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MATERIAL RELATING TO THE CHERNOBYL ACCIDENT SUBMITTED BY BELARUS

The material contained in Attachments 1-4 has been provided by the Resident Representative of Belarus to the International Atomic Energy Agency, who has requested that it be circulated to Member States in connection with the First International Conference of the European Commission, Belarus, the Russian Federation and Ukraine on the Consequences of the Chernobyl Accident held in Minsk from 18 to 22 March 1996.

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I believe that the extensive discussions of medical problems which took place during this conference served not only the interests of scientific truth. It is to be hoped that they will lead to the formulation of specific recommendations whose implementation will result in timely and effective medical assistance designed to safeguard and improve the health of those who were involved in the Chernobyl accident.

In my view, the results of this conference - its final documents - constitute above all official recognition by the international scientific community of the true scale of the Chernobyl accident.

In addition, the final documents adopted by the conference point to the future and offer a firm basis for the development of international "Chernobyl" co-operation.

I am confident that the agreed position of the scientists of Belarus, Russia, Ukraine and the European Commission which was expressed during this conference will be duly noted by the international scientific community. The results of this conference and the opinion of those participating in it should, I believe, be taken into account at the international conference "One decade after Chernobyl: Summing up the consequences of the accident" which is to take place in Vienna from 8 to 12 April.

History would have it that the world associates the Republic of Belarus, a newly independent State, with the word "Chernobyl". It is a tragedy for Belarus, Russia and Ukraine. We feel the concern that the subject of this conference is arousing in the international community. It manifests itself in extensive international co-operation with prominent organizations like the European Union, the United Nations and various of its agencies, the International Federation of Red Cross and Red Crescent Societies and a number of other organizations represented at this conference. At the same time, I would emphasize once more that for Belarus, Russia and Ukraine "Chernobyl" is not just a subject for scientific research - it is a reality in which millions of our people are living and working. That is why we are so interested in the consequences of a radiation accident on such a scale being reliably assessed and predicted. That is why we welcome the efforts of the international scientific community and are grateful to all of you who have participated in this conference.

I hope that, with the help of the European Commission, our collaboration in dealing with the most acute and most alarming problems resulting from the Chernobyl accident will continue. I hope that we shall all participate in the second such conference.

I should like to thank the European Parliament and all the other international bodies for their active participation in the work of this conference. I should also like to express my sincere gratitude to the immediate conference organizers Mr. Jaak Sinnaeve and Ms. Anna Karaoglou and through them to the entire European Commission. In addition, a heartfelt "thank you" should go to my fellow Ministers Sergei Kuzhugetovich Shoigu of Russia and Vladimir Ivanovich Kholosha of Ukraine.

Concluding address of I.A. Kenik,
Belarus Minister for Emergency
Situations and for Protection of the
Population from the Consequences
of the Chernobyl Accident

Distinguished participants, ladies and gentlemen,

We are today completing the work undertaken by us jointly within the framework of the First International Conference of the European Union, Belarus, the Russian Federation and Ukraine on the Consequences of the Chernobyl Accident.

During the past five days, at plenary and topical sessions, important and interesting scientific reports have been presented, there have been fruitful and constructive discussions, exhibitions have been organized and press conferences have been held.

The importance of this conference cannot be overemphasized. It touched on the most diverse aspects of the problems associated with the Chernobyl accident.

I believe that the main achievement of this conference was a thorough and objective analysis of the situation which has undoubtedly been useful for Western countries and will be useful to the affected Republics as they formulate scientifically well-founded proposals for further minimizing the consequences of the accident.

During this conference, every participant had the opportunity of holding additional meetings and discussions with colleagues from Belarus, Russia and Ukraine, and the intensification of contacts at the personal level is a good stimulus of fruitful international scientific collaboration.

The strengthening of mutual understanding among States in many respects depends not only on the results of the interaction of politicians with politicians but also on those of meetings of politicians with scientists and the representatives of public societies and social movements and on contacts with ordinary citizens. Thus, the significance of our common endeavours here goes beyond the bounds of scientific collaboration. These endeavours are especially important in the context of strengthening the co-operation of our three countries - Belarus, Russia and Ukraine - on one hand with European international institutions on the other, and particularly with the European Union and the Council of Europe.

