

# Legislation in Ukraine about the Radiological Consequences of the Chernobyl Accident

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## 1. Principal laws aimed at liquidating the consequences of the Chernobyl accident

### 1.1. Basic concept

The description of the Ukrainian system of laws concerning the problem of the Chernobyl catastrophe should be started from a document of general character, "Concept of population residence on the territories of Ukrainian SSR with increased levels of radioactive contamination as a result of the Chernobyl accident." This document, small in volume, was adopted by the Supreme Soviet of Ukrainian SSR on February 27, 1991. It was planned that this Concept would provide decrease of negative influences of the Chernobyl accident on public health. Implementation of the principles of the Concept should be based on the following two Ukrainian laws; "On the legal status of the territory subjected to radioactive contamination as a result of the Chernobyl catastrophe" and "On the status and social protection of the citizens who suffered as a result of the Chernobyl catastrophe."

The main principle of the Concept is as follows: for the critical group of population - children born in 1986 - the effective exposure dose due to the Chernobyl accident should not exceed 1 mSv (0.1 rem) per year and 70 mSv (7 rem) for the life period in any specific environment.

The Concept states that "the situation on the contaminated territories demonstrates low effectiveness of countermeasures aimed at eliminating harmful effects of radiation on the health of people", and, therefore, "evacuation of people from these territories is of particular importance". In the Concept, the soil density of radioactive contamination (deposition) is considered to be a temporary (until individual effective dose is identified) criterion to make decision on resettlement. As it is impossible to resettle a great number of people simultaneously, the Concept presumes as follows: "a principle of differentiated step-by-step resettlement:

- I stage - obligatory resettlement - is practiced on the territories with cesium deposition above 15 Ci/km<sup>2</sup> or above 3 Ci/km<sup>2</sup> with strontium deposition, or 0.1 Ci/km<sup>2</sup> with plutonium, where residence of people in existing conditions can cause additional effective exposure dose exceeding 5 mSv (0.5 rem) per year, which is dangerous for health.

- II stage - guaranteed voluntary resettlement - is practiced on the territories with cesium deposition from 5 to 15 Ci/km<sup>2</sup>, or with strontium from 0.15 to 3 Ci/km<sup>2</sup>, or with plutonium from 0.01 to 0.1 Ci/km<sup>2</sup>, where residence of population in existing conditions can cause additional effective exposure dose exceeding 1 mSv (0.1 rem) per year, which is dangerous for health".

On these territories it is necessary to apply the system of countermeasures to protect population from radiation (which was considered non-efficient in the first part of the Concept, O.N.). Also, some additional criteria are established there to make decisions on resettlement. These criteria relate to the possibility of growing radiologically "clean" agricultural products.

A very important aspect of the Concept is the statement that "after the Chernobyl accident the conditions for the combined effect of radioactive exposure and factors of non-radioactive origin (synergism) were formed. This greatly increases negative influences of low radiation doses on the population health status, especially that of children. In this situation the extent of synergism is an additional criteria for making decision on introducing any counter-radiation measures."

On the territories with contamination density of cesium isotope below 5 Ci/km<sup>2</sup>, or strontium below 0.15 Ci/km<sup>2</sup>, or plutonium to 0.01 Ci/km<sup>2</sup>, residence is allowed only with enhanced control and on a condition that the additional effective dose from the Chernobyl accident does not exceed 1 mSv (0.1 rem) per year. If this condition is not observed, the population should be given the possibility to resettle to radioecologically "clean" areas.

On the whole, the Concept lacks consistent logic and is even of contradictory nature. At first, it states low effectiveness of protective measures (though it is not clear what specific measures are meant) on the territories with higher levels of contamination. This provides a basis for psychological orientation toward resettlement. Then, in the latter part, the necessity of countermeasures is proposed on the territories with lower contamination levels, although specialists know very well that countermeasures are more effective on the territories with higher contamination levels, i.e. implementation of ineffective measures is proposed.

