

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ  
РОССИЙСКОЙ ФЕДЕРАЦИИ

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Кафедра иностранных языков технических специальностей

## **АНГЛИЙСКИЙ ЯЗЫК**

Практикум  
по развитию навыков чтения и перевода  
для студентов 2 курса технологического факультета  
специальности 072000  
«Стандартизация и сертификация»

## LESSON 1

### Active Vocabulary

1. to promulgate – объявлять, провозглашать
2. State Standardization System – Государственная система стандартизации
3. mutual will – взаимное согласие
4. consent – согласие
5. to apply – применять, использовать
6. all-Russian classifiers of technical and economic information – общероссийские классификаторы технико-экономической информации
7. branch standards – отраслевые стандарты
8. standards of enterprises – стандарты организаций
9. requirements – требования
10. technical and informational compatibility – техническая и информационная совместимость
11. The Technical Committee – Технический Комитет по стандартизации
12. to execute – осуществлять, исполнять
13. State Committee for Construction of Russia – Государственный комитет РФ по вопросам архитектуры и строительства (Госстрой России)
14. to take into account – принимать во внимание
15. long-term working programs – долгосрочные рабочие программы
16. to adopt – принимать

### Introduction. Standardization

The standardization works in Russia are based on the Law “On Standardization” of the Russian Federation promulgated in 1993 and the set of standards of the State Standardization System. The standardization must be based on the mutual will of all the interested parties developing, manufacturing, and consuming products to reach consent taking account of the opinion of every party.

The normative documents effective in the territory of the Russian Federation are the following:

- State Standards of Russian Federation;
- international (regional) standards, rules, norms and recommendations on standardization applied in the established order;
- all-Russian classifiers of technical and economic information;
- branch standards;
- standards of enterprises;
- standards of scientific, technical, engineering societies and of other associations.

The State Standards are developed on the products, works and services of inter-industry importance. State standards set requirements for safety of products, works and services; environment; life; health and property, technical and informational compatibility; unity of methods of control and of marking; and other requirements set

by the effective laws of the Russian Federation. State standards are mandatory for State bodies and subjects of economic activity. Other requirements of the State Standards works, and services are mandatory for subjects of economic activity under contract or if fixed by technical documents of products, works and services manufacturers (suppliers). The Technical Committees (TC) are formed to organize and execute the standardization works on specific products, technologies, or activities, and to execute the international (regional) standardization works on these objects.

The State Standardization works are executed under the State standardization plans Gosstandart of Russia and State Committee for Construction of Russia, taking into account directions they fix for the State standardization works, long-term working programs of TCs, proposals of enterprises and State bodies.

The State standards and All-Russian Classifiers of Technical and Economic Information are adopted by Gosstandart of Russia; for the construction and construction materials manufacturing they adopted by State Committee for Construction of Russia.

## LESSON 2

### Active Vocabulary

1. to establish – устанавливать
2. property – имущество
3. in line with the state of – в соответствии с уровнем развития
4. uniformity of measurements – единство измерений
5. economic entity – хозяйственный объект
6. with due regard of risk – с учетом риска возникновения
7. emergency situations- чрезвычайные ситуации
8. defensibility – обороноспособность
9. to issue in pursuance – издавать в соответствии с
10. state educational standards – государственные образовательные стандарты
11. international agreements- международные договоры
12. to contain – содержать, вмещать
13. organization of operations – организация работ
14. The Committee of the RF for standardization, metrology and certification -  
Комитет РФ по стандартизации, метрологии и сертификации
15. state management of standardization – Гос. управление стандартизацией,  
метрологией и сертификацией
16. state management bodies – государственные органы управления
17. authorities of republics – органы власти республик
18. public affiliations – общественные объединения
19. mandatory requirements – обязательные требования
20. to involve – вовлекать

## **General Provisions**

### Concept of standardization

Standardization is activity of establishing norms, rules and characteristics (hereinafter referred to as requirements) to ensure:

- safety of products, operations and services for environment, human life, health and property;
- technical and information compatibility as well as interchangeability of products;
- quality of products, operations and services in line with the state of the art of science and technology;
- uniformity of measurements;
- economy of all types of resources;
- safety of economic entities with due regard of risk of naturally and technogenically occurring catastrophes and other emergency situations;
- defensibility and mobilization readiness of the country.

### Legislation of the Russian Federation on standardization

The Law “On Standardization” and legislative acts of the Russian Federation issued in pursuance of it shall regulate relations in the area of standardization. The Law “On Standardization” will not regulate relations specified in state educational standards.

### International agreements

The international agreement of the Russian Federation specifies other rules than those contained in legislation of the Russian Federation, the rules of the international agreement shall apply.

### Organization of operations in standardization

1. The Committee of the Russian Federation for standardization, metrology and certification (Gosstandart of Russia) shall be responsible for state management of standardization in the Russian Federation including coordination with state management bodies of the Russian Federation, interrelations with authorities of republics within the Russian Federation, areas, regions, autonomous region, autonomous districts, cities, with public affiliations including technical committees on standardization and subjects of economic activity. Gosstandart of Russia shall shape and pursue the state policy in the area of standardization, perform state control and supervision over observance of mandatory requirements specified in state standards, participate in international (regional) standardization, organize professional training and retraining of personnel in the area of standardization as well as establish rules for application of international (regional) standards, rules, norms and recommendations on standardization on the territory of the Russian Federation, unless otherwise specified in international agreements of the Russian Federation. Other state management bodies shall participate in standardization activities within their scope of competence. Subjects of economic activity including public affiliations shall arrange and perform operations in standardization in pursuance of this Law.

2. Gosstandart of Russia will establish in state standards of the state standardization system general organizational and technical rules for standardization activities, forms and methods for interrelations between subjects of economic activity and with state management bodies.

International cooperation in the area of standardization

Gosstandart of Russia has a right to represent the Russian Federation in international (regional) organizations involved in standardization activities.