One of the serious problems caused by the Chernobyl accident is "Chernobyl stress" - a complex psychological phenomenon giving rise to psychological tensions in society. The holding of a conference like this one, however, has a positive effect in reducing such tensions.

The most promising lines of future work are:

1. Further careful monitoring of the health of the unprecedentedly large number of people who have been exposed to low radiation doses;
2. Expansion and intensification of the epidemiological studies of thyroid cancer (especially in children) and other neoplasms and of genetic disorders - diagnosis, treatment and rehabilitation;
3. Epidemiological cohort and case-control studies of the 1986-87 liquidators in order to determine the incidence of leukaemia and solid malignant tumours;
4. Analysis of morbidity, mortality and invalidity associated with somatic, nervous and psychological diseases in the exposed population and among the liquidators - isolation of the influence of non-radiation factors;
5. Development of biological dosimetry methods, including retrospective dose assessment.

It is extremely important to investigate the molecular, cellular and biological characteristics of radiation-induced thyroid cancer.

Statement of the Ministries of Health
of Belarus, Russia and Ukraine

One of the most serious radiation accidents in the history of the nuclear industry occurred on 26 April 1986 at the Chernobyl NPP. Almost five million people were living in areas where the radionuclide contamination exceeded 37 kBq/m², and 278 000 were living in areas where it exceeded 555 kBq/m². About 800 000 people (liquidators) took part in emergency and recovery operations in the accident zone.

Among the medical consequences of the Chernobyl accident, the greatest concern is aroused by the steady growth in the incidence of thyroid cancer among children living in the monitored areas of Belarus, Russia and Ukraine.

Analysis of the data accumulated in the three Republics points to unfavourable trends as regards various classes of diseases in the populations living in contaminated areas and among the liquidators.

The incidence of haemoblastosis, which has a close etiological connection with radiation, has remained virtually unchanged since the accident.

The accident cost the lives and damaged the health of Chernobyl NPP workers and created a potential threat to the health of many other people - for example, those who participated in recovery operations after the accident and people living in areas contaminated by radionuclides. Besides all the consequences due to radiation, these people have also suffered from stress and shock, which has had a negative impact on their physical and psychological state of health.

Many countries and international organizations (the EEC, the UN, WHO, the IAEA, UNESCO, the International Red Cross and Red Crescent Movement, the Council of Europe, etc.) have helped Belarus, Russia and Ukraine to mitigate the consequences of the Chernobyl accident.

Minimizing the medical consequences of the Chernobyl accident is an extremely complex, long-term task. It would help if there were a further expansion of activities under national programmes directed towards international collaboration within the framework of EC projects.

It is necessary to further intensify the co-operation of the EC and Belarus, Russia, Ukraine and other interested countries in assessing and minimizing the medical consequences of the Chernobyl accident on the basis of a uniform scientific methodology.

Indirect losses, lost profits and costs related to elimination of the consequences were also very significant.

The Chernobyl disaster had a major destructive effect on development of the affected areas and caused growth in socio-psychological tensions.

The accident has revealed imperfections in provision of nuclear and radiation safety. In the Soviet Union there was no comprehensive legislation on nuclear power and the organizations running nuclear facilities were not independent of the authorities involved in regulating nuclear and radiation safety and inspection of nuclear facilities operation .

Many conclusions have been drawn : in the affected CIS countries special authorities responsible for control of nuclear and radiation safety and inspection of nuclear facilities operation have been set up which are independent of the organizations running these facilities. A variety of measures have been implemented to improve the structure of nuclear plants, enhance nuclear, radiation and fire safety. This has made it possible to increase the reliability and safety of nuclear facilities in general .

At present there are a number of complicated problems calling for long-term efforts.

A problem of medical care for the liquidators and exposed population will not lose its actuality in many years to come. In the first instance one should distinguish effects related to the damage to thyroid gland.

Radiation and hygienic conditions in many regions of Belarus, Russia and the Ukraine demand measures aimed at radiation medical and social protection for the population and rehabilitation of territories to be continued.

It is necessary to keep on scientific research programmes in key areas that are important for overcoming the consequences of the Chernobyl accident and hereafter setting up a radiation safety system in Europe. The natural decontamination of the contaminated territories proceeds slowly with speed close to or considerably smaller than that of caesium -137 radioactive decay. Radiation conditions formed in 10 years after the accident will be preserved long time. It set forth a necessity of long-term radioecological and radiation-hygienic monitoring health of the population and environment.

