

## *Law of Ukraine*

### **“On Human Protection against Impact of Ionizing Radiation”**

*(Approved by the Supreme Council of Ukraine 14 January 1998)*

*(Information Bulletin of the Supreme Council of Ukraine (“Vedomosty Verkhovnoy Rady” (BBP), 1998, N 22, page 115*

*(With amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001, BBP, 2001, N 30, page 139)*

*(The words "ionizing radiation" (Plural) in title and text of the Law*

*are changed by words "ionizing radiation (Singular)" in appropriate cases according to Law No. 2397-III (2397-14) of 26.04.2001)*

*This Law is intended to provide protection of human life, health and property against negative impact of ionizing radiation caused by particular activities, and in case of radiation accidents, by performing preventive and rescue measures as well as by indemnification of damage.*

## **SECTION I. GENERAL PROVISIONS**

### **Article 1. Basic Terms and Definitions**

In this Law the below presented terms are used in the following meaning:

**intervention** - any action directed to reduce or prevent human exposure or a possibility of human exposure from sources that are beyond the controlled actions or such control is lost;

**effective exposure dose** - calculated dose of human exposure that takes into account contributions of irradiation effects on different human organs and tissues on health condition of a person as a whole;

**critical group of people** – a group that is uniform as to their living conditions, age and sex, and which can receive maximum effective exposure doses along certain exposure path due to nature of their activity;

**exposure** - impact of ionizing radiation upon human that can be either external irradiation from sources of ionizing radiation outside of human body due to his activity or internal one from sources of ionizing radiation inside the human body;

**public exposure** - exposure of a person from nuclear facilities and sources of ionizing radiation apart from occupational and medical irradiation as well as the exposure caused by local natural radiation background;

**occupational exposure** - staff irradiation during working processes;

**main exposure dose limit** - maximum permissible level of individual effective exposure dose established by this Law, above which human protection measures are required;

**particular activity** – the human activity during which additional radiation sources or additional exposure paths are implemented, or a number of people being irradiated is increased, which results in increasing of exposure values, its probability or a number of people exposed;

**natural radiation background** – irradiation caused by cosmic radiation and radiation from natural radionuclides in natural way distributed in soil, water, air and other elements of the biosphere;

**intervention level** - expected calculated value of human exposure dose that stipulates necessity of obligatory measures to protect human against impact of ionizing radiation.

## **Article 2. Incidence of the Law**

This Law regulates legal relations between the State impersonated by its relevant bodies of executive power, and legal entities and natural persons that arise in connection with their activity.

## **Article 3. Human right on protection against impact of ionizing radiation**

Each individual who lives or temporarily stays at the territory of Ukraine has the right to be protected against impact of ionizing radiation. This right is ensured by implementing a complex of measures to prevent impact of ionizing radiation upon human body above the established exposure dose limits, as well as compensation for exceeding the established exposure dose limits and indemnification of damage incurred due to impact of ionizing radiation.

## **Article 4. Right of citizens and their associations to get information on state of human protection against impact of ionizing radiation.**

Citizens of Ukraine and their associations have the right to get information as to levels of human exposure and measures of protection against impact of ionizing radiation at their places of living or working places, from the respective state bodies of executing power who are responsible for human protection against impact of ionizing radiation according to the legislation of Ukraine.

## **SECTION II**

### **DOSE EXPOSURE LIMITS AND INTERVENTION LEVELS**

## **Article 5. Main public exposure dose limits**

Main dose limit of individual public exposure shall not exceed 1 millisievert<sup>1</sup> of annual effective exposure dose; and the average annual effective exposure doses for human attributed to the critical group shall not exceed the main exposure dose limits established by this article regardless conditions and paths of these doses formation.

Dose limits for individual public exposure and criteria of soil contamination density at area underwent radioactive contamination due to the accident in Chernobyl are being identified by the Laws of Ukraine as well as the other regulatory standards and legal acts.

## **Article 6. Main dose limits for staff exposure**

The main dose limit for individual exposure of staff at engineering facilities where particular activity is being performed, and which will be commissioned after this Law coming into force shall not exceed 20 millisieverts of annual effective exposure dose. However, it is allowed to increase it up to 50 millisieverts if the average annual exposure dose during five successive years does not exceed 20 millisieverts.