A similar problem is with synergism. According to the Concept, the people are totally resettled from the areas with higher contamination levels. Consequently, synergism should be eliminated on the territories with lower contamination levels. It is recommended to take measures to lower exposure doses (which was considered to be ineffective), while nothing is said about elimination of non-radiation origin factors which cause synergism, and about improvement of general ecological conditions of life.

## 1.2. Basic laws aimed at liquidating the accident consequences

The Ukrainian Law, "On the legal status of the territory subjected to radioactive contamination as a result of the Chernobyl catastrophe" was adopted by the Supreme Soviet of Ukrainian SSR on the February 27, 1991, and is effective since July 1, 1991. Changes and additions have been introduced by laws of Ukraine (by Verkhovna Rada, i.e. Ukrainian parliament) of 17.12.91, 01.07.92, 28.04.95, 22.12.95, 17.12.96, 04.04.97; by a decree of the Cabinet of Ministers of Ukraine of 26.12.92

This Law is aimed at regulating "problems of territories classification by zones in accordance to the levels of contamination; the regime of territories utilization and security; conditions of living and work of the population; production, research and other types of activities in these zones".

This Law consists of 6 chapters:

- I. General
- II. Legal status of exclusion zone and zone of obligatory resettlement
- III. Legal status of guaranteed voluntary resettlement zone
- IV. Legal status of the zone of enhanced radioecological control
- V. Control of the legal status in the zones subjected to radioactive contamination after the Chernobyl catastrophe
- VI. Liability for the violation of the legal status in the zones subjected to radioactive contamination after the Chernobyl catastrophe

Article 1 of the Law gives the definition of the

territories subjected to radioactive contamination as a result of the Chernobyl catastrophe - these are the territories where "the persistent contamination of the environment with radioactive substances exceeding the level before the accident...can cause population irradiation above 1mSv/year...". On these territories special measures should be introduced in order to provide radiation protection and normal life activity of the population.

Article 2 defines the categories of the zones of contaminated territories. Following Table 1 presents the summary of criteria for identification of zones of radioactive contamination as a result of the Chernobyl catastrophe. As it can be easily seen, the zone of enhanced radioecological control (monitoring), defined as Zone-4 in Table 1, should not be related to the territories subjected to radioactive contamination as a result of the Chernobyl catastrophe (see Article 1), but it is.

The criteria of zones identification are set by the National Commission of Radiation Protection of Ukrainian Population (NCRPU). The zone borders are identified by the Cabinet of Ministers of Ukraine proceeding from the expert conclusions of NCRPU, National Academy of Sciences of Ukraine (NASU), Ministry of Health, Ministry of Chernobyl Affairs, Ministry of Agriculture, Ministry of Ecological Safety, State Hydrometeorological Committee, and on the representation of the Regional deputy councils. According to the additions to the Law, adopted by Verkhovna Rada (Ukrainian parliament) in 1996, no changes could be done to the zone borders without approval by Verkhovna Rada.

Article 7 of the Law in its initial edition provided the release from taxation for enterprises, organizations, collective and state farms, located in the zones of voluntary guaranteed resettlement and enhanced radioecological control, except payments to the local budgets. At the end of 1992 the release from profits tax was canceled, and from January 1996 the release from taxes, customs and excises on imported excisable goods was canceled.

I cite the next article, as it is of special interest for

**Table 1. Criteria for identifying the zones of radioactive contamination**

No	Zones	Deposition, Ci/km <sup>2</sup>			Calculated dose, mSv·y <sup>-1</sup>
		<sup>137</sup> Cs	<sup>90</sup> Sr	Pu	
1	Exclusion	n.d.	n.d.	n.d.	n.d.
2	Obligatory resettlement	>15	>3	>0.1	can exceed 5
3	Guaranteed voluntary resettlement	5-15	0.15-3	0.01-0.1	can exceed 1
4	Enhanced radioecological control (monitoring)	1-5	0.02 - 0.15	0.005-0.01	exceeds 0.5

n.d.: not determined

exclusion zone - the territory from which the people were evacuated in 1986

everybody involved in scientific research concerning Chernobyl:

"Article 11. Property on the results of scientific research, connected with Chernobyl catastrophe. All scientific information and results of research, obtained in the zones of radioactive contamination, is the property of Ukraine, and can be used only on the permission of the Cabinet of Ministers of Ukraine"

The Law prescribes limitations of types of economic activities in the contaminated zones, aiming at decreasing radiological and other toxic effects on the people living and working there, as well as at preventing radionuclides transport outside the borders of the zones.

