CABINET OF MINISTERS OF UKRAINE

RESOLUTION

No. 939

of 18 July 2007

Kyiv

On Approving Technical Regulations on Containers for Storing and Burying Radioactive Waste and Action Plan on Their Implementation

Pursuant to Article 14 of the Law of Ukraine “On Standards, Technical Regulations and Conformity Assessment Procedures,” the Cabinet of Ministers of Ukraine hereby resolves:

1. To approve Technical Regulations on Containers for Storing and Burying Radioactive Waste and Action Plan on Their Implementation as attached.

2. To appoint the State Committee on Nuclear Regulation responsible for enterprises’ using the Technical Regulations approved by the present Resolution and for exercising control over observance of their requirements.

Prime Minister of Ukraine
V. YANUKOVYCH

Ind. 33

APPROVED by
Resolution of the Cabinet of Ministers of Ukraine

of 18 July 2007 No. 939
Technical Regulations

on Containers for Storing and Burying Radioactive Waste

General provisions

1. These Technical Regulations shall determine general technical requirements to containers for storing and/or burying radioactive waste resulting from civil activities, to conducting the procedure for assessing conformity of such containers to technical requirements, whose observance is obligatory in case of commissioning containers as well as requirements to their packaging and marking.

2. Observing requirements of the Technical Regulations shall be obligatory for:

- business subjects in the field of using nuclear energy, irrespective of their form of ownership;
- appointed conformity assessment bodies, requirements to which are stipulated by Resolution of the Cabinet of Ministers of Ukraine of 24 January 2007 No. 59 “On Approving the Procedure for Appointing Bodies to Assess Conformity of Products, Processes and Services to Requirements of Technical Regulations” (Official Bulletin of Ukraine, 2007, No. 6, page 223);
- central executive authorities exercising market supervision;
- the central executive authority charged with the functions of technical regulation in the field of using nuclear energy and radiation safety.


The below terms used in the Technical Regulations shall have the following meanings:

- container shall mean a vessel containing radioactive waste in the form obtained after processing and/or conditioning for their safe handling including storage and/or burial. A container shall be a component of packaging of nuclear waste fulfilling the function of an external barrier to localize and protect the said waste;

- package of radioactive waste shall mean a product of conditioning the waste obtained in a certain form including any airtight casing (for example, a container) and, if needed, internal barriers (for example, adsorbing materials or sheathing), prepared with due regard to safety requirements regarding transportation, processing, storage and burial of such waste.

4. Containers shall be prohibited to be introduced into circulation without a declaration of conformity and the national conformity mark applied pursuant to Resolution of the Cabinet of Ministers of Ukraine of 29 November 2001 No. 1599 “On Approving the Description and Rules for Applying the National Conformity Mark” (Official Bulletin of Ukraine, 2001, No. 49, page 2188; 2006, No. 20, page 1451).
5. In case of identifying facts of violating requirements of the Technical Regulation with regard to using a conformity declaration and applying the national conformity mark, the supplier of containers shall take measures to eliminate such facts in accordance with law.

**General requirements to containers**

6. These Technical Regulations shall cover the following containers produced domestically and abroad:

containers for hard and liquid radioactive waste to be stored (in the form of radioactive waste packages) in appropriate storehouses (after completing the stage of obligatorily applying these Technical Regulations);

collector containers for radioactive waste;

containers for solid radioactive waste that are subject to burying (in the form of radioactive waste packages) in surface, subsurface or geological storehouses pursuant to admissibility (non-admissibility) of their burying in storehouses of different types in accordance with the Rules of Radiation Safety of Ukraine.

7. These Technical Regulations shall not cover transport containers (packaging sets) to transport radioactive materials.

8. A container shall ensure localizing (placing and holding) radioactive waste and restrict its impact on personnel, the population and the natural environment, reducing the likelihood of an emergency.

9. To ensure an effective use of containers by consumers, correspondence between the following shall be achieved:

the design and choice of construction materials – to characteristics of the contained radioactive waste;

the configuration and size of containers – to transport and technological systems that are used in the course of storing and burying radioactive waste as well as to structural elements of the storehouse, in which radioactive waste packages are intended to be placed.