### LESSON 3

#### Active Vocabulary

1. valid – действующий
2. sector standards – стандарты отраслей
3. company standards – стандарты предприятий
4. engineering society – инженерное общество
5. imply – предполагать, подразумевать
6. irrespective – независимо от
7. agency affiliation – ведомственная принадлежность
8. rendering services – оказывающие услуги
9. uniform consumer purpose – однородное потребительское назначение
10. functional purpose – функциональное назначение
11. advanced national standards – прогрессивные национальные стандарты
12. violate provisions – нарушать положения
13. federal executive authorities – федеральные органы исполнительной власти
14. fire safety – пожарная безопасность
15. State fire service – государственная противопожарная служба
16. The Ministry of International Affairs of the RF – Министерство внутренних дел РФ
17. intersector importance – межотраслевое значение
18. major consumer (performance) – основные потребительские (эксплуатационные)
19. disposal of products – утилизация продукции
20. information unification – информационное единство
21. tolerances and fits – допуски и посадки
22. assurance of quality – обеспечение качества продукции
23. preservation and rational usage – сохранение и рациональное использование
24. competitiveness – конкурентоспособность
25. preliminary perspective requirements – предварительные требования на перспективу
26. compliance of products and services – соответствие продукции и услуг
27. mark of conformity – маркировка продукции
28. State register – Государственный реестр продукции и услуг РФ

## **Normative Documents On Standardization And Their Application**

### **Part I**

Normative documents on standardization and requirements to them.

1. Normative documents on standardization valid on the territory of the Russian Federation in cases, in order and on conditions specified by this Law shall be: state standards of the Russian Federation (hereinafter referred to as *state standards*); international (regional) standards, rules, norms and recommendations on standardization applied as specified; all – Russian classifiers for technical and economic information; sector standards; company standards; standards of scientific and technical, engineering societies and other public affiliations. Implied under a sector in this Law is a combination of subjects of economic activity irrespective of their agency affiliation and forms of property developing and (or) producing products (performing operations and rendering services) of specific types which have uniform consumer or functional purpose.

2. Requirements specified by normative documents on standardization should be based on up-to-date achievements of science and technology, international (regional) standards, rules, norms and recommendations on standardization, advanced national standards of other states, take into account the conditions of how products are used, operations performed and services rendered, labour conditions and modes and should not violate provisions established by legislative acts of the Russian Federation.

3. Normative documents on standardization of products and services subject according to legislation to mandatory certification should contain requirements which are used for mandatory certification, methods of control to prove conformity with these requirements, rules for marking of products and services, requirements to information on certification included in accompanied documents. Normative documents on standardization, which are adopted by the federal executive authorities and specify or should specify requirements to fire safety, are subject to mandatory agreement with the state fire service of the Ministry of International Affairs of the Russian Federation.

4. State standards, sector standards shall not be an object of copyright.

State standards, all-Russian classifiers for technical and economic information.

1) State standards shall be developed for products, operations and services having intersector importance and should not be in conflict with legislation of the Russian Federation. State standards should contain: safety requirements to products, operations and services for environment, human life, health and property, fire safety requirements, labour safety and industrial sanitation requirements; requirements to technical and information compatibility as well as interchangeability of products; major consumer (performance) characteristics of products, methods of their control, requirements to packaging, marking, transportation, storage, usage and disposal of products; rules and norms ensuring technical and information unification when products are developed, produced, used, operations performed and services rendered including rules for presentation of technical documents, tolerances and fits, general rules for assurance of quality of products, operations and services, preservation and rational usage of all types of resources, terms and their definitions, symbols,

metrological and other general technical and organizational and technical rules and norms. To ensure the state protection of interests of the Russian Federation and competitiveness of domestic products (services) the preliminary perspective requirements anticipating possibilities of traditional technologies shall be specified in justified cases. The content of requirements specified in state standards, their scope, field of application and date of introduction shall be established by state management bodies which adopt them.

2) Requirements specified by state standards to ensure safety of products, operations and services for environment, human life, health and property, technical and information compatibility, interchangeability of products, uniformity of their methods of control and uniformity of marking as well as other requirements specified by legislation of the Russian Federation shall be mandatory for observation by state management bodies and subjects of economic activity. The compliance of products and services with requirements specified in state standards shall be established as stipulated by legislation of the Russian Federation on mandatory certification of products and services. Other requirements specified by state standards to products, operations and services shall be observed by subjects of economic activity in pursuance of an agreement or if it is indicated in technical documents of the manufacturer (supplier) of products, the performer of operations or services. In this case the compliance of products and services with requirements specified in state standards may be established as stipulated by legislation of the Russian Federation in voluntary certification of products and services.

3) The compliance of products and services with requirements specified in state standards may be proved by marking products and services by a mark of conformity with state standards. Gosstandart of Russia shall determine a form of a mark of conformity with state standards, the procedure of marking by this mark and the procedure of issuing licenses to subjects of economic activity for marking products and services by this mark. Subjects of economic activity having licenses for marking products and services by a mark of conformity with state standards as well as products and services marked by this mark shall enter the State register of products and services marked by a mark of conformity with state standards. Gosstandart of Russia shall establish the procedure for maintaining the above register and its usage.

4) According to this Law Gosstandart of Russia shall adopt state standards and all – Russian classifiers for technical and economic information and in the area of construction and industry of construction materials – the State Committee of the Russian Federation for Architecture and Construction (Gosstroy of Russia). State standards shall become effective after their state registration in Gosstandart of Russia.

5) Gosstandart of Russia shall establish the procedure for development, adoption, introduction, application and maintenance of all – Russian classifiers for technical and economic information.

## LESSON 4

### Active Vocabulary

1. indicate – указывать
2. to be in conflict to – не должны нарушать
3. to be responsible for – нести ответственность
4. amendment and withdrawal – изменение и отмена
5. approve – утверждать
6. subjects of economy activity – субъекты хозяйственной деятельности
7. dynamically distribute – динамично распространять
8. technical specifications – технические условия
9. catalogue lists on products – каталожные листы на поставляемую продукцию
10. valid sector standards – действующие отраслевые стандарты
11. to stipulate – обуславливать

### Normative Documents On Standardization And Their Application Part II

Sector standards, company standards, standards of scientific and technical and engineering societies and other public affiliations.