The article on the measures to reduce disease risk is very important from the point of view of population protection. In accordance to this article, the state has to guarantee:

- annual medical check of the population and early prophylactic of diseases;
- supply of the population with necessary amount of medicines, potable water, clean foodstuffs;
- provision of gas supply for the settlements, construction of roads with concrete cover, etc.

Article 21 of the Law identifies responsibilities among the Ministries and Departments concerning radiation monitoring and provides the notion about monitoring structure and location of the data. The following Table 2 summarizes the contents of Article 21.

The law of Ukraine, "On the status and social protection of the citizens who suffered as a result of the Chernobyl catastrophe" was adopted by the Supreme Council of Ukraine on February 28, 1991 and is

effective since July 1 1991. Changes and additions were introduced by laws of Ukraine (by Verkhovna Rada) of 19.12.91, 01.07.92, 05.05.93, 17.06.93, 06.04.95, 22.12.95, 22.03.96, 06.06.96, 11.12.96, 27.06.97; and decrees of the Cabinet of Ministers of Ukraine of 26.12.92, 26.03.93 and 30.04.93.

"The Law is aimed at protection of the citizens who suffered as a result of the Chernobyl catastrophe, and at solving the problems of medical and social character, which arose as a result of radioactive contamination of the territories" (Article 1).

The Law consists of the following 10 Chapters

- I. General
- II. Status of persons who suffered as a result of the Chernobyl catastrophe
- III. Unified system of registration and medical care for the persons who suffered as a result of the Chernobyl catastrophe
- IV. Social protection of the citizens affected by the Chernobyl catastrophe, general compensations and benefits
- V. Protection of the children who suffered as a result of the Chernobyl catastrophe
- VI. Protection of the population affected by the Chernobyl catastrophe
- VII. Peculiarities of labor regulation for the citizens who work on the territories with radioactive contamination.
- VIII. Pensions and compensations for the persons related to categories 1, 2, 3, 4
- IX. Public associations of the persons who suffered as a result of the Chernobyl catastrophe
- X. Final statement

Article 2 provides the definition of the zones of radioactive contamination (in fact, it is the same as

**Table 2. Responsibilities among the Ministries and Departments concerning radiation monitoring.**

Type of activity and control	Responsible Ministries
Prognostic estimates of the total human irradiation dose and control of the radiation safety standards	-Ministry of Health
General assessment of radiological situation on the territories of the zones, radioecological monitoring, methodical supervision and coordination of works on identifying the radiological situation	-Ministry of Chernobyl Affairs
Control of radioactive contamination levels of: <ul style="list-style-type: none"> <li>-farmlands</li> <li>-water resources</li> <li>-subsurface waters and minerals</li> <li>-atmosphere on the territory of contaminated settlements</li> <li>-agricultural products and foodstuffs</li> <li>-vehicles and their parts</li> </ul> <ul style="list-style-type: none"> <li>-Household belongings, tools and construction materials during the transportation outside contaminated areas during evacuation</li> <li>domestic animals during the evacuation</li> </ul>	<ul style="list-style-type: none"> <li>-Ministry of Food and Agriculture</li> <li>-State Water Resources Committee</li> <li>-State Geology Committee</li> <li>-State Hydrometeorological Committee</li> <li>-Ministry of Food and Agriculture</li> <li>-Ministries and committees on transportation means and Ministry of Internal Affairs</li> <li>-State Sanitary Control</li> <li>-Civil Defense</li> </ul> <ul style="list-style-type: none"> <li>-State Veterinary Control</li> </ul>
Control of reliability and objectivity of the data of radiation control services	-State Sanitary Control
Metrology control of radiation control services	-State Committee of Standard
Radiation control of the products	-enterprises, organizations-manufacturers