The implementation of counter-measures in agriculture is still needed on a significant part of the contaminated territories. Under the current economic situation a decrease in scales of work on agricultural regions' rehabilitation is observed in CIS countries. That has been already displayed in a tendency of increasing food products contamination and more intensive use of contaminated products of half-natural ecosystems.

The depth and the magnitude of social-psychological consequences of the Chernobyl accident were most graphic. The accident has transformed the mentality of the population on the three affected countries involved, has changed a system of social and cultural values, has affected life of large groups of people. The accident has caused high distress, psychological discomfort and had other implications with particular features in various groups. Stress tends to be transformed into psychosomatic illnesses, which will determine a further decrease in life quality and a health state, including that in generations to come.

About 4300 km² of the most contaminated areas in the Ukraine, Belarus and Russia is separated as an alienation zone. Acute radiobiological effects occurred in a close vicinity of the wrecked reactor. They resulted in death of woods on the area of 30 km² and in varying radiation damage to plants and animals as well as in degradation of biocenosis. A permanent danger of contaminating rivers Dnieper and Pripjat to levels above sanitary norms is posed by the presence of highly contaminated sites including more than 800 radioactive waste repositories, the "Shelter" installation, pool-cooler etc. in the alienation zone. That demands measures to rectify a radioecological situation.

One of the consequences of the accidents determining its catastrophic character is contamination of extensive agricultural lands with long-lived radionuclides. In Belarus, Russia and Ukraine the arable lands with the Cs-137 contamination density of more than 37 KBq/m² make 94 000 km². The environmental conditions of the contaminated areas have led to intense incorporation of the radionuclides in the biological chains. The major radiation factor on the contaminated areas is internal exposure associated with consumption of local foodstuffs.

In the three countries countermeasures have been carried out on extensive areas which has allowed contamination of the produce to be reduced by a factor of 2-5.

Though the concentration of radiocesium in produce on the contaminated areas in most cases does not exceed the levels recommended as threshold by WHO and FAO it is still 1 to 2 orders of magnitude higher than on the other territories of CIS and Europe.

Particularly high concentrations of Cs-137 (up to 100 Kbk/kg and more) are observed in mushrooms and berries which have been traditionally consumed by the local population.

Concern is caused by production of food on private farms where milk contamination is as high or even higher the standards in 10-20% cases. Solution of these problems calls for long-term works on rehabilitation of the areas.

In the countries of Europe (Sweden, UK and others) where the environmental conditions are similar to those in Polesye high contamination of mushrooms and berries, meat of wild animals and lake fish has been reported.

The accident has led to huge losses in economy.

Direct losses alone including the costs of basic and working assets, facilities of social infrastructure, dwellings and natural resources taken out of use have added up to dozens of billions of US dollars.

For the period from 1987 to 1990 five patients died and from 1992 to 01.03.96 nine more people died with the confirmed diagnosis ARS.

The health of other involved in elimination of the Chernobyl accident consequences was steadily worsening for 9 years after the accident. The proportion of healthy people decreased from 78% in 1988 to 20% in 1995.

The main contribution to these negative indicators was made by non-tumour pathology (disorders of the nervous, cardio-vascular, respiratory, digestive, urine and osteo-muscular systems). Higher levels of morbidity are detected in the liquidators, of 1986-1987 first of all.

A trend for the increase in cases of leukaemia, lymphomas and thyroid cancers has been seen in the liquidators of 1986 only.

Total mortality in the cohort of liquidators of 1986-1987 does not exceed that of the reference group of the population.

Serious concern is caused by the significant growth of complete or partial disability rate among the liquidators of the Chernobyl accident, especially in the group of the 1986 liquidators.

According to the data of the specialized medical records of the evacuated population and population inhabiting the contaminated territories in comparison with the referent healthy indices decreased significantly. The share of healthy people among the evacuated decreased from 59% to 21%; among the population of the controlled territories from 52% to 24%; among the children born from the exposed parents from 81% up to 32%. A particular concern is children, born from the liquidators of 1986.