10. Useful life of containers for storing radioactive waste in storehouses, during which their use as an engineering barrier is ensured, shall be established pursuant to the normative document for a specific container type.

Useful life of containers for storing long-lived radioactive waste in storehouses located within stable deep geological formations shall be established with due regard to the complex of engineering and natural barriers.

Useful life of collector containers shall be established pursuant to the normative document for a specific type of collector container.

11. A container shall be suitable for use in accordance with its purpose. In the course of its manufacture and use (including service maintenance) pursuant to the terms specified by its manufacturer, the container shall not cause danger for the life and health of personnel participating in the manufacture and maintenance of containers, the population and the natural
environment. The measures taken shall be intended to prevent, during the stated useful life of the container, with regard to its manufacturing stage, the risk of causing harm as a result of certain events, in particular, irradiation, that may occur in an emergency; restrict the impact of radioactive waste on personnel participating in the manufacture and maintenance of containers, the population and the natural environment as well as reduce the likelihood of computed accidents.

12. Containers may be designed so as to include special equipment for its safe use in accordance with its purpose (with due regard to physical and chemical characteristics of radioactive waste, the maximum allowed weight of a loaded container, etc.), namely:

- fittings and pipelines for full emptying of liquid radioactive waste;
- controls of technological parameters (temperature, pressure, level, etc.) and radiation controls;
- sampling devices;
- devices to determine the level of sludge (sediment) and other necessary equipment.

13. The structure of containers shall ensure the possibility of its decontamination.

14. Containers shall meet the fire and explosion safety requirements.

15. The structure and reliability of containers, their technical documentation and use in accordance with their purpose shall meet the accompanying program for ensuring quality and the requirements of rules, regulations and standards of nuclear and radiation safety.

16. Materials that are used to manufacture containers and technological processes for their manufacture shall not pose danger to the health and safety of personnel participating in the manufacture and maintenance of containers, the population and the natural environment. If it is necessary to use some dangerous materials, all possible measures shall be taken to ensure safety of personnel participating in the manufacture and maintenance of containers, the population and the natural environment both in normal conditions and emergencies.

17. Materials that are used to manufacture containers must have characteristics, requirements to which are specified in the technical conditions for each specific container, namely:

- radiation resistance;
- firmness;
- corrosion resistance to its radioactive content, decontaminating solutions, and impacts of the natural environment;
- chemical resistance (to leaching);
- frost resistance;
- physical and chemical compatibility with each other and with radioactive waste;
- water and gas tightness;
diffusion permeability;

resistance to microorganisms, mildew, etc.

Materials shall preserve the said qualities during the useful live of the container.

18. The manufacturer of containers or its authorized person – resident of Ukraine (the “manufacturer”) shall supply containers to consumers in assembled or partly assembled state in a complete set and packaging specified in technical documentation for a specific container.

19. Technical documentation for a specific container shall specify the place of applying the national conformity mark and identification number of the appointed conformity assessment body.

20. The outside surface of each container shall have clear marking that cannot be washed off during the entire useful life specifying the following information:

Identification of container (short name, useful volume, gross weight, serial No., year of manufacture, etc.);

a trade mark or short name of the manufacturer company;

a stamp of the technical control department;

the date of manufacturing the container;

weight of the empty container.

Pursuant to requirements of technical documentation, the place is also provided for marking the packaging of radioactive waste.

21. Conditions for transporting and storing containers shall be established in their technical documentation.

A dual-purpose container (that additionally fulfills the function of an element of the transport packaging set) must also comply with requirements of the Rules for Nuclear and Radiation Safety in Transporting Radioactive Materials.

22. Requirements to the safety of containers with due regard to their intended use shall be determined by the state authority in the field of using nuclear power and radiation safety.

23. Personnel participating in manufacturing and servicing containers must have an appropriate qualifications sufficient to perform the planned scope of work with high quality. Training and examining knowledge of personnel shall be carried out in accordance with the established procedure.