Article 2 of the previous law), and in Article 3 it is stated that "the condition of living and working without limitations, considering radiation factor, is additional irradiation dose which does not exceed 1 mSv per year". Thus, the contradiction between Articles 1 and Article 2 of the previous law can be found also in this Law. In these Laws it is defined first that the contaminated territory is the area where additional irradiation due to the accident can be over 1 mSv per year, and then, when the contaminated zones are identified, the territories are included where this additional irradiation dose is less than 1 mSv, e.g. from 0.5 mSv and more.

Further, the Law sets limitations for entering in the radioactively contaminated territories for permanent residence, and states necessary and sufficient conditions for resettlement of the people. In particular, the right for self-resettlement (before the conditions for resettlement are ready) is given to the people whose individual effective dose exceeds 70 mSv for life period, in reality, only to those who received this dose by the present time because there is no method of dose prognosis confirmed by competent authorities. A very important, but also a very disputable statement is that "the population in the zone of obligatory resettlement is to be resettled without fail."

The Law defines that the values of acceptable levels of radionuclides content in foodstuffs and agricultural products are approved and putted into practice by the Health Ministry of Ukraine on approval of the National

Commission on Radiological Protection of Ukraine.

The Cabinet of Ministers of Ukraine is responsible for the reliability, completeness and timeliness of the information on radioactive contamination levels of the environment and foodstuffs, as well as for the requirements and conditions of radiation safety.

According to the Law, the people who suffered from the Chernobyl catastrophe include those who participated in the liquidation of its consequences and residents, including children, who were affected by irradiation as a result of the Chernobyl catastrophe. The Law defines 4 categories of the people affected by the Chernobyl catastrophe (Table 3). The amount of all compensations and benefits depends on the category of the person and status of the territory of their residence and work.

The State should compensate the followings:

- 1) health damage or loss of working ability of the people caused by the Chernobyl catastrophe;
- 2) supporter loss of children if his death is caused by the Chernobyl catastrophe;
- 3) material loss of the people and their families caused by the Chernobyl catastrophe.

The State is responsible to provide medical examination to the people affected by the Chernobyl catastrophe. Of great importance is the statement in the Law that "the causal relation between the deterioration of health status, disease... loss of ability to work of the people who suffered from the Chernobyl catastrophe, and the Chernobyl catastrophe is identified

**Table 3. Definition of categories of people who suffered from the Chernobyl catastrophe**

Categories	Description
I	Invalids, belonging to liquidators and affected residents, for whom the causal relation between their disability and the Chernobyl catastrophe was proved; Persons who got radiation syndrome as a result of the Chernobyl catastrophe.
II	Liquidators who worked in the exclusion zone: - since the accident to July, 1, 1986: independently of length of working days; - since July, 1, 1986 to December, 31, 1986: not less than 5 days; - in 1987: not less than 14 days; Affected residents: - evacuated from the exclusion zone in 1986; - permanently lived in the zone of obligatory resettlement since the accident to the moment of adoption of the decree on resettlement.
III	Liquidators who worked: - in the exclusion zone since July, 1, 1986 to December, 31, 1986: from 1 to 5 days; - in the exclusion zone in 1987: from 1 to 14 days; - in the exclusion zone in 1988-1990: not less than 30 days; - on sanitary treatment of people and decontamination of equipment or on construction of these stations; Affected residents (not referred to category II), who: - permanently lived on the territory of zones of obligatory resettlement and guarantee voluntary resettlement on the day of accident, or by the January, 1, 1993, provided that they spent not less than two years in the zone of obligatory resettlement, or three years in the zone of guarantee voluntary resettlement, and were resettled from these territories; - permanently living, or permanently working, or permanently studying in the zones of obligatory resettlement and guarantee voluntary resettlement, provided that by January, 1, 1993 they spent not less than two years in the zone of obligatory resettlement, or three years in the zone of guarantee voluntary resettlement.
IV	Affected residents who permanently living, or permanently working, or permanently studying in the zone of enhanced radioecological control (monitoring), provided that by January, 1, 1993 they spent not less than 4 years in this zone.