The significant growth of thyroid cancer morbidity is observed in children and adolescents of Belarus, Ukraine and Russia. Total number of those who became ill, aged at the time of the accident from 0 to 18 years, amounts to 1000 in three specified countries. The performed radiation-epidemiological studies show that the overwhelming number of the identified types of thyroid cancer is due to radiation effect of the Chernobyl catastrophe.

Results, received so far, have shown, that in all three countries the excess of morbidity of solid cancers and leukosis is not yet registered among the population, dwelling in the contaminated territories.

Any accidental factors, which can influence health indices of the population during the acute period were mainly including radiation exposure. They, however, were later added by effects associated with the accident. In this complicated situation reliable predictions and epidemiological survey it was impossible to make became especially important.

The information base of research relies on the existing system of registration of disease and the death causes as well as on specially created all-union and then national Registers of three countries. Besides in each of the three countries specialized epidemiological projects are being carried out with regard to the radiation induced diseases. It is important to note compatibility of information bases, in principle enabling one to analyze accumulated data of three countries to be analysed as a file.

**Statement of the Ministries for
Emergency Situations of
Belarus, the Russian Federation
and Ukraine**

**On the Post-Chernobyl Situation
in Belarus, Russian Federation and the Ukraine**

On April 26, 1986 the largest accident on the 4 unit of the Chernobyl NPP took place in the USSR. The accident of such a type was considered to be practically impossible and is referred to as beyond-design. As a result of the accident the reactor was destructed and during two weeks about 2 EBq of radionuclides were released in the environment. The fire in the reactor core led to dispersion of radioactive materials on vast territories of Belarus, Russia and Ukraine as well as some countries of Europe.

The composition of the radioactive releases included different radionuclides of iodine, caesium and strontium. This determined exposure of the population to short-lived radionuclides, first of all to isotopes of radioiodine and subsequent exposure due to long-lived radionuclides.

Neither the Soviet Union, nor other countries of the world were ready to eliminate the accident of such a magnitude.

Non-uniform character of the radionuclides release from the destroyed reactor, the complex path of the contaminated air, atmospheric precipitation during that period, difference in terrain-geochemical and microclimatic conditions on the territories, exposed to radioactive contamination, have resulted in formation of the extremely patchy contamination of the territory of Belarus, Ukraine and Russia with a various radionuclides ratio.

As of 01.01.95 the total area of these three states, contaminated by radiocaesium exceeding 37 kBq/m^2 (1 Ci/km^2) makes about 145 thousands km^2 , on which more than 7 mln. of people lived.

At the initial stage of the accident isotopes with short and medium half-lives were prevailing in fall outs, of them belong to ^{131}I being of the highest radiobiological significance.

Given the severity of the accident, a lot of people were involved in its liquidation - primarily non-professionals (about 800 000 people). From April 27 to mid-August 1986 116 000 residents were evacuated, which has turned out to be a justified and effective counter-measure. From 1990 to 1995 due to the formed radiation conditions, and because of social-psychological factors and political conditions, 52 500 people in Ukraine, 106 500 people in Belarus, about 47 500 people in Russia were additionally resettled.

Of the total number of the liquidators 237 people were taken to hospital under the assumption of overexposure. Of them 134 had diagnosis of acute radiation sindrom (ARS). 56 people got radiation burns, two of them, in addition had thermal skin injuries. 28 patients died soon as a result of the exposure, two others were lost due to initial explosions and fires. One died of prospective coronary thrombosis.

Collaborative work of scientists from EU countries, Belarus, Russia and the Ukraine under the quadripartite "Agreement for International Collaboration on the Consequences of the Chernobyl Accident" has been an integral part of the established interaction. The obtained results have made a considerable contribution to studies of radioecological, medical and biological, social and economic issues resulted from the large – scale contamination. An important step has been made towards setting up a system of nuclear and radiation safety of Europe. There is no such a thing as a guarantee against an accidents like the Chernobyl one. The mankind must have in hand knowledge and expertise required for minimizing negative effects of such accident, should they occur.

The participants of the Conference are convinced that the attention to the post – Chernobyl situation should not be reduced. They urge to expand mutually beneficial scientific and technical collaboration in this area. Application of the collaboration results and analysis of the lessons learnt in mitigation of the accident will make it possible to make a considerable step forward increased radiation safety of the European countries.