**Conformity assessment procedure**

24. The manufacturer shall choose an appointed conformity assessment body (the “conformity assessment body”) to assess conformity of containers to these Technical Regulations.
25. The manufacturer’s choice of the necessary module of the conformity assessment procedure shall depend on the degree of danger of the container and the stage of its manufacturing (design, production).

26. The manufacturer shall prepare and submit to the appointed body, an application to perform conformity assessment of containers pursuant to the justified choice of a conformity assessment module and shall approve all required documents with the said body.

27. After conducting conformity assessment of containers, the appointed body shall, based on its results, issue documents to the manufacturer (a conformity certificate, testing protocols, etc.).

28. Disputes arising in the course of conducting conformity assessment shall be settled in accordance with the procedure stipulated by legislation.

29. Results of conformity assessment (conformity certificates, conformity marks, testing protocols, etc.) conducted outside Ukraine shall be recognized pursuant to international treaties of Ukraine.

30. The manufacturer shall provide the appointed body with only those documents that are necessary to conduct conformity assessment; the documents shall be confidential.

31. The conformity assessment procedure shall be chosen out of eight modules – sets of unified conformity assessment procedures, whose description, choosing principles and application shall be regulated by Technical Regulations on conformity assessment modules and requirements to applying the national conformity mark used in technical regulations approved by Resolution of the Cabinet of Ministers of Ukraine of 7 October 2003 No. 1585 (Official Bulletin of Ukriane 2003, No. 41, page 2175).

32. A module for conformity assessment of a container shall be chosen with the participation of the manufacturer and/or its authorized person and, in case of using the determined module, with the participation of the appointed body.

Modules A, C and H may be used with additional conditions.

Modules C, D, E and F shall be used in combination with Module B.

In some cases (for example, in case of manufacturing a container of an unsophisticated design), modules D, E and F may be used separately.

33. To conduct conformity assessment, a specific module out of the possible modules shall be selected pursuant to the following general principles:

provided it ensures a high level of safety established to a container or a group of homogeneous containers;

if the manufacturer needs to use modules envisioning methods of ensuring proper quality, it will be provided with an opportunity to use alternative modules without applying methods of ensuring proper quality (except for cases where, to ensure compliance with requirements established by these Technical Regulations, a specific procedure is used);

in the course of selecting possible modules, the following factors, in particular, shall be taken into consideration: correspondence between the module and the type of container, the nature of
related risk, the economic infrastructure in a specific field (availability or non-availability of a third party), the type and significance of production, etc.

34. Manufacturers shall choose the conformity assessment procedure with regard to the level or risk that depends on the potential hazard of the container conditioned by its radioactive content that is, with due regard to preventing the possibility of harming personnel participating in the manufacture and maintenance of containers, the population and the natural environment.

35. The procedure for assessing conformity of containers shall be determined with regard to the level of risk posed by containers during their use for their intended purpose, but it must not restrict trade more than is necessary to achieve the purpose, for which it is designed and used.

36. Manufacturers shall choose a procedure for assessing conformity of containers out of the list of allowable procedures depending on the purpose of the container with regard to its radioactive content.

The list of conformity assessment modules depending on classification of the radioactive content of containers is provided as Annex 1.

37. The manufacturer (supplier) shall have technical documentation for a container that would allow the regulators assess its conformity to requirements of the Technical Regulations and would cover all stages of design, production and use of the container. It shall have:

- technical terms for a container;
- calculations, testing results, etc. necessary to verify conformity of the container to the safety requirements of personnel participating in the manufacture and maintenance of containers, the population and the natural environment;
- instructions how to use the container;
- a list of requirements of these Technical Regulations applicable to the container;
- a list of national standards officially published by the executive authority on standardisation that, if voluntarily applied, prove conformity of a container to requirements of these Technical Regulation (the “list of national standards”) and a description of decisions approved in execution of requirements of the Technical Regulations, if such standards have not been applied;
- any technical report or opinion obtained from a competent authority or laboratory having relevant standards in their field of accreditation that are on the list of national standards (only if the manufacturer wishes so);
- any technical report with results of testing for compliance with requirements of standards that are on the list of national standards conducted by their own choice by the manufacturer or competent authority or laboratory having relevant standards in their field of accreditation (only in case of declaring conformity to requirements of standards that are on the list of national standards).