The main dose limit for individual exposure of staff at engineering facilities where particular activity is being performed, and which were commissioned before this Law coming into force shall not exceed 50 millisieverts of effective exposure dose for any 12 successive months of operation with gradual reduction of exposure dose limit down to 20 millisieverts a year during the transient period.

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<sup>1</sup> Millisievert (mSv) is unit to measure equivalent and effective dose of ionising radiation (in SI system). Off-system unit is Rem. (the note to Part 1 of Article 5 in the Edition of Law No. 2397-III (2397-14) of 26.04.2001)

Duration of the transient period is being identified by the State regulatory body for nuclear and radiation safety taking into consideration the conditions of particular activity.

#### **Article 7. Engagement of individuals to eliminate radiation accidents and their consequences**

Engagement of individuals to eliminate radiation accidents and their consequences is only allowed at voluntary basis, on the basis of contracts where potential exposure dose shall be indicated for the period of radiation accident and liquidation of its consequences.

It is prohibited to engage persons with medical contra-indications, individuals before their 18<sup>th</sup>, and women of procreative age to participate in liquidation of radiation accidents and their consequences.

Exposure of persons engaged to liquidate radiation accident and its consequences above the basic exposure dose limits established by this Law is only allowed on their consent in the cases when it is impossible to undertake measures that exclude exceeding the dose limits and can be justified by only saving the human lives and prevention of subsequent dangerous progressing of the accident and exposure of increased number of people.

#### **Article 8. Intervention levels in case of radiation accidents**

Intervention stipulated by necessity to protect human life and health shall be such that reduction of damage caused by impact of ionizing radiation due to reduction of exposure dose would be sufficient to justify both the necessity of the intervention and the damage caused by this intervention.

Measures to shelter the people are used provided during the first ten days the expected integral effective exposure dose can exceed 5 mSv. (Part 2 of Article 8 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

Temporary evacuation of people is also being implemented in a case when during more than one week the effective exposure dose can reach level of 50 mSv. (Part 2 of Article 8 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

Iodine prophylactics is used in a case when the expected absorbed exposure dose for thyroid from radioactive iodine accumulated there can exceed 50 milliGray<sup>2</sup> according to the regulatory standards established by the Ministry of Health of Ukraine. (Part 4 of Article 8 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

*(Part 5 of Article 8 is excluded according to Law No. 2397-III (2397-14) of 26.04.2001)*

### **SECTION III**

#### **PROVISION FOR HUMAN PROTECTION AGAINST IONISING RADIATION IMPACT**

#### **Article 9. Authorities of the Cabinet of Ministers of Ukraine, ministries and other central bodies of executive power to provide human protection against impact of ionizing radiation**

The authorities of the Cabinet of Ministers of Ukraine, ministries and other central bodies of executive power concerning providing human protection against impact of ionizing radiation includes the following ones:

- development and implementation of regulatory standards, and rules which observation provides the non-exceeding of the main dose limits for human exposure and safe implementing of particular activity;

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<sup>2</sup> MilliGray (mGr) is unit to measure absorbed dose of ionising radiation (in SI). Off-system unit is rad (1 mGr = 0.1 rad)

- implementing of methodological supervision of activity of the State system for accounting and control of individual occupational exposure doses, expert assessment of its completeness and sufficiency as well as analysis and assessment of public and staff dose loadings;
- arrangement and implementing of surveillance over implementation of measures on human protection against impact of ionizing radiation at appropriate areas by local executive power authorities;
- implementation of the State control over the safe conduct of particular activities;
- implementation of international co-operation in a field of human protection against impact of ionizing radiation.