The Conference concludes that in the near future efforts should be focused on the following problems of priority

- rehabilitation of the contaminated territories;
- monitoring of health status and development of optimum methods for diagnosis, treatment and prevention of diseases for liquidators and other affected population groups;
- development of early diagnostics and therapeutic methods for thyroid and other cancers;
- development of a system to minimize social – psychological consequences of the accident;
- development of methods and computerized decision – making support systems to protect population in case of a radiation accident.

The experience of dealing with the nuclear disaster gained over the latest decade must belong to the whole mankind. Setting up reliable safeguards of radiation safety would benefit each inhabitant of the Earth.

From the CIS participants

Declaration

of participants of the First International Conference of the European Commission, Belarus, Russian Federation and Ukraine on the *Radiological Consequences of the Chernobyl Accident*

It has been 10 years since the accident at the Chernobyl NPP happened biggest technology – related accident of the 20th century which has affected vast territories and millions of people.

This accident has caused an alarm of the whole world community. The world – wide character of its aftermath has forced the world to have a new look on the problem of national and global safety.

The Chernobyl accident has become a national tragedy for Belarus, the Ukraine and Russia. The catastrophe has resulted in a large – scale contamination of the environment. It has caused social and psychological tensions and has become the most powerful destructive factor as for sustainable development of the affected regions.

Participants of the Conference express their concern about the worsening state of health of the affected people as a result of impact of a number of factors, including economic, psychological and social ones.

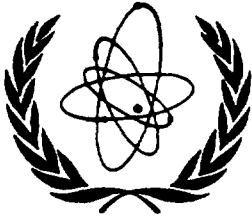
An obvious consequence of the Chernobyl accident is a significant increase in incidence of thyroid cancer in children and adolescents. Among the groups of increased risk are liquidators of 1986 – 1987, the evacuated population and children and adolescents living in the contaminated territories.

The consequences of the Chernobyl accident can not be eliminated in a few years. In one way or another, they will be experienced by many generations to come.

International bilateral and multilateral co – operation, mutual exchange of gained experience and information on alleviation of the consequences of the Chernobyl accident is of great significance.

To all of you I wish good health and further scientific successes. Also, I wish you the most important things that scientists can expect from their work - the joy of discovery and the gratitude of those in need of their findings.

Once more - thank you. We shall always be pleased to see you again in our hospitable country.



Agence internationale de l'énergie atomique
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**DOCUMENTS RELATIFS A L'ACCIDENT DE TCHERNOBYL
PRESENTES PAR LE BELARUS**

Les documents reproduits dans les appendices 1 à 4^{*/} ont été communiqués par le représentant permanent du Bélarus auprès de l'Agence internationale de l'énergie atomique, qui a demandé qu'ils soient distribués aux États Membres à la suite de la première Conférence internationale de la Commission européenne, du Bélarus, de la Fédération de Russie et de l'Ukraine sur les conséquences de l'accident de Tchernobyl, qui s'est tenue à Minsk, du 18 au 22 mars 1996.

^{*/} En anglais.

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The participants of the Conference are convinced that the attention to the post – Chernobyl situation should not be reduced. They urge to expand mutually beneficial scientific and technical collaboration in this area. Application of the collaboration results and analysis of the lessons learnt in mitigation of the accident will make it possible to make a considerable step forward increased radiation safety of the European countries.

The Conference concludes that in the near future efforts should be focused on the following problems of priority

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It is necessary to keep on scientific research programmes in key areas that are important for overcoming the consequences of the Chernobyl accident and hereafter setting up a radiation safety system in Europe. The natural decontamination of the contaminated territories proceeds slowly with speed close to or considerably smaller than that of caesium -137 radioactive decay. Radiation conditions formed in 10 years after the accident will be preserved long time. It set forth a necessity of long-term radioecological and radiation-hygienic monitoring health of the population and environment.

The implementation of counter-measures in agriculture is still needed on a significant part of the contaminated territories. Under the current economic situation a decrease in scales of work on agricultural regions' rehabilitation is observed in CIS countries. That has been already displayed in a tendency of increasing food products contamination and more intensive use of contaminated products of half-natural ecosystems.