1. Sector standards may be developed and adopted by state management bodies within their competence to meet requirements indicated in Article 1 of this Law as applied to sector products, operations and services. Sector standards should not be in conflict with mandatory requirements specified in state standards, State management bodies which adopted sector standards shall be responsible for the compliance of their requirements with mandatory requirements of state standards. State standards of the State standardization system shall establish the procedure for development, adoption, registration, application, control over observance of mandatory requirements, amendment and withdrawal of sector standards.

2. Company standards may be developed and approved by enterprises independently to apply them to meet requirements indicated in Article 1 of this Law as well improve organization and management of production. Company standards shall be mandatorily observed by other subjects of economy activity if a reference to these standards is made in the agreement on development, production and supply of products, on operations to be performed and services rendered.

3. Standards of scientific and technical and engineering societies and other public affiliations shall be developed and adopted by these public affiliations to dynamically distribute and use the results of studies and developments obtained in various areas of knowledge. The need of using such standards shall be established by subjects of economic activity independently.

4. According to this Law the subjects of economic activity shall independently establish the procedure for development, approval, registration, amendment and withdrawal of standards.



5. Standards of subjects of economic activity should not be in conflict with mandatory requirements specified in state standards.

Subjects of economic activity which adopted these standards shall be responsible for the compliance of their requirements with mandatory requirements of state standards.

6. Information on adopted sector standards, standards of scientific and technical and engineering societies and other public affiliations shall be sent to bodies under Gosstandart of Russia.

Application of normative documents on standardization.

1. Normative documents on standardization should be applied by state management bodies, subjects of economic activity at the stages of development, preparation of products for production, their production, realization (supply, sale), usage (operation), storage, transportation and disposal, when operations are performed and services rendered, when technical documents are developed (design, technological, project ones) including technical specifications, catalogue lists on products to be supplied (services to be rendered). Valid sector standards shall be applied on the territory of the Russian Federation in cases when their requirements are not in conflict with legislation of the Russian Federation.

2. The compliance of products, operations to be performed and services rendered with mandatory requirements of state standards should be incorporated by the customer and performer into the agreement.

3. The need to apply normative documents on standardization in relation to products (services) produced (rendered) on the territory of the Russian Federation to export them from its territory shall be determined by a contract (agreement) with exception of cases stipulated by legislation of the Russian Federation.

4. Import of products and services to the customs territory of the Russian Federation and their proof of conformity with mandatory requirements specified in state standards shall be carried out as stipulated by legislation of the Russian Federation.

## LESSON 5

### Active Vocabulary

1. publication and sale – издание и реализация
2. to be accessible – быть доступным
3. to set up – создавать
4. federal collection of state standards – федеральный фонд государственных стандартов
5. to compile – формировать
6. an exclusive right to – исключительное право
7. to incorporate – вносить

## **Normative Documents On Standardization And Their Application**

### **Part III**

Information on normative documents on standardization, their publication and sale.

1. The official information on adopted state standards, all – Russian classifiers for technical and economic information and those under development as well as state standards and all – Russian classifiers themselves should be accessible for users including foreign ones where they are not confidential.

2. Gosstandart of Russia shall publish the official information on state standards, all – Russian classifiers for technical and economic information, international (regional) standards, rules, norms and recommendations on standardization, national standards of other states as well as information on international agreements in the area of standardization and rules for their usage; it shall set up and maintain the federal collection of state standards and all – Russian classifiers for technical and economic information as well as international (regional) standards, rules, norms and recommendations on standardization, national standards of foreign countries. The Government of the Russian Federation shall establish the procedure for setting up this collection and rules for its usage. The provision on setting up and rules for usage of the federal collection of state standards, all – Russian classifiers for technical and economic information, international (regional) standards, rules, norms and recommendations on standardization, national standards of foreign countries is approved by the decision of the Government of RF № 100 of February 12, 1994.

3. State management bodies which adopted normative documents on standardization within their competence, subjects of economic activity which approved normative documents on standardization shall compile and maintain collections of these documents and provide users with information on them and documents as such on an agreed upon basis.

4. State management bodies which adopted such normative documents on standardization shall have an exclusive right to officially publish state standards and all – Russian classifiers for technical and economic information according to the established procedure. The Government of the Russian Federation shall establish the procedure for publication of state standards and all – Russian classifiers for technical and economic information.

5. Gosstandart of Russia shall have an exclusive right to officially publish information contained in the all-Russian catalogue for products and services incorporated into the state register of products and services marked by a mark of conformity with state standards.

## LESSON 6

### Active Vocabulary

1. state control and supervision – государственный контроль и надзор
2. supply and sale – поставки и продажи
3. usage (operation) – использование (эксплуатация)
4. storage – хранение
5. authorized officials – должностные лица
6. be bound to create – быть обязанным создавать
7. chief state inspector – главный государственный инспектор по надзору за гос. стандартами
8. state inspector – государственный инспектор

### State Control and Supervision Over Observance of Requirements Specified in State Standards

#### Part I

State control and supervision.

1. State control and supervision over observance of mandatory requirements specified in state standards by subjects of economic activity shall be carried out at the stages of development, preparation of products for production, their production, realization (supply, sale), usage (operation), storage, transportation and disposal as well as when operations are performed and services rendered.

2. Gosstandart of Russia shall establish the procedure for state control and supervision over observance of mandatory requirements specified in state standards as stipulated by legislation of the Russian Federation. The procedure of Gosstandart of Russia for state control and supervision over observance of mandatory requirements specified in state standards, rules for mandatory certification and certified products (operations, services) is approved by the decision of Gosstandart of Russia № 239 of December 30, 1003.

3. Authorized officials of subjects of economic activity are bound to create all conditions needed for carrying out state control and supervision.

State control and supervision bodies.

1. Gosstandart of Russia, other specially authorized state management bodies within their competence shall be responsible for state control and supervision over observance of mandatory requirements specified in state standards.

2. State control and supervision over observance of mandatory requirements specified in state standards shall be carried out by authorized officials of state management bodies within their competence. State control and supervision over observance of mandatory requirements specified in state standards shall be directly carried out on behalf of Gosstandart of Russia by its authorized officials – state inspectors:

- chief state inspector of the Russian Federation responsible for supervision over observance of state standards;

- chief inspectors of republics within the Russian Federation, areas, regions, autonomous region, autonomous districts, cities, responsible for supervision over observance of state standards;
- state inspectors responsible for supervision over observance of state standards.