### **Article 10 Authorities of local executive power bodies on provision of human protection against impact of ionizing radiation**

To authorities of local executive power bodies on provision of human protection against impact of ionizing radiation, the following ones are being attributed:

- decision-making in compliance with the legislation of Ukraine as to intervention measures implementing at the respective territory in a case of radiation accident;
- arrangement of annual inspections being performed according to the established procedure, to assess the state of human protection against impact of ionizing radiation as well as record-keeping of the environmental passport of the territory;
- organizational management upon the system of accounting and control of the public exposure doses at the respective territory;
- arrangement of control over observation of measures on human protection against impact of radionuclides within construction materials;
- coordination of the plans on measures to protect the public against radiation accidents and their consequences;
- ensuring permanent preparedness of means to inform the public at the respective territory about emerging the radiation accident;
- arrangement of control over observation of the measures to protect the public against radiation accidents and their consequences;
- arrangement of the public access to the information concerning human exposure levels at their living places, and measures for protection against impact of ionizing radiation being implemented at the respective territory;
- development and implementation of the regional programs on human protection against impact of ionizing radiation;
- notification of the population in the case of a radiation accident and information about rescue and preventive measures caused by this situation (Article 10 is amended by this Paragraph according to Law No. 2397-III (2397-14) of 26.04.2001)

### **Article 11. Assessment of state of human protection against impact of ionizing radiation**

Assessment of state of human protection against impact of ionizing radiation is being performed by local executive power authorities with the purpose to plan and implement measures for human protection against impact of ionizing radiation and analysis of these measures efficiency.

Assessment of state of human protection against impact of ionizing radiation is being implemented by the following main indicators:

- description of the environmental radioactive contamination;
- probability of radiation accidents, their scale and potential impact on individuals;
- extent of preparedness for effective liquidation of radiation accidents and their consequences;

- analysis of exposure doses for separate group of public from all the sources of ionizing radiation;
- persons number underwent exposure above the permissible dose limits;
- analysis of provision for human protection against impact of ionizing radiation and observation of relevant regulatory standards, and rules at the respective territory.

The results of assessment are being recorded annually into the environmental passport of the territory. (Part 3 of Article 11 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

The form and order of the environmental passport of the territory keeping are being approved under the statutory order established. (Part 4 of Article 11 with amendments introduced according to Law No.2397-III (2397-14) of 26.04.2001)

## **Article 12 Regional program on human protection against impact of ionizing radiation**

Regional program on protection of the public against impact of ionizing radiation is developed according to the annual assessment of the state of human protection against impact of ionizing radiation at the respective territory, and it shall contain the following measures:

- search and detection of sources and paths causing impact of ionizing radiation on the individuals;
- implementation of measures on neutralization of sources and paths causing the impact of ionizing radiation on individuals and (or) human protection against this impact;
- commissioning of check-points for radiation monitoring over foodstuffs at markets and other places of their mass sale;
- arrangement of check-points for individual dosimetric measurements according to the specifications identified by the appropriate central bodies of executive power;
- public provision with free-of-charge consultations concerning protection against impact of ionizing radiation, radiation monitoring, and decontamination of domestic articles (Paragraph 6 of Part 1 of Article 12 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)
- hire, repair, certification and service of domestic appliances for radiation monitoring;
- Creation of conditions for implementation of dosimetric inspections, radiometric and decontamination work ordered by the public members (Paragraph 8 of Part 1 of Article 12 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

The order of development of regional programs to protect public against impact of ionizing radiation is prescribed by the Cabinet of Ministers of Ukraine, and their funding is implemented in compliance with the legislation of Ukraine.

## **Article 13 Duties of legal entities and physical persons on human protection against impact of ionizing radiation during performing of particular activity**

Legal entities and natural persons who perform particular activity are obliged: (Paragraph 1 of Article 13 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

- to perform systematic monitoring of radiation conditions at working places, rooms, territory, at sanitary and protecting areas, and observation areas as well as of releases and discharges of radioactive substances;
- to develop substantiation for meeting the regulatory standards on radiation safety as regards new (upgraded) production materials and substances, technological processes and products;
- to plan and undertake measures to provide human protection against impact of ionizing radiation;
- to perform control and accounting of individual occupational exposure doses;
- to arrange performing of periodical medical inspections of staff;

- to regularly inform workers about levels of ionizing radiation at working places and values of exposure doses they've received;
- to inform timely the state executive power and local self-governing bodies, the State regulatory body for nuclear and radiation safety about occurrence of emergency situations, violation of technological regulations that create danger for human safety;
- to ensure realization of rights of the citizens and their associations to obtain the information about the state of human protection against impact of ionizing radiation.