38. Technical documentation for a container shall be kept during the term that is 50 years longer than useful life of the container. In case of a container manufactured outside Ukraine, the person who commissioned the container shall be responsible for keeping its technical documentation.
39. If the manufacturer warrants and declares that the commissioned containers meet requirements of standards that are on the list of national standards officially published by the authorized executive body in the field of conformity assessment and requirements of these Technical Regulations concerning them, the manufacturer shall apply the national conformity mark to each container and prepare a conformity declaration.

40. A conformity declaration (Annex 2) shall be prepared by the manufacturer based on results of conducted testing (in case the containers meet requirements of their technical documentation). It shall meet requirements of Article 32 of the Law of Ukraine “On Standards, Technical Regulations and Conformity Assessment Procedures.”

41. A conformity declaration shall be registered within a three-day term by the central executive authority charged with the functions of technical regulation in the field of using nuclear energy and radiation safety.

42. A conformity declaration, other technical documentation verifying conformity of a container to the Technical Regulations shall be kept during 10 years after manufacturing the last sample or during the anticipated useful life of commissioned containers and shall be issued upon request of market supervision authorities.

43. The manufacturer shall take measures for the manufacturing process to ensure conformity of the manufactured containers to the technical documentation and requirements of these Technical Regulations.

44. In case of verifying their conformity to requirements of these Technical Regulations, containers shall be subject to marking with the national conformity mark and the identification code of the appointed body.

45. The manufacturer shall apply the national conformity mark to the products after receiving positive results of production control. If needed, marking may be effected by the person who is responsible for commissioning the products.

It shall be allowed to apply the national conformity mark not to the product itself but rather to its packaging and/or accompanying documentation.

46. If the appointed body is involved in a conformity assessment procedure, the identification code of the conformity assessment body shall be added to the national conformity mark. The identification code of the appointed conformity assessment body shall be applied by such body or the manufacturer acting on its instructions. A pictogram or any other mark designating, for example, a category may be applied next to the national conformity mark and the identification code of the authorized body.

47. It shall be prohibited to apply any other mark to containers similar to the national conformity mark. A container may be marked with several marks, for example, those indicating conformity to national or international (European) standards, etc., provided the national conformity mark remains well-conspicuous and legible.

48. If other aspects of containers fall under other technical regulations that also envision marking them with the national conformity mark, its presence shall signify that the containers also meet requirements of these technical regulations as well.
49. The manufacturer of a person who is responsible for marking containers with the national conformity mark and commissioning the containers shall be responsible in accordance with law for conformity of specific containers to essential requirements concerning them out of those laid down in Section “General Requirements to Containers” of these Technical Regulations.

50. Marks or designations similar to the determined national conformity mark or other designations shall not be applied to containers not meeting these Technical Regulations and also to those that are not fit for applying the national conformity mark as well as to packaging or advertising materials.

It shall be prohibited to apply the national conformity mark to containers not covered by these Technical Regulations.

51. The manufacturer and supplier shall commission only the containers, whose safety is ensured by their design pursuant to requirements of these Technical Regulations, provided rules, regulations and standards on nuclear and radiation safety are observed in the course of using the containers in accordance with their intended purpose.

52. The manufacturer shall:

- implement programs of ensuring proper product quality pursuant to established quality systems and quality management systems based on rules, regulations, standards, instructions, etc;
- verify conformity of characteristics of the manufactured container to the requirements of technical documentation determined by its design by performing tests. In doing so:
  - tested sample containers must be subjected to preliminary acceptance testing;
  - containers manufactured serially shall be subjected to periodic and typical acceptance testing;
  - commissioning experimental and serial sample containers shall be carried out in accordance with the established procedure;
- determine methods of testing containers depending on their intended purpose. Testing methodologies must be attested and approved in accordance with the established procedure;
- during design work, take measures to assess and prevent risks related to using the containers, if such risks are not obvious, and complete the containers with operating documentation specifying all safety requirements.