## **LESSON 7**

### **Active Vocabulary**

1. rights and obligations – права и ответственность
2. over observance of mandatory requirements – над соблюдением обязательных требований
3. representatives – представители
4. free access – свободный доступ
5. offices and production facilities – служебные и производственные помещения
6. to sample and take specimens of products and services – проводить отбор проб и образцов продукции и услуг
7. costs of spent specimens and tests – стоимость проведения испытаний
8. expense of production – издержки производства
9. to issue prescriptions – выдавать предписания
10. elimination of revealed violations – устранение выявленных нарушений
11. banning or suspending the realization – запрет и приостановка реализации
12. nonconformity of products – несоответствие продукции
13. reporting documents – отчетная документация
14. arbitration court – арбитражный суд

### **State Control and Supervision Over Observance of Requirements Specified in State Standards**

#### **Part II**

State inspectors, their rights and obligations.

1. State inspectors responsible for state control and supervision over observance of mandatory requirements specified in state standards shall be representatives of state management bodies and protected by the state. The state inspector has a right:

- to have a free access to offices and production facilities of the subjects of economic activity;

- to obtain information and documents from the subject of economic activity needed for state control and supervision;
- to use technical means and specialists of the subject of economic activity when carrying out state control and supervision;
- to sample and take specimens of products and services as specified by valid normative documents on standardization to inspect their compliance with mandatory requirements specified in state standards with costs of spent

- specimens and tests (analyses, measurements) to be born at the expense of production of subjects of economic activity;
- to issue prescriptions on elimination of revealed violations of mandatory requirements specified in state standards at the stages of development, preparation of products for production, their production, realization (supply, sale), usage (operation), storage, transportation and disposal as well as when operations are performed and services rendered;
  - to issue prescriptions on banning or suspending the realization (supply, sale), usage (operation) of inspected products as well as operations performed and services rendered in cases of nonconformity of products, operations and services with mandatory requirements specified in state standards;
  - to ban realization of products, operations performed and services rendered in case the subject of economic activity is not inclined to submit products, operations and services for inspection.

Chief state inspector of the Russian Federation responsible for supervision over observance of state standards, chief state inspectors of republics within the Russian Federation, areas, regions, autonomous regions, autonomous districts responsible for supervision over observance of state standards have a right to issue prescriptions to the subject of economic activity mentioned in paragraphs seven and eight of this clause as well as have a right: to take decisions imposing penalties to subjects of economic activity for violations of mandatory requirements specified in state standards.

To ban sale of imported products and rendering of imported services unconfirming with mandatory requirements specified in state standards and which have not passed state registration as stipulated by legislation of the Russian federation. For violation of prescriptions issued by state inspectors banning or suspending the realization (supply, sale) of products, operations performed and services rendered the subjects of economic activity shall pay a penalty amounting to the cost of products sold, operations performed or services rendered up to 10 million rubles if it is impossible to define the cost of products sold, operations performed and services rendered or reporting documents are not submitted.

2. In case the issued prescriptions and decisions are not followed, state inspectors shall send required materials to the arbitration court, procurator's office or the court to take measures as stipulated by legislation of the Russian Federation.

3. State inspectors fulfilling their obligations should protect interests of consumers, subjects of economic activity and the state being guided by legislation.

4. State inspectors shall be held responsible as stipulated by legislation for non-fulfillment or improper fulfillment of their obligations and disclosure of state or confidential information.

## LESSON 8

### Active Vocabulary

1. documents for distribution – документы для рассылки
2. draft legislative acts of the RF – проекты актов законодательства РФ
3. specific objects – конкретные объекты
4. support – обеспечение
5. fundamental – основополагающий
6. scientific and research work – научно-исследовательская работа
7. source – источник
8. penalties – штрафы
9. specific size of the sum – конкретный размер суммы
10. funded wholly or partially – финансируемый полностью или частично
11. defense products – оборонная продукция
12. sections for normative support – разделы нормативного обеспечения
13. stimulation for application – стимулирование применения
14. render services – оказывать услуги
15. marked with a mark of conformity with state standards – маркировать знаком соответствия государственным стандартам

### **Financing of state standardization, state control and supervision, stimulation for application of state standards**

Financing of state standardization, state control and supervision.

1. The following is subject to mandatory state financing:
  - development of state standards specifying mandatory requirements as stipulated by legislation of the Russian Federation, all-Russian classifiers for technical and economic information, preparation and publication of official information on them as well as information on publication of these documents for distribution to all concerned users;
  - development and (or) participation in the development of international (regional) standards, rules, norms and recommendations on standardization;
    - development of draft legislative acts of the Russian Federation for specific objects of standardization as well as development and support for functioning of fundamental organizational and technical and general technical sets of standards;
    - pursuance of scientific and research work and other standardization activities of general state importance;
  - involvement in state control and supervision over observance of mandatory requirements specified in state standards;

- compiling and maintenance of the federal collection of state standards, all-Russian classifiers for technical and economic information, international (regional) standards, rules, norms and recommendations on standardization, national standards of other countries as well as the State register of products and services marked by a mark of conformity with state standards;
- other state standardization activities established by the Government of the Russian Federation.

2. Such sources for financing of state standardization activities, state control and supervision over observance of mandatory requirements specified in state standards may be used as means obtained as specified from the sale of published (republished) state standards, all-Russian classifiers for technical and economic information, published (republished) all-Russian classifiers for products and services incorporated into the State register of products and services marked by a mark of conformity with state standards as well as part of means obtained as a result of penalties imposed for violation of provisions of this Law sent to Gosstandart of Russia. The specific size of the sum sent to Gosstandart of Russia as a result of penalties imposed for violation of provisions of this Law shall be established by legislative acts of the Russian Federation.

3. When developing federal and other state programs funded wholly or partially from the republican budget of the Russian Federation including programs for creation and development of production of defense products, the sections for normative support of quality of products (operations, services) should be envisaged.

Stimulation for application of state standards.

