the boarding site for which it serves does not cause any risk of stumbling or falling.

9. Where there is a risk associated with a load falling down from the lifting platform, a lifting machine shall be designed and manufactured as to prevent the occurrence of this risk.

10. Any risk of contact by persons with the moving platform or other moving parts of a lifting machine at boarding/disembarking (loading/unloading) areas shall be excluded.

Where there is a risk associated with a possibility that persons can fall down within the movement area of a lifting platform when it is away from the boarding (loading/unloading) site, protective barriers preventing the occurrence of this risk shall be provided. Such protective barriers shall not open in the direction of the movement area of a lifting platform. They shall

have a protective interlocking device activated in accordance with the position of the lifting platform. This device shall prevent the lifting platform from hazardous movement unless the protective barriers are closed and locked as well as the protective barriers from opening unless the lifting platform has stopped at the respective boarding (loading/unloading) site.

11. To prove they are fully functional, lifting machines shall undergo periodic static and dynamic load testing under load equal to 1,25 of their marked working load (static tests) and 1,1 of their marked working load (dynamic tests). Load test methods shall be specified in the lifting machine operation manuals.

Newly manufactured lifting machines (free-standing jib cranes) shall be additionally tested for general anti-tipping stability. Test methods shall be specified in the lifting machine operation manuals.

12. Control devices for lifting machines which are operated manually shall be hold-to-run control devices. However, for partial or complete movements in which there is no risk of the load or machine colliding, these devices may be replaced by special devices authorizing automatic stops at pre-selected positions without using a hold-to-run control device.

Rope lifting platforms and traction devices shall be held by counterweights or by a device allowing control of the tension.

13. Each length of lifting chain, rope or sling not forming part of an assembly shall bear a mark or, where this is not possible, a plate or irremovable ring bearing the name and address of the manufacturer.

Lifting chains, steel wire ropes, textile ropes and webbings shall have a certificate containing the following information:

- the name and address of the manufacturer;

- the type of the chain, steel wire rope, textile rope or webbing which includes its nominal size, construction and material;

- the test method used;

- the minimum breaking (destructive) load.

The form of this certificate shall be approved by the Commission of the Customs Union.

14. All lifting accessories shall have the identification of the material for which they are intended (where this information is needed for safe use) and their maximum working load.

In the case of lifting accessories on which marking is physically impossible, the above-mentioned information shall be displayed on a plate securely affixed to the accessory or located in a place with the lowest risk of abrasion (e.g., as a result of wear) or negative impact on the strength of the accessory. The above-mentioned information shall be legible.

15. Each lifting machine shall have its maximum working load marked on it and, for jib cranes, an additional plate with a load chart.

Lifting machines intended for lifting goods only, equipped with a lifting platform which allows access for persons, shall bear a clear warning prohibiting the lifting of persons. This warning

shall be visible at each place where access to lifting platforms is possible and shall be kept during the entire life cycle of the machines.

16. Lifting machine mechanisms shall be equipped with normally closed brakes (excluding slewing mechanism brakes which may be normally open).

The braking reserve factor for a lifting machine mechanism shall specified taking into account the group classification of the mechanism but not lower than 1,5.

Lifting mechanisms of lifting machines intended for lifting and transporting dangerous goods shall be equipped with two brakes. The reserve factors for each of them shall be specified so that to ensure required safety.

17. Lifting accessories of a lifting machine shall meet the requirements ensuring specified safety and prevent unintentional decoupling, dropping or spilling of the load during its lifting and transportation, including when the control system fails to operate.

Lifting hooks, except for special design hooks, shall be installed on thrust ball bearings.

Mounting a hook on a suspension shall totally prevent its unauthorized disconnection from the suspension during operation.

Each hook of a lifting machine shall be equipped with a latch preventing unintentional falling of the sling, ring or eye from the hook throat during load lifting and transportation.

18. The electrical equipment and control system of a lifting machine shall comply with the requirements ensuring specified safety and meet the group classification requirements for the mechanisms installed on the machine.

The control system of a lifting machine shall have at least a neutral current protection device, prevent the drives of the mechanisms from unauthorized start and prevent personnel from electric shock.

19. The hydraulic equipment of lifting machines shall comply with the requirements ensuring specified safety, exclude damage to hydraulic drive elements when they come into contact with metal structure elements and exclude unintentional lowering of load/jibs in emergency situations.