Statement of the Ministries of Health
of Belarus, Russia and Ukraine

One of the most serious radiation accidents in the history of the nuclear industry occurred on 26 April 1986 at the Chernobyl NPP. Almost five million people were living in areas where the radionuclide contamination exceeded 37 kBq/m², and 278 000 were living in areas where it exceeded 555 kBq/m². About 800 000 people (liquidators) took part in emergency and recovery operations in the accident zone.

Among the medical consequences of the Chernobyl accident, the greatest concern is aroused by the steady growth in the incidence of thyroid cancer among children living in the monitored areas of Belarus, Russia and Ukraine.

Analysis of the data accumulated in the three Republics points to unfavourable trends as regards various classes of diseases in the populations living in contaminated areas and among the liquidators.

The incidence of haemoblastosis, which has a close etiological connection with radiation, has remained virtually unchanged since the accident.

The accident cost the lives and damaged the health of Chernobyl NPP workers and created a potential threat to the health of many other people - for example, those who participated in recovery operations after the accident and people living in areas contaminated by radionuclides. Besides all the consequences due to radiation, these people have also suffered from stress and shock, which has had a negative impact on their physical and psychological state of health.

Many countries and international organizations (the EEC, the UN, WHO, the IAEA, UNESCO, the International Red Cross and Red Crescent Movement, the Council of Europe, etc.) have helped Belarus, Russia and Ukraine to mitigate the consequences of the Chernobyl accident.

Minimizing the medical consequences of the Chernobyl accident is an extremely complex, long-term task. It would help if there were a further expansion of activities under national programmes directed towards international collaboration within the framework of EC projects.

It is necessary to further intensify the co-operation of the EC and Belarus, Russia, Ukraine and other interested countries in assessing and minimizing the medical consequences of the Chernobyl accident on the basis of a uniform scientific methodology.

The most promising lines of future work are:

1. Further careful monitoring of the health of the unprecedentedly large number of people who have been exposed to low radiation doses;
2. Expansion and intensification of the epidemiological studies of thyroid cancer (especially in children) and other neoplasms and of genetic disorders - diagnosis, treatment and rehabilitation;
3. Epidemiological cohort and case-control studies of the 1986-87 liquidators in order to determine the incidence of leukaemia and solid malignant tumours;
4. Analysis of morbidity, mortality and invalidity associated with somatic, nervous and psychological diseases in the exposed population and among the liquidators - isolation of the influence of non-radiation factors;
5. Development of biological dosimetry methods, including retrospective dose assessment.

It is extremely important to investigate the molecular, cellular and biological characteristics of radiation-induced thyroid cancer.

Concluding address of I.A. Kenik,
Belarus Minister for Emergency
Situations and for Protection of the
Population from the Consequences
of the Chernobyl Accident

Distinguished participants, ladies and gentlemen,

We are today completing the work undertaken by us jointly within the framework of the First International Conference of the European Union, Belarus, the Russian Federation and Ukraine on the Consequences of the Chernobyl Accident.

During the past five days, at plenary and topical sessions, important and interesting scientific reports have been presented, there have been fruitful and constructive discussions, exhibitions have been organized and press conferences have been held.

The importance of this conference cannot be overemphasized. It touched on the most diverse aspects of the problems associated with the Chernobyl accident.

I believe that the main achievement of this conference was a thorough and objective analysis of the situation which has undoubtedly been useful for Western countries and will be useful to the affected Republics as they formulate scientifically well-founded proposals for further minimizing the consequences of the accident.

During this conference, every participant had the opportunity of holding additional meetings and discussions with colleagues from Belarus, Russia and Ukraine, and the intensification of contacts at the personal level is a good stimulus of fruitful international scientific collaboration.

The strengthening of mutual understanding among States in many respects depends not only on the results of the interaction of politicians with politicians but also on those of meetings of politicians with scientists and the representatives of public societies and social movements and on contacts with ordinary citizens. Thus, the significance of our common endeavours here goes beyond the bounds of scientific collaboration. These endeavours are especially important in the context of strengthening the co-operation of our three countries - Belarus, Russia and Ukraine - on one hand with European international institutions on the other, and particularly with the European Union and the Council of Europe.

One of the serious problems caused by the Chernobyl accident is "Chernobyl stress" - a complex psychological phenomenon giving rise to psychological tensions in society. The holding of a conference like this one, however, has a positive effect in reducing such tensions.