1. The state shall guarantee the economic support and stimulation to subjects of economic activity which produce products (render services) marked with a mark of conformity with state standards including state standards containing preliminary perspective requirements anticipating possibilities of traditional technologies.

2. Measures for economic support and stimulation of subjects of economic activity producing products (rendering services) according to clause 1 of this Article and having licenses to mark products (services) with a mark of conformity with state standards shall be established as stipulated by legislative acts of the Russian Federation.

## **LESSON 9**

### **Active Vocabulary**

1. establish – устанавливать
2. interaction – взаимодействие
3. entrepreneurs – субъекты хозяйственной деятельности
4. review – обзор
5. cancellation – отмена

6. composition – структура
7. exposure – представление
8. contents of standards – содержание стандартов
9. Agreement on Coordinated Policy - Соглашение о скоординированной политике в области стандартизации, метрологии и сертификации РФ

## **STATE SYSTEM OF STANDARDIZATION**

**GOST R 1.0-92.** State standardization system of the Russian Federation.

General.

This document establishes the general organizational and methodological requirements for standardization work as well as the methods of interaction of enterprises and entrepreneurs (subjects of economic activity) with respective State bodies and with each other.

**GOST R 1.9-92.** Procedures for development of State standards.

This document establishes the requirements to the development, coordination, adoption, State registration, publishing, review and cancellation of the State standards of the Russian Federation.

**GOST R 1.4-93.** Industry standards; standards of enterprises; standards of scientific, technical and engineering societies; and standards of other associations.

This document establishes the general requirements to the development, adoption, registration, publication, application, control over observation of the mandatory requirements, modification and cancellation of the standards of branches of industry. This also establishes the objects of standardization and the general rules of development and application of the industry standards; standards of enterprises; standards of scientific, technical and engineering societies; and standards of other associations.

**GOST R 1.5-92.** General requirements to composition, exposure, shape and contents of standards.

This document establishes the general requirements to the composition, exposure, shape designation of the State standards of the Russian Federation; industry standards; standards of enterprises; standards of scientific, technical and engineering societies; and standards of other associations as well as to the modifications of standards.

**GOST R 1.8-95.** Procedures for development and application of inter-state standards.

This document establishes the order of development of the drafts of inter-state standards which author is either the Russian Federation or the Inter-State Technical Committees for standardization (ITC) which Secretariats are presided by the Russian Federation; the procedures of analyzing by the Russian Federation of the drafts of inter-state standards which authors are other member states of the Agreement on Coordinated Policy in Standardization, Metrology and Certification or ITC which Secretariats are presided by these states; the order of application in the Russian



Federation of the adopted inter-state standards; the order of modification of the effective inter-state standards; and the order of termination of their effectiveness in the Russian Federation.

**GOST R 1.9-95.** Order of marking of products and services with mark of conformity to State standard.

This document establishes the general requirements to the marking of products and services with mark of conformity to the State standards of the Russian Federation (GOST R) and/or inter-state standards (GOST) applicable on the territory of the Russian Federation and the order issuing licenses for marking products and services.

**GOST R 1.10-95.** Procedures of development, adoption and registration of the rules and recommendations on standardization, metrology, certification and information on them.

This document establishes the requirements to the development, coordination, adoption, registration, publication, support, modification and cancellation of the rules and recommendations and standardization, metrology, certification and information on them as well as the requirements to their exposure and contents.

## **ADDITIONAL TEXTS**

### **LESSON 10**

#### **What if standards did not exist?**

If there were no standards, we would soon notice. Standards make an enormous contribution to most aspects of our lives – although very often, that contribution is invisible. It is when there is an absence of standards that their importance is brought home. For example, as purchasers or users of products, we soon notice when they turn out to be of poor quality, do not fit, are incompatible with equipment we already have, are unreliable or dangerous. When products meet our expectations, we tend to take this for granted. We are usually unaware of the role played by standards in raising levels of quality, safety, reliability, efficiency and interchangeability - as well as in providing such benefits at an economical cost.

ISO (International Organization for Standardization) is the world's largest developer of standards. Although ISO's principal activity is the development of technical standards, ISO standards also have important economic and social repercussions. ISO standards make a positive difference, not just to engineers and manufacturers for whom they solve basic problems in production and distribution, but to society as a whole.

The International Standards which ISO develops are very useful. They are useful to industrial and business organizations of all types, to governments and other regulatory bodies, to trade officials, to conformity assessment professionals, to

suppliers and customers of products and services in both public and private sectors, and, ultimately, to people in general in their roles as consumers and end users.

ISO standards contribute to making the development, manufacturing and supply of products and services more efficient, safer and cleaner. They make trade between countries easier and fairer. They provide governments with a technical base for health, safety and environmental legislation. They aid in transferring technology to developing countries. ISO standards also serve to safeguard consumers, and users in general, of products and services - as well as to make their lives simpler.

When things go well - for example, when systems, machinery and devices work well and safely - then often it is because they conform to standards. And the organization responsible for many thousands of the standards which benefit society worldwide is ISO.

Who ISO is?

ISO is a network of the national standards institutes of 146 countries, on the basis of one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

ISO is a non-governmental organization: its members are not, as is the case in the United Nations system, delegations of national governments. Nevertheless, ISO occupies a special position between the public and private sectors. This is because, on the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.

Therefore, ISO is able to act as a bridging organization in which a consensus can be reached on solutions that meet both the requirements of business and the broader needs of society, such as the need of stakeholder groups like consumers and users.

What ISO's name means?

Because "International Organization for Standardization" would have different abbreviations in different languages ("IOS" in English, "OIN" in French for *Organisation internationale de normalisation*), it was decided at the outset to use a word derived from the Greek isos, meaning "equal". Therefore, whatever the country, whatever the language, the short form of the organization's name is always ISO.

How it all started

International standardization began in the electrotechnical field: the International Electrotechnical Commission (IEC) was established in 1906. Pioneering work in other fields was carried out by the International Federation of the National

Standardizing Associations (ISA), which was set up in 1926. The emphasis within ISA was laid heavily on mechanical engineering. ISA's activities came to an end in 1942.

In 1946, delegates from 25 countries met in London and decided to create a new international organization, of which the object would be "to facilitate the international coordination and unification of industrial standards". The new organization, ISO, officially began operations on 23 February 1947.