Each hydraulic circuit shall be protected from overpressure by a relief valve which shall be adjusted for operations with the rated load equal to the marked working load and sealed.

20. Lifting machines shall be equipped with necessary safety devices: limiters (e.g., working movement limiters, necessary cabin door locks etc.) and indicators (e.g., light indicators for the availability of power supply voltage, indicators for weighing devices, sound signals for the start of load lifting and transportation etc.). Necessary limiters and indicators and their quantity shall be selected for a lifting machine in accordance with its design specifics, degree of responsibility and required safety level.

21. Lifting machine control apparatuses shall be manufactured and installed in such a way as to make the control convenient and not obstructing the visibility of the lifting accessory and load.

The movement directions of hand knobs and levers shall possibly coincide with the movement directions of the mechanisms.

22. The internal dimensions of lifting machine control cabins shall meet ergonomic and safety requirements specified for this equipment.

23. Easily accessible moving parts of a lifting machine shall be covered with strong removable barriers which allow for inspection and maintenance of mechanisms. Non-insulated live parts of electrical equipment located in those areas of lifting machines which do not exclude contact with such parts shall be shielded.

24. The galleries, landings and stairs of lifting machines shall ensure specified strength, and their dimensions shall meet specified safety requirements.

25. Welded joints in metal elements of lifting machines shall ensure their safety.

26. The rail tracks (for rail-mounted lifting machines) shall be designed and manufactured in such a way that they retain their specified durability, rigidity, stability, fatigue life and resistance to wear and corrosion in the process of operation (in service and out of service) and at other phases of the lifting machine lifecycle (installation, testing etc.).

Equipment for Food Processing and Cosmetics or Pharmaceutical Products

1. Materials coming into contact with foodstuffs or cosmetics or pharmaceutical products shall be acceptable for their intended use. All surfaces of the materials and their coatings shall be resistant to environments with which they come into contact and provide for their cleaning and disinfection without destruction, fractures, chips, peeling or abrasion.

2. Equipment surfaces contacting with foodstuffs or cosmetics or pharmaceutical products shall be smooth and have neither ridges nor crevices which could accumulate the products.

Equipment shall be easily cleaned and disinfected (where necessary after removing easily dismantled parts). The inside surfaces shall have curves with a radius sufficient to allow thorough cleaning.

3. It shall be possible for liquids, gases and aerosols deriving from foodstuffs, cosmetics or pharmaceutical products as well as from cleaning and disinfecting to be completely discharged from the equipment.

4. Equipment shall be designed and manufactured in such a way as to prevent any foreign substances or pests (e.g., insects) from entering and any organic substances from accumulating in areas that cannot be cleaned.

5. Equipment shall be designed and manufactured in such a way as to prevent any ancillary substances hazardous to health (e.g., lubricants) from coming into contact with foodstuffs, cosmetics or pharmaceutical products.

6. The equipment operation manuals/instructions shall contain information regarding recommended products and methods for cleaning, disinfecting and rinsing.

Annex No. 3
to the Customs Union Technical Regulations
on the Safety of Machines and Equipment
(CU TR 010/2011)

List of Objects of Technical Regulation Subject to Conformity Assurance in the Form of Certification against the Requirements of the Customs Union Technical Regulations on the Safety of Machines and Equipment

1. Household wood-processing machine tools.

2. Snow- and swamp-going vehicles, snowmobiles and their trailers.

3. Garage equipment for motor vehicles and trailers.

4. Agricultural machines.

5. Small-size mechanized garden and forestry machines including electrical machines.

6. Machines for livestock breeding, poultry farming and fodder production.

7. Mechanized tools including electrical tools.

8. Technological equipment for timber harvesting, timber yards and timber rafting:

- petrol-driven chainsaws;

- electric chainsaws.

9. Technological equipment for retail, catering and nutrition.

10. Equipment for stripping, stoping and mine working lining:

- shearer-loaders;

- mechanized complexes;

- mechanized face roof supports;

- pneumatic tools.

11. Mine shaft sinking equipment:

- roadheaders for coal and rock;

- metal lining for preparatory mine workings.

12. Equipment for shaft hoists and mining transport:

- flight chain conveyors for mines;

- belt conveyors for mines;

- winches for mines.