53. Commissioning containers falling under these Technical Regulations shall be allowed provided their conformity has been assessed, there is a conformity declaration and/or a conformity certificate as well as marking with the national conformity mark.

54. To commission containers, the manufacturer shall:

- assess conformity of the containers to technical requirements including safety requirements in accordance with provisions of these Technical Regulations;
- keep a copy of the conformity declaration and/or conformity certificate, other technical documentation verifying conformity of the containers to requirements of these Technical Regulations;
Regulations during 10 years after manufacturing the last sample of commissioned containers and issue such information to market supervision authorities upon their request

55. The manufacturer shall:

withdraw containers from circulation, if they do not meet requirements of these Technical Regulations;

reimburse for consumers’ losses, if it has been established that the containers do not meet requirements of these Technical Regulations specified in the conformity declaration and/or conformity certificate.

56. If the manufacturer is a resident of Ukraine and does not have an authorized representative in Ukraine, the supplier of commissioned containers shall:

provide market supervision authorities upon their request with necessary information regarding containers, in particular, a copy of the conformity declaration and/or conformity certificate and technical documentation on assessing conformity to requirements of the Technical Regulations;

suspend or stop sales of containers, if it has been established that they do not meet requirements of the Technical Regulations.
Annex 1
to Technical Regulations

**LIST**
of modules for assessing conformity of containers to requirements of the
Technical Regulations

<table>
<thead>
<tr>
<th>Classification by type of radioactive waste based on criteria of admissibility (non-admissibility) of their burying in storehouses of different types</th>
<th>Categories of radioactive waste by category of specific activity</th>
<th>Category of radioactive waste with unknown radionuclide composition and unknown specific activity by the criteria of intensity of absorbed dose at a 0.1-meter distance from the surface of the container</th>
<th>Designation of conformity assessment module</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Short-lived*</td>
<td>1</td>
<td>low activity</td>
<td>A or Aa, or B**, or C + B, or D + B, or E**, or E + B, or F, or F + B, or G, or H</td>
</tr>
<tr>
<td>2. Short-lived</td>
<td>1</td>
<td>- &quot; -</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F, or F + B, or H</td>
</tr>
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<td></td>
<td>2</td>
<td>moderate activity</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F, or F + B, or H</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>high activity</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F, or F + B, or G, or H</td>
</tr>
<tr>
<td>3. Довгоіснуючі</td>
<td>1</td>
<td>low activity</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F, or F + B, or G, or H</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>moderate activity</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F, or F + B, or G, or H</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>high activity</td>
<td>B** or C + B, or D + B, or E**, or E + B, or F + B, or G, or H</td>
</tr>
</tbody>
</table>

* For collector-containers.

** For the stage of designing containers as a minimally-necessary application of modules B and E for all types of radioactive waste.
DECLARATION OF CONFORMITY

(full name of manufacturer or supplier; their location, EDRPOU Code (if available)
represented by

(title, surname, name and patronymic of the authorized person)
confirms that ________________________________________________________________
 manufactured in accordance with ____________________________________________,
conforms to Technical Regulations on containers for storing and burying radioactive waste as well as
__________________________________________________________________________
(name and designation of normative documents
that, in case of their voluntary use, prove conformity of containers
to requirements of Technical Regulations)

and the conformity assessment procedure has been conducted pursuant to Technical Regulations.

Conformity certificate* __________________________________________________________
(number of certificate, date of its registration, period of validity and name, location
of the appointed conformity assessment body)

Manufacturer/ authorized person/ supplier bears full responsibility for the Declaration.