(independently of whether the dosimetry results are available or not) unless the authorized medical institution confirms the absence of such relation".

"For the purpose of effective fulfillment of the task of medical and social care of the citizens who suffered from the Chernobyl catastrophe, the State Register of Ukraine (general information system) is organized. It includes sociological, dosimetry and medical sub-registers". The basic task of the register is "to control health status, and to study immediate and remote medical consequences" of the affected people. Organs of the state administration, executive committees of the local councils, and social organizations should send complete information about the affected people to the State Register of Ukraine. Confidentiality of the information in the register is guaranteed.

Medical supplies and equipment, imported on the territories of radioactive contamination, are exempt from customs and tax.

Further in the Law, compensations and benefits are specified for the citizens who suffered as a result of the Chernobyl catastrophe. The list of all the benefits and compensations occupies 11 pages. Benefits and compensations can be both of single-time character, e.g. free supply with dwellings and compensation of the lost property (houses, vehicles, domestic animals and fruit plants), as well as of permanent character, e.g. free medicines, free treatment in sanatoriums, additions to the salary, additional payment for enhanced foot, increased pensions, free use of city transport, and earlier retirement age.

The Law states that the citizens who suffered as a result of the Chernobyl catastrophe have advantage in applying to job and advantage in preserving their working places during reduction of staffs on enterprises and organizations. This creates conflict situations, as it causes the dissatisfaction and anger of more experienced and qualified workers. The Law declares that the local councils should allocate 15% of all built dwellings annually in order to provide for the benefits envisaged by the Law. This situation also creates a basis for conflict, because, despite the allocation of special funds, the queue of those waiting for dwelling is very long.

**Table 4. Dose limits for total (internal and external) irradiation (mSv·y<sup>-1</sup>)**

Dose limits	Category of irradiated persons		
	A	B	C
Effective dose limit	20*	2	1
Equivalent dose limits:			
for crystalline lens	150	15	15
for skin	500	50	50
for hands and feet	500	50	-

Remark: \* - in average for any 5 consecutive years, but not more than 50 mSv for separate year.

Rather strange is the statement in the Law that "the salary of the workers on enterprises, organizations and institutions, who work on the construction of the objects within the program of the liquidation of the Chernobyl accident consequences, should be 20% above the standard rate."

The Law provides the definition of the children considered as affected by the Chernobyl catastrophe and identifies the following benefits and compensations for such children and their parents: total state insurance of the children before they reach school age; annual free treatment in sanatoriums and resorts for the period to 2 months; increase of the salary for one of the parents; prolonged maternity leave for women who suffered as a result of the Chernobyl catastrophe - 180 paid days, etc.

The expenses related to the implementation of this Law are financed from the State budget. The Cabinet of Ministers of Ukraine is responsible for the clarification of the scheme of Law implementation.

## 2. Laws and regulations of Ukraine on radiation protection

The legislation of Ukraine on radiation protection of people consists of the following laws: "*On radiation protection of people*" (being considered by the Parliament), "*On radioactive wastes disposal*", "*On the use of nuclear energy and radiation safety*", as well as other legal documents.

### 2.1. Laws and regulations on dose limits.

The basic document on radiation protection on the territory of the former USSR is the *Standards of Radiation Safety SRS-76/87 (Нормы радиационной безопасности РРБ-76/87)*, which are still effective in Ukraine until new national norms are adopted. According to this document, three categories of irradiated persons are identified:

- Category A, staff - persons directly working with the sources of ionizing radiation (SIR)
- Category B, certain part of population - persons who are not working directly with SIR, but by living conditions (*this made essential difference with the international standards !!!*) or by the location of working places may be affected by radioactive substances or other SIR.
- Category C, population - population of the country, region, etc.