13. Equipment for borehole drilling, equipment for loading and tamping blast holes:

- pneumatic hammer drills;

- pneumatic down-the-hole drills;

- mobile drilling rigs;

- drilling rigs.

14. Equipment for ventilation and dust suppression:

- fans for mines;

- dust collection and dust suppression facilities;

- oxygen compressors.

15. Lifting and transportation equipment, cranes.

List of Objects of Technical Regulation Subject to Conformity Assurance in the Form of Declaration of Conformity with the Requirements of the Customs Union Technical Regulations on the Safety of Machines and Equipment

1. Turbines and gas-turbine units.

2. Draft machines.

3. Crushers.

4. Diesel generators.

5. Devices for lifting operations.

6. Conveyors.

7. Electric wire rope and chain hoists.

8. Industrial indoor trackless transport.

9. Chemical equipment, oil and gas processing equipment.

10. Polymer processing equipment.

11. Pumping equipment (pumps, pumping assemblies and units).

12. Cryogenic, compressing, refrigerating, oxy-fuel welding and cutting and gas-purifying equipment:

- air separation and noble gas production units;

- equipment for pretreatment and purification of gases and liquids, heat and mass transfer equipment for cryogenic systems and units;

- compressors (air and gas, driven);

- refrigeration units.

13. Oxy-flame metal treatment and metalizing equipment.

14. Gas purification and dust collection equipment.

15. Pulp and paper equipment.

16. Papermaking equipment.

17. Oilfield equipment, drilling equipment for geological prospecting.

18. Technological equipment and apparatuses for painting and lacquering mechanical engineering products.

19. Equipment for liquid ammonia.

20. Drinking water treatment and purification equipment;

21. Metal processing machine tools.

22. Forging and pressing machines.

23. Wood processing equipment (excluding household wood processing machine tools).

24. Technological equipment for foundries.

25. Welding and thermal spraying equipment.

26. Industrial tractors.

27. Forklifts.

28. Bicycles (excluding bicycles for children).

29. Machines for excavation, land reclamation, quarry development and maintenance;

30. Road construction machines and mortar preparation equipment.

31. Construction equipment and machines.

32. Equipment for construction materials production.

33. Technological equipment for timber harvesting, timber yards and timber rafting (excluding petrol-driven chainsaws and electric chainsaws).

34. Technological equipment for peat industry.

35. Industrial laundry equipment.

36. Equipment for chemical cleaning and dyeing of clothes and household products.

37. Machines and equipment for municipal utilities.

38. Industrial fans.

39. Industrial air conditioners.

40. Air heaters and air coolers.

41. Technological equipment for light industry.

42. Technological equipment for textile industry.

43. Technological equipment for the production of chemical fibers, fiberglass and asbestos fibers.

44. Technological equipment for food, meat, dairy and fish industries.

45. Technological equipment for flour, groats and compound feed industries and grain storage industry.

46. technological equipment for retail, catering and nutrition.

47. Printing equipment.

48. Technological equipment for glass, porcelain, faience and cable industries.

49. Liquid and solid fuel operated boilers.

50. Gas and combined burners (except for burner units), liquid fuel burners, burners for integration in equipment for industrial technological processes.

51. Liquid and solid fuel operated water and space heating apparatuses.

52. Milling cutters:

- milling cutters with multifaceted carbide inserts;

- slitting and slotting high-speed steel saws;

- carbide milling cutters.

53. Tool bits:

- metal lathe tool bits with brazed carbide inserts;

- metal lathe tool bits with multifaceted carbide inserts.

54. Circular saws with carbide inserts for wood processing.

55. Fitting and mounting tools with insulating handles for working in electric units with voltage up to 1000 V.

56. Shell-end milling cutters:

- relieved wood processing milling cutters;

- wood processing milling cutters with blades made of steel or carbide;

- cylinder milling cutter assemblies.

57. Natural and synthetic diamond tools:

- diamond grinding wheels;

- diamond cut-off wheels.

58. Tools made of super hard synthetic materials based on boron nitride (cubic boron nitride tools):

- grinding wheels.

59. Industrial valves.

60. Abrasive tools, abrasive materials:

- grinding wheels including grinding wheels for handheld machines;

- cut-off wheels;

- polishing wheels;

- flap grinding wheels;

- endless grinding belts;

- fibre grinding wheels.