(strike out the irrelevant)

(title) (signature) (initials and surname)

SEAL __________________________ (date)

* Provided the manufacturer uses a module where the procedure for assessing conformity of the container is performed by the appointed body.
# PLAN OF ACTION
to implement Technical Regulations on Containers for Storing and Burying Radioactive Waste in 2007 - 2011

<table>
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<th>Action</th>
<th>Responsible</th>
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<td><strong>Preparatory stage</strong></td>
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<tr>
<td>1. Appointing an organization responsible for enterprises’ applying the Technical Regulations</td>
<td>State Committee on Nuclear Regulation</td>
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</tbody>
</table>
| 2. Creating a consultation and methodology center to apply the Technical Regulations | State Committee on Nuclear Regulation  
State Committee on Technical Regulation and Consumer Policy  
Ministry of Fuel and Energy  
Ministry for Emergencies  
Ministry for Protecting the Natural Environment | - " - |
| 3. Approving and publishing the list of national standards that, in case of their voluntary application, prove conformity of containers to requirements of the Technical Regulations  
Preparing a state standardization plan to draft national standards harmonized with those international as well as their updating and drafting a normative regulation plan of the State Committee on Nuclear Regulation | State Committee on Technical Regulation and Consumer Policy  
State Committee on Nuclear Regulation  
Ministry of Fuel and Energy  
Ministry for Emergencies  
Ministry for Protecting the Natural Environment | annually |
| 4. If necessary, bringing normative acts of ministries and other executive authorities into compliance with provisions of the Technical Regulations | State Committee on Nuclear Regulation  
State Committee on Technical Regulation and Consumer Policy  
Ministry of Fuel and Energy  
Ministry for Emergencies  
Ministry for Protecting the Natural Environment | 2007 - 2009 |
| 5. Popularizing the use of the Technical Regulations with the help | State Committee on Nuclear Regulation | 2007 - 2010 |

APPROVED  
by Resolution of the Cabinet of Ministers of Ukraine of 18 July 2007 No. 939
6. Preparing domestic producers for manufacturing containers in accordance with the Technical Regulations

<table>
<thead>
<tr>
<th>Ministry of Fuel and Energy</th>
<th>Ministry for Emergencies</th>
<th>State Committee on Technical Regulation and Consumer Policy</th>
<th>Ministry for Protecting the Natural Environment</th>
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</table>

Voluntary application of the Technical Regulations

7. Voluntary application by enterprises of the Technical Regulations with conducting a conformity assessment procedure pursuant to the Technical Regulations

<table>
<thead>
<tr>
<th>State Committee on Nuclear Regulation</th>
<th>Ministry of Fuel and Energy</th>
<th>Ministry for Emergencies</th>
<th>State Committee on Technical Regulation and Consumer Policy</th>
<th>Ministry for Protecting the Natural Environment</th>
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</thead>
</table>

8. Stage-by-stage development and implementation of rules, regulations and national standards harmonized with those European pursuant to the annual plan of state standardization and the normative regulation plan of the State Committee on Nuclear Regulation. Additional elaboration and introducing changes to current rules, regulations and standards pursuant to the annual plan of state standardization and the normative regulation plan of the State Committee on Nuclear Regulation

<table>
<thead>
<tr>
<th>State Committee on Technical Regulation and Consumer Policy</th>
<th>State Committee on Nuclear Regulation</th>
<th>Ministry of Fuel and Energy</th>
<th>Ministry for Emergencies</th>
<th>Ministry for Protecting the Natural Environment</th>
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9. Appointing conformity assessment bodies to conduct conformity assessment of containers to requirements of the Technical Regulations

<table>
<thead>
<tr>
<th>State Committee on Technical Regulation and Consumer Policy</th>
<th>State Committee on Nuclear Regulation</th>
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10. Organizing market supervision over containers

<table>
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<tr>
<th>State Committee on Technical Regulation and Consumer Policy</th>
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Obligatory application of the Technical Regulations

11. Introducing changes, if necessary

<table>
<thead>
<tr>
<th>State Committee on Nuclear Regulation</th>
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| Year |
necessary, to the Technical Regulations based on results of their voluntary application by enterprises

<table>
<thead>
<tr>
<th>Regulation</th>
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<th>permanent</th>
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<tr>
<td>Ministry of Fuel and Energy</td>
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<td>Ministry for Protecting the Natural Environment</td>
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12. Obligatory application by enterprises of the Technical Regulations