#### **Article 14 Duties of legal entities and physical persons on human protection in case of radiation accidents**

Legal entities and natural persons who perform particular activity shall provide emergency preparedness of nuclear facilities and ionizing radiation sources in compliance with the requirements of regulatory standards, and rules on human protection against impact of ionizing radiation as well as of obtained permission clauses.

To such provision the availability of the following items is attributed:

(Paragraph 1 of Part 1 of Article 14 with amendments introduced according to Law No. 2397-III (2397-14) of 26.04.2001)

- list of potential radiation accidents and predictions of their potential consequences with appropriate substantiation;
- plans to protect personnel and the public against potential accidents and their consequences; the plans shall be co-approved by the State regulatory body for nuclear and radiation safety or by duly authorized local executive power bodies as well as local government bodies, approved by legal entities and individual entrepreneurs, and brought to the notice of the staff and the public;
- means to inform the staff and the public;
- means to provide liquidation of radiation accident consequences;
- means for medical protection of individuals against irradiation impact;
- means for individual human protection;
- means for individual dosimetric control;
- emergency and rescue units from the staff members.

In case of emerging a radiation accident legal entities and physical persons who perform particular activity shall act in the way as follows:

- implement plans to protect the staff and the public against impact of accident;
- inform the State regulatory body for nuclear and radiation safety, local executive power bodies and local self-governing bodies on occurrence of radiation accident and inform the public at areas where the increase of exposure level is possible;
- undertake measures on medical assistance to individuals suffered from radiation accident;
- undertake measures to prevent spreading of radioactive substances into the environment;
- perform analysis and prepare prediction on radiation accident progressing and changing of radiation situation;
- undertake measures for normalization of radiation situation during liquidation of radiation accident.

#### **Article 15 Provision of human protection against impact of radionuclides contained in construction materials**

Human exposure within living and working rooms shall not exceed the regulated values approved in the established order.

Human protection against impact of radionuclides contained in the construction materials is ensured by the following measures:

- selection of sites to build houses and constructions with taking into account radon emission from soil and gamma-radiation level;
- designing and erecting houses and buildings with taking into account protection against radon ingress into air of these houses and buildings;
- performing the industrial control over radionuclides content in the materials of buildings, commissioning of houses and buildings with taking into account radon content level in air of these houses and buildings as well as gamma-radiation level;
- operation of houses and buildings with taking into account radon content level and gamma-radiation level inside;
- changing of the intended use houses and buildings if real human exposure doses exceed the regulated values approved according to the established procedure;
- prohibition to use construction materials and articles of them that do not meet the requirements on human protection against impact of ionizing radiation.

#### **Article 16 Provision for human protection against impact of radionuclides contained in foodstuffs, food raw materials and drinking water**

Radionuclides content in foodstuffs, food raw materials and drinking water shall not exceed the regulated values approved according to the established procedure.

Foodstuffs, food raw materials and drinking water as well as accompanying materials that contact with them during manufacturing, storage, transportation and realization shall be certified according to the order established by the legislation of Ukraine.

#### **Article 17 Ensuring of human protection during medical treatment and diagnostics**

The use of any source of ionizing radiation in medical practice shall be performed with obligatory application of means for individual protection of patients as well as their exposure doses monitoring.

Patient exposure doses during medical treatment and diagnostics implementing shall be as low as possible for diagnostic or curing purposes and shall not exceed the regulated values approved according to the established procedure.

Exposure dose obtained by patient under medical intervention shall be recorded, and the information regarding exposure dose shall be kept in archives of medical institutions for 50 years, and after expiration of this term they shall be transferred to the National Archive.

According to a patient's request the complete information must be provided about the expected or already obtained exposure doses, as well as potential consequences.

A patient has a right to refuse medical intervention connected with irradiation except the case when such intervention is connected with detection of dangerous infectious disease.

#### **Article 18. System of monitoring and accounting the public exposure doses**

System of monitoring and accounting the public exposure doses is intended at identification of critical groups of people depending on places of their living, and their living conditions, or working places location as well as recording of individual exposure doses for persons attributed to a critical group.