For category A and B, dose limits are identified to be 50 mSv per year and 5 mSv per year, respectively. For category C, however, dose limit is not determined, but there is only a requirement for implementing measures to restrict irradiation of population. In a case of radiation

accident, "depending on the scale and character of an accident, the Ministry of Health can establish temporary dose limits and permissible levels for the population".

The Law of Ukraine, "On radiation protection of people" (still being considered at the Parliament) defines dose limits for categories A and B to be 50 mSv and 5 mSv per year, respectively. The same law establishes dose limit for category C (population) - "on the condition of normal operation of nuclear installations and sources of ionizing radiation", effective dose should not exceed 1 mSv per year. "Real or expected doses of irradiation for individuals of any critical group should not exceed the determined dose limits, independently on the number of pathways for the formation of this dose."

In 1997 the Ministry of Health of Ukraine adopted new *Standards of Radiation Safety of Ukraine SRSU-97*, mainly based on international safety standards (1). This document presents a different definition for category B of irradiated persons: "category B, staff - persons, which are not working directly with the SIR, but by the location of working places may be affected by radioactive substances or other SIR". SRSU-97 will be introduced into practice from 1998. The following Table 4 presents main dose limits established by SRSU-97.

## 2.2. Laws and regulations on radioactivity levels of food, water and air.

For the category B, the permissible concentrations of radionuclides ( $PC_B$ ) in water and air are presented in the Standards of Radiation Safety (Table 8.1 of SRS-76/87). Its values were calculated with the assumption that if a person constantly inhales air with radionuclide concentration equal to  $PC_B$ , or if a person constantly consumes water with radionuclide concentration equal to  $PC_B$ , then human irradiation dose will be 5 mSv per year from each radionuclide of either route of intake (inhalation or ingestion). In certain situations that persons receive irradiation from both pathways, derived permissible levels should be

**Table 5. Local control levels of  $^{137}\text{Cs}$  concentration in food and agricultural products brought into use in different regions since 1994, Bq/l, Bq/kg.**

	Foodstuff	Regions		
		Kyiv	Volyn'	Zhytomyr
1.	Drinking water	-	4	4
2.	Milk	74	74	74
3.	Different milk products	74-148	74	75
4.	Milk powder	-	185	-
5.	Pork, beef, mutton, poultry	74-148	276	740
6.	Fish	185-296	296	-
7.	Potato	60	-	-
8.	Root vegetables	60	-	-
9.	Leafy vegetables, fruits, berries	60	-	185
10.	Bread, grain products	-	-	185
11.	Mushrooms fresh	-	740	740
12.	dry	-	1850	1850
13.	Eggs	74	296	-
14.	Infants foodstuff	-	37	-

**Table 6. Values of acceptable levels for  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  in foodstuff and potable water (AL-97), Bq/kg, Bq/l.**

	Name of the product	$^{137}\text{Cs}$	$^{90}\text{Sr}$
1.	Bread and bread products	20	5
2.	Potato	60	20
3.	Vegetables (root, leafy)	40	20
4.	Fruits	70	10
5.	Meat and meat products	200	20
6.	Fish and fish products	150	35
7.	Milk and milk products	100	20
8.	Eggs (per piece)	6	2
9.	Water	2	2 <sup>*)</sup>
10.	Milk concentrate	300	60
11.	Milk powder	500	100
12.	Fresh wild berries and mushrooms	500	50
13.	Dried wild berries and mushrooms	2500	250
14.	Drug plants	600	200
15.	Others	600	200
16.	Special infants foodstuff	40	5

<sup>\*)</sup> Remark: 4 Bq/l until 01.01.1999

determined, taking into account existing ratios of radionuclides in water and air.