What 'international standardization' means

When the large majority of products or services in a particular business or industry sector conform to International Standards, a state of industry-wide standardization can be said to exist. This is achieved through consensus agreements between national delegations representing all the economic stakeholders concerned - suppliers, users, government regulators and other interest groups, such as consumers. They agree on specifications and criteria to be applied consistently in the classification of materials, in the manufacture and supply of products, in testing and analysis, in terminology and in the provision of services. In this way, International Standards provide a reference framework, or a common technological language, between suppliers and their customers - which facilitates trade and the transfer of technology.

## LESSON 11

How ISO standards benefit society

***For businesses***, the widespread adoption of International Standards means that suppliers can base the development of their products and services on specifications that have wide acceptance in their sectors. This, in turn, means that businesses using International Standards are increasingly free to compete on many more markets around the world.

***For customers***, the worldwide compatibility of technology which is achieved when products and services are based on International Standards brings them an increasingly wide choice of offers, and they also benefit from the effects of competition among suppliers.

***For governments***, International Standards provide the technological and scientific bases underpinning health, safety and environmental legislation.

***For trade officials*** negotiating the emergence of regional and global markets, International Standards create "a level playing field" for all competitors on those markets. The existence of divergent national or regional standards can create technical barriers to trade, even when there is political agreement to do away with

restrictive import quotas and the like. International Standards are the technical means by which political trade agreements can be put into practice.

***For developing countries***, International Standards that represent an international consensus on the state of the art constitute an important source of technological know-how. By defining the characteristics that products and services will be expected to meet on export markets, International Standards give developing countries a basis for making the right decisions when investing their scarce resources and thus avoid squandering them.

***For consumers***, conformity of products and services to International Standards provides assurance about their quality, safety and reliability.

***For everyone***, International Standards can contribute to the quality of life in general by ensuring that the transport, machinery and tools we use are safe.

***For the planet*** we inhabit, International Standards on air, water and soil quality, and on emissions of gases and radiation, can contribute to efforts to preserve the environment.

The hallmarks of the ISO brand

Equal footing

Every participating ISO member institutions has the right to take part in the development of any standard which it judges to be important to its country's economy. No matter what the size or strength of that economy, each participating member in ISO has one vote. ISO's activities are thus carried out in a democratic framework where each country is on an equal footing to influence the direction of ISO's work at the strategic level, as well as the technical content of its individual standards.

Voluntary

ISO standards are voluntary. As a non-governmental organization, ISO has no legal authority to enforce their implementation. A certain percentage of ISO standards – mainly those concerned with health, safety or the environment - has been adopted in some countries as part of their regulatory framework, or is referred to in legislation for which it serves as the technical basis. Such adoptions are sovereign decisions by the regulatory authorities or governments of the countries concerned; ISO itself does not regulate or legislate. However, although ISO standards are voluntary, they may become a market requirement, as has happened in the case of ISO 9000 quality management systems, or of dimensions of freight containers and bank cards.

Market-driven

ISO develops only those standards for which there is a market requirement. The work is carried out by experts on loan from the industrial, technical and business sectors

which have asked for the standards, and which subsequently put them to use. These experts may be joined by others with relevant knowledge, such as representatives of government agencies, consumer organizations, academia and testing laboratories.

### Consensus

Although ISO standards are voluntary, the fact that they are developed in response to market demand, and are based on consensus among the interested parties, ensures widespread applicability of the standards. Consensus, like technology, evolves and ISO takes account both of evolving technology and of evolving interests by requiring a review of its standards at least every five years to decide whether they should be maintained, updated or withdrawn. In this way, ISO standards retain their position as the state of the art, as agreed by an international cross-section of experts in the field.

### Worldwide

ISO standards are technical agreements which provide the framework for compatible technology worldwide. Developing technical consensus on this international scale is a major operation. In all, there are more than 2 850 ISO technical groups (technical committees, subcommittees, working groups etc.) in which some 30 000 experts participate annually to develop ISO standards.

## LESSON 12

### ISO and world trade

ISO – together with IEC (International Electrotechnical Commission) and ITU (International Telecommunication Union) – has built a strategic partnership with the WTO (World Trade Organization) with the common goal of promoting a free and fair global trading system. The political agreements reached within the framework of the WTO require underpinning by technical agreements. ISO, IEC and ITU, as the three principal organizations in international standardization, have the complementary scopes, the framework, the expertise and the experience to provide this technical support for the growth of the global market.

The WTO's Agreement on Technical Barriers to Trade (TBT) includes the Code of Good Practice for the Preparation, Adoption and Application of Standards. The TBT Agreement recognizes the important contribution that International Standards and conformity assessment systems can make to improving efficiency of production and facilitating international trade. Therefore, where International Standards exist or their completion is imminent, the Code states that standardizing bodies should use them as a basis for standards they develop. The Code requires that standardizing bodies that have accepted its terms notify this fact to the ISO/IEC Information Centre located at the ISO Central Secretariat. Standardizing bodies having accepted the Code must publish their work programmes and also notify the existence of their work programmes to the ISO/IEC Information Centre. On behalf of the WTO, ISO

periodically publishes a directory of standardizing bodies that have accepted the WTO TBT Standards Code.

### ISO and developing countries

ISO standards represent a reservoir of technology. Developing countries in particular, with their scarce resources, stand to gain from this wealth of knowledge. For them, ISO standards are an important means both of acquiring technological know-how that is backed by international consensus as the state of the art, and of raising their capability to export and compete on global markets. In addition to this general benefit of ISO standards, ISO has a specific programme for developing countries which consists of training seminars, sponsorships/fellowships and publications. ISO also has a policy committee on developing country matters, DEVCO, with a membership of nearly 100 standards institutes from both industrialized and developed countries.

### How to recognize an ISO standard

An ISO standard can be anything from a four-page document to one several hundred pages' long and, in the future, will increasingly be available in electronic form. It carries the ISO logo and the designation, "International Standard". In most cases, it is published in A4 format – which is itself one of the ISO standard paper sizes.