As regards the persons from a critical group, the obligatory monitoring is performed along with accounting of individual exposure doses provided the value of effective exposure dose exceeds the dose limit established by appropriate regulations.

Accounting of individual exposure doses for persons attributed to the critical group is kept in the regional (municipal) exposure dose register which keeping is under arrangement of local executive power bodies.

## **SECTION IV COMPENSATION AND INDEMNIFICATION OF DAMAGE**

### **Article 19. Compensation for exceeding of annual basic exposure dose limit**

Compensation for exceeding the annual basic exposure dose limit is given to the persons who live or temporarily stay at the territory of Ukraine in the following cases:

- exposure stipulated by impact of a particular activity;
- erroneous or unjustified exposure of patients under medical intervention;
- enforced consumption of foodstuffs and drinking water contaminated with radionuclides;
- radiation dangerous conditions for living, working and training.

Compensation for exceeding the annual basic exposure dose limit is being established in the amount equal to 1.2 of minimum citizen revenue free of tax for each millisievert of exceeding the permissible exposure limit established by this Law.

Grounds to pay personal compensation for exceeding the annual basic exposure dose limit is the fact of exceeding (not for the reasons of personal fault) the annual basic exposure dose limit, recorded in the regional (municipal) exposure dose register.

Procedure of compensation for exceeding the annual basic exposure dose limit is established by the Cabinet of Ministers of Ukraine.

### **Article 20. Indemnification of damage**

Damage is to be indemnified when it incurred to human life, and health, as well as the property of natural persons due to impact of ionizing radiation.

In case of human death because of impact of ionizing radiation, the right on indemnification of damage have those persons who were kept by the perished person or who was authorized by his date of death to get his financial support as well as a child of the perished person born after this person's death.

Grounds for indemnification of damage caused by impact of ionizing radiation is establishing of the fact of such damage in compliance with the legislation of Ukraine.

### **Article 21 Provision for payment of compensation and indemnification of damage**

Payments of compensation for exceeding the annual basic exposure dose limit and indemnification of damage caused by impact of ionizing radiation is provided by account of resources of natural persons and legal entities which particular activity caused such exceeding.

Disputes on payment of compensation for exceeding of annual basic exposure dose limit and indemnification of damage caused by impact of ionizing radiation are to be addressed under the legal procedure.

### **Article 22. Responsibility for violation of legislation on human protection against impact of ionizing radiation**

Civil, legal, administrative and criminal responsibility for violation of legislation on human protection against impact of ionizing radiation rests with the persons founded guilty, in compliance with the Laws of Ukraine.

## **SECTION V INTERNATIONAL CO-OPERATION IN A FIELD OF HUMAN PROTECTION AGAINST IONIZING RADIATION IMPACT**

### **Article 23. International co-operation in a field of human protection against impact of ionizing radiation**

Ukraine participates in international co-operation in a field of human protection against impact of ionizing radiation.

If international agreements ratified by Ukraine establish the standards different from the standards established by national legislation of Ukraine on issues of human protection against impact of ionizing radiation, then the standards of international agreements shall prevail.

## **SECTION VI FINAL PROVISIONS**

### **Article 24. Final provisions**

1. This Law comes into force since its promulgation date, with article 19 - since January 1, 2000, and it does not cover cases of exceeding the annual basic exposure dose limit occurred before this Law coming into force.

2. This Law does not cover persons underwent impact of ionizing radiation due to the events occurred outside Ukraine, provided such covering is not envisaged by the international agreements of Ukraine.

3. The Cabinet of Ministers of Ukraine shall perform within two months the following actions:

- submit proposals for consideration of the Supreme Council of Ukraine as to putting the Laws of Ukraine into compliance with this law;
- provide adoption of standards and legal acts envisaged by this Law;
- put its own standards and legal acts into compliance with this Law;
- provide revision and cancellation by ministries and other central executive power bodies of their standards and legal acts that contradict to this Law.

**President of Ukraine** \_\_\_\_\_ **Leonid Kuchma**

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