In Ukraine there are no standards for radionuclides content in the air for the category C. After the Chernobyl accident in accordance with Soviet regulations the Ministry of Health of the USSR defined in 1986, 1988 and 1991 the tentative acceptable levels (TAL) for radionuclides in foodstuff and potable water. In 1993 the National Commission on Radiological Protection of Ukraine issued the TAL-93 document. But, since different Ukrainian Ministries did not come to an agreement about the figures of this document, it was not approved by the Ministry of Health. So, TAL-91 continued to be actual in Ukraine up to 1997. The main problem of TAL-93 was groundlessness of its figures. Since 1994, however, local authorities of

the contaminated regions brought into use local control levels (LCL) of radionuclides in food and agricultural products, mainly based on the TAL-93 figures, and also taking into account local conditions (Table 5). According to local laws, exceeding of LCL is a subject of investigation and, if necessary, elaboration and implementation of countermeasures. In fact, only several percents of products, obtained from collective farms, exceeded LCL values in 1995-1996. In private sector of agriculture, however, this happens more often.

In 1997 the Ukrainian Ministry of Health approved acceptable levels for  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  in foodstuff and potable water (AL-97). This document will be introduced into practice from January 1, 1998. If a person of critical groups constantly consumes a reference ration composed of all products containing  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  at the levels presented in Table 6, he will receive 1 mSv per year separately from  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$ . A product is considered to be accepted for consumption if the sum of ratios of actual concentrations of  $^{137}\text{Cs}$  and  $^{90}\text{Sr}$  to their acceptable levels dose not exceed 1. Introduction of AL-97 provides guarantee that annual individual effective dose of internal irradiation due to consumption of food products does not exceed 1 mSv for any person.

#### **Final remarks.**

1. The system of Chernobyl Laws in Ukraine reflects rather good intentions of Ukrainian authorities to help the people who suffered from the Chernobyl catastrophe, than scientifically justified recommendations. Firstly (in 1991) it was planned to receive funds for implementation of the Laws from the budget of the Soviet Union. After the Soviet Union decay it was found that the Laws were overloaded with social payments and compensations and became impracticable taking into account the state of economy of independent Ukraine. Annual income to the Chernobyl fund is about 70-80% of what is prescribed by the Laws for their implementation.

A number of changes and additions to the Laws reflects the special attention to the Chernobyl problem of Verkhovna Rada deputies and public in general. This is being exploited by politicians, and Chernobyl issues became the field of political struggle between pragmatists and populists. In this situation, radiological aspects of the problem stepped aside.

Radiological survey system in Ukraine provides necessary information on annual doses to population of each settlement on the contaminated territories. Despite of clearly observed reduction of doses on most territories, allocation of settlements to the categories of contaminated zones has not been reviewed since 1991.

According to the monitoring data, the level of irradiation dose of about 50% of all settlements does not correspond to their present status (relation to their zones).

What is very impotent in the present situation is to stop compulsory resettlement (senseless after 11 years have gone since the accident) and drive resources to the reconstruction of people's life on the contaminated territories. It is necessary to stop to pay compensations for production of radioactively contaminated food products and introduce a system of benefits to those, who produce pure products on contaminated territories.

These elements of new approach to the Chernobyl problem as well as many others are presented in the new "*Concept of protection of population in connection with the Chernobyl catastrophe*" elaborated together by MinChernobyl and NCRPU. This document was submitted to the Cabinet of Ministers and approved by it in Autumn 1997. It is expected that on approval of Verkhovna Rada it will become a new basis for reviewing of the Chernobyl Laws.

2. Laws and regulations of Ukraine on radiation protection are on the way to meet international basic safety standards. But there is no experience in the world of dealing with the consequences (especially long-term ones) of such a wide-scale radiation catastrophe. Taking into account that a certain part of the Ukrainian population have to live permanently on the radioactively contaminated territories, the contamination on this territories is not considered as accidental (people can not live permanently in accidental conditions), but rather as environmental factor like natural radioactivity. This provides somewhat different approach to setting acceptable levels of radionuclides in foodstuff and explains the differences in figures between AL-97 and international recommendations (2).

#### **Literature**

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