### The big, wide world of ISO standards

Between 1947 and the present day, ISO published more than 13 700 International Standards. ISO's work programme ranges from standards for traditional activities, such as agriculture and construction, through mechanical engineering, to medical devices, to the newest information technology developments, such as the digital coding of audio-visual signals for multimedia applications.

Standardization of screw threads helps to keep chairs, children's bicycles and aircraft together and solves the repair and maintenance problems caused by a lack of standardization that were once a major headache for manufacturers and product users. Standards establishing an international consensus on terminology make technology transfer easier and can represent an important stage in the advancement of new technologies.

Without the standardized dimensions of freight containers, international trade would be slower and more expensive. Without the standardization of telephone and banking cards, life would be more complicated. A lack of standardization may even affect the quality of life itself: for the disabled, for example, when they are barred access to consumer products, public transport and buildings because the dimensions of wheel-chairs and entrances are not standardized.

Standardized symbols provide danger warnings and information across linguistic frontiers. Consensus on grades of various materials give a common reference for suppliers and clients in business dealings.

Agreement on a sufficient number of variations of a product to meet most current applications allows economies of scale with cost benefits for both producers and consumers. An example is the standardization of paper sizes.

Standardization of performance or safety requirements of diverse equipment makes sure that users' needs are met while allowing individual manufacturers the freedom to design their own solution on how to meet those needs.

Standardized protocols allow computers from different vendors to "talk" to each other. Standardized documents speed up the transit of goods, or identify sensitive or dangerous cargoes that may be handled by people speaking different languages. Standardization of connections and interfaces of all types ensures the compatibility of equipment of diverse origins and the interoperability of different technologies.

Agreement on test methods allows meaningful comparisons of products, or plays an important part in controlling pollution - whether by noise, vibration or emissions. Safety standards for machinery protect people at work, at play, at sea... and at the dentist's.

Without the international agreement contained in ISO standards on quantities and units, shopping and trade would be haphazard, science would be - unscientific - and technological development would be handicapped.

More than half a million organizations in more 60 countries are implementing ISO 9000 which provides a framework for quality management throughout the processes of producing and delivering products and services for the customer.

ISO 14000 environmental management systems are helping organizations of all types to improve their environmental performance at the same time as making a positive impact on business results.

## **LESSON 13**

What makes ISO 9000 and ISO 14000 so special?

The ISO 9000 and ISO 14000 families are among ISO's most widely known and successful standards ever. ISO 9000 has become an international reference for quality requirements in business to business dealings, and ISO 14000 looks set to achieve at least as much, if not more, in helping organizations to meet their environmental challenges.

The vast majority of ISO standards are highly specific to a particular product, material, or process. However, the standards that have earned the ISO 9000 and ISO 14000 families a worldwide reputation are known as "generic management system standards". "Generic" means that the same standards can be applied to any organization, large or small, whatever its product - including whether its "product" is actually a service – in any sector of activity, and whether it is a business enterprise, a public administration, or a government department. "Management system" refers to what the organization does to manage its processes, or activities. "Generic" also signifies that no matter what the organization is or does, if it wants to establish a quality management system or an environmental management system, then such a system has a number of essential features which are spelled out in the relevant standards of the ISO 9000 or ISO 14000 families.

ISO 9000 is concerned with "quality management". This means what the organization does to enhance customer satisfaction by meeting customer and applicable regulatory requirements and continually to improve its performance in this regard. ISO 14000 is primarily concerned with "environmental management". This means what the organization does to minimize harmful effects on the environment caused by its activities, and continually to improve its environmental performance.

#### What makes conformity assessment so important

At its simplest, "conformity assessment" means checking that products, materials, services, systems or people measure up to the specifications of a relevant standard. Today, many products require testing for conformance with specifications or compliance with safety, or other regulations before they can be put on many markets. Even simpler products may require supporting technical documentation that includes test data. With so much trade taking place across borders, conformity assessment has become an important component of the world economy. Over the years, ISO has developed many of the standards against which products are assessed for conformity, as well as the standardized test methods that allow the meaningful comparison of test results so necessary for international trade. ISO itself does not carry out conformity assessment. However, in partnership with IEC (International Electrotechnical Commission), ISO develops ISO/IEC guides and standards to be used by organizations which carry out conformity assessment activities. The voluntary criteria contained in these guides and standards represent an international consensus on what constitutes best practice. Their use contributes to the consistency and coherence of conformity assessment worldwide and so facilitates trade across borders.

#### Where to find information on standards

ISO's entire portfolio of standards is listed in the ISO Catalogue which can be accessed online. The site also provides access to the World Standards Services Network (WSSN) which is a network of publicly accessible Web servers of standards organizations around the world. It contains links to international, regional and



national standardization bodies, and also to other international and regional organizations which develop standards in their specialized subject area, in addition to their principal activity.

In fact, there are several hundred thousand standards and technical regulations in the world containing special requirements for a particular country or region. Finding information about these, or about related conformity assessment activities, can be a heavy task. ISONET, the ISO Information Network, can ease the problem. This is a worldwide network of national standards information centres which have cooperatively developed a system to provide rapid access to information about standards, technical regulations, and testing and conformity assessment activities in operation around the world. The World Trade Organization's Agreement on Technical Barriers to Trade (WTO/TBT) calls upon its signatory countries to establish a national enquiry point to answer questions on these same areas in relation to that country. In many countries, the ISONET and WTO enquiry points are one and the same.

## LESSON 14

### Who can join ISO?

Membership of ISO is open to national standards institutes or similar organizations most representative of standardization in their country (one member in each country). Full members, known as "Member bodies", each have one vote, whatever the size or strength of the economy of the country concerned. In addition, ISO also has two categories of membership for countries with fewer resources. They pay reduced membership fees. Although such members do not have a vote, they can remain up to date on standardization developments. "Correspondent members" are usually organizations in countries which do not yet have a fully developed national standards activity. Correspondent members do not take an active part in the technical work, but are entitled to be kept fully informed about the work of interest to them. "Subscriber members" are institutes from countries with very small economies that nevertheless wish to maintain contact with international standardization.