I believe that the extensive discussions of medical problems which took place during this conference served not only the interests of scientific truth. It is to be hoped that they will lead to the formulation of specific recommendations whose implementation will result in timely and effective medical assistance designed to safeguard and improve the health of those who were involved in the Chernobyl accident.

In my view, the results of this conference - its final documents - constitute above all official recognition by the international scientific community of the true scale of the Chernobyl accident.

In addition, the final documents adopted by the conference point to the future and offer a firm basis for the development of international "Chernobyl" co-operation.

I am confident that the agreed position of the scientists of Belarus, Russia, Ukraine and the European Commission which was expressed during this conference will be duly noted by the international scientific community. The results of this conference and the opinion of those participating in it should, I believe, be taken into account at the international conference "One decade after Chernobyl: Summing up the consequences of the accident" which is to take place in Vienna from 8 to 12 April.

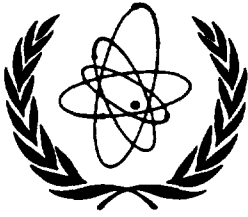
History would have it that the world associates the Republic of Belarus, a newly independent State, with the word "Chernobyl". It is a tragedy for Belarus, Russia and Ukraine. We feel the concern that the subject of this conference is arousing in the international community. It manifests itself in extensive international co-operation with prominent organizations like the European Union, the United Nations and various of its agencies, the International Federation of Red Cross and Red Crescent Societies and a number of other organizations represented at this conference. At the same time, I would emphasize once more that for Belarus, Russia and Ukraine "Chernobyl" is not just a subject for scientific research - it is a reality in which millions of our people are living and working. That is why we are so interested in the consequences of a radiation accident on such a scale being reliably assessed and predicted. That is why we welcome the efforts of the international scientific community and are grateful to all of you who have participated in this conference.

I hope that, with the help of the European Commission, our collaboration in dealing with the most acute and most alarming problems resulting from the Chernobyl accident will continue. I hope that we shall all participate in the second such conference.

I should like to thank the European Parliament and all the other international bodies for their active participation in the work of this conference. I should also like to express my sincere gratitude to the immediate conference organizers Mr. Jaak Sinnaeve and Ms. Anna Karaoglou and through them to the entire European Commission. In addition, a heartfelt "thank you" should go to my fellow Ministers Sergei Kuzhugetovich Shoigu of Russia and Vladimir Ivanovich Kholosha of Ukraine.

To all of you I wish good health and further scientific successes. Also, I wish you the most important things that scientists can expect from their work - the joy of discovery and the gratitude of those in need of their findings.

Once more - thank you. We shall always be pleased to see you again in our hospitable country.



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**DOCUMENTACION RELATIVA AL ACCIDENTE DE CHERNOBIL
PRESENTADA POR BELARUS**

La documentación contenida en los Anexos 1 a 4 ha sido facilitada por el Representante Permanente de Belarús ante el Organismo Internacional de Energía Atómica con la petición de que se distribuya a los Estados Miembros en relación con la Primera Conferencia Internacional de la Unión Europea, Belarús, la Federación de Rusia y Ucrania sobre las consecuencias del accidente de Chernobil, que se celebró en Minsk, del 18 al 22 de marzo de 1996.

Nota: La documentación se adjunta en inglés.

Declaration

of participants of the First International Conference of the European Commission, Belarus, Russian Federation and Ukraine on the Radiological Consequences of the Chernobyl Accident

It has been 10 years since the accident at the Chernobyl NPP happened biggest technology-related accident of the 20th century which has affected vast territories and millions of people.

This accident has caused an alarm of the whole world community. The world-wide character of its aftermath has forced the world to have a new look on the problem of national and global safety.

The Chernobyl accident has become a national tragedy for Belarus, the Ukraine and Russia. The catastrophe has resulted in a large-scale contamination of the environment. It has caused social and psychological tensions and has become the most powerful destructive factor as for sustainable development of the affected regions.

Participants of the Conference express their concern about the worsening state of health of the affected people as a result of impact of a number of factors, including economic, psychological and social ones.

An obvious consequence of the Chernobyl accident is a significant increase in incidence of thyroid cancer in children and adolescents. Among the groups of increased risk are liquidators of 1986 – 1987, the evacuated population and