Although individuals or enterprises are not eligible for membership, both have a range of opportunities for taking part in ISO's work, or in contributing to the development of standards through the ISO member in their country. Individuals may be selected by member institutes to serve on national delegations participating in ISO technical committees, or may provide their input during the process of developing a national consensus for presentation by the delegation. International organizations and associations, both non-governmental and representing industry sectors, can apply for liaison status to a technical committee. They do not vote, but can participate in the debates and the development of consensus.

## How the ISO system is managed

All strategic decisions are referred to the ISO members, who meet for an annual General Assembly. The proposals put to the members are developed by the ISO Council, drawn from the membership as a whole, which resembles the board of directors of a business organization. ISO Council meets three times a year and its membership is rotated to ensure that it is representative of ISO's membership. Operations are managed by a Secretary-General, which is a permanent appointment. The Secretary-General reports to a President who is a prominent figure in standardization or in business, elected for two years. The Secretary-General is based at ISO Central Secretariat in Geneva, Switzerland, with a compact staff which provides administrative and technical support to the ISO members, coordinates the decentralized standards' development programme, and publishes the output.

## How the ISO system is financed

ISO's national members pay subscriptions that meet the operational cost of ISO's Central Secretariat. The subscription paid by each member is in proportion to the country's Gross National Product and trade figures. Another source of revenue is the sale of standards. However, the operations of ISO Central Secretariat represent only about one fifth of the cost of the system's operation. The main costs are borne by the member bodies which manage the specific standards' development projects and the business organizations which loan experts to participate in the technical work. These organizations are, in effect, subsidizing the technical work by paying the travel costs of the experts and allowing them time to work on their ISO assignments.

## How ISO decides what standards to develop

Working through the ISO system, it is the sectors which need the standards that are at the origin of their development. What happens is that the need for a standard is felt by an industry or business sector which communicates the requirement to one of ISO's national members. The latter then proposes the new work item to ISO as a whole. If accepted, the work item is assigned to an existing technical committee. Proposals may also be made to set up technical committees to cover new scopes of technological activity. In order to use resources most efficiently, ISO only launches the development of new standards for which there is clearly a market requirement.

The focus of the technical committees is necessarily specialized and specific. In addition, ISO has three general policy development committees with a more horizontal approach. Their job is to provide strategic guidance for the standards' development work on cross-sectoral aspects. They are: CASCO (conformity assessment); COPOLCO (consumer policy), and DEVCO (developing country matters). These committees help to ensure that the specific technical work is aligned with broader market and stakeholder group interest.

## LESSON 15

### Who develops ISO standards?

ISO standards are developed by technical committees comprising experts on loan from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. These experts may be joined by others with relevant knowledge, such as representatives of government agencies, testing laboratories, consumer associations, environmentalists, and so on. The experts participate as national delegations, chosen by the ISO national member institute for the country concerned. These delegations are required to represent not just the views of the organizations in which their participating experts work, but of other stakeholders too. According to ISO rules, the member institute is expected to take account of the views of the range of parties interested in the standard under development and to present a consolidated, national consensus position to the technical committee.

### How ISO standards are developed

The national delegations of experts of a technical committee meet to discuss, debate and argue until they reach consensus on a draft agreement. This is then circulated as a Draft International Standard (DIS) to ISO's membership as a whole for comment and balloting. Many members have public review procedures for making draft standards known and available to interested parties and to the general public. The ISO members then take account of any feedback they receive in formulating their position on the draft standard. If the voting is in favour, the document, with eventual modifications, is circulated to the ISO members as a Final Draft International Standard (FDIS). If that vote is positive, the document is then published as an International Standard.

Every working day of the year, an average of eleven ISO meetings are taking place somewhere in the world. In between meetings, the experts continue the standards' development work by correspondence. Increasingly, their contacts are made by electronic means and some ISO technical bodies have already gone over entirely to electronic working, which speeds up the development of standards and reduces travel costs.

### When speed is of the essence

ISO standards are developed according to strict rules to ensure that they are transparent and fair. The reverse side of the coin is that it can take time to develop consensus among the interested parties and for the resulting agreement to go through the public review process in the ISO member countries. For some users of standards, particularly those working in fast-changing technology sectors, it may be more important to agree on a technical specification and publish it quickly, before going through the various checks and balances needed to win the status of a full

International Standard. Therefore, to meet such needs, ISO has developed a new range of "deliverables", or different categories of specifications, allowing publication at an intermediate stage of development before full consensus: Publicly Available Specification (PAS), Technical Specification (TS), Technical Report (TR), International Workshop Agreement (IWA).

#### ISO's international partners

ISO collaborates with its partners in international standardization, the IEC (International Electrotechnical Commission), whose scope of activities complements ISO's. In turn, ISO and the IEC cooperate on a joint basis with the ITU (International Telecommunication Union). Like ISO, the IEC is a non-governmental body, while the ITU is part of the United Nations Organization and its members are governments. The three organizations have a strong collaboration on standardization in the fields of information technology and telecommunications.

#### ISO's regional partners

Many of ISO's members also belong to regional standardization organizations. This makes it easier for ISO to build bridges with regional standardization activities throughout the world. ISO has recognized regional standards organizations representing Africa, the Arab countries, the area covered by the Commonwealth of Independent States, Europe, Latin America, the Pacific area, and the South-East Asia nations. These recognitions are based on a commitment by the regional bodies to adopt ISO standards – whenever possible without change – as the national standards of their members and to initiate the development of divergent standards only if no appropriate ISO standards are available for direct adoption.

#### Specialist liaisons

ISO also liaises with some 550 international and regional organisations interested in aspects of ISO's standardization work. These include the 28 or so international standards-developing bodies outside the ISO/IEC system. Each of these bodies works in a specific area, usually with a United Nations mandate; an example is the World Health Organization. ISO and the IEC together produce about 85% of all International Standards, and these other specialized bodies account for the rest.

#### Special products

In addition to International Standards and the "new deliverables", ISO develops guideline documents, manuals for developing countries, standards compendia – as paper products and CD-ROM's – handbooks and whole range standard-related publications. ISO also publishes two magazines: the monthly *ISO Focus* which presents an overview of ISO's activities, and *ISO Management Systems – The International Review of ISO 9000 and ISO 14000*, published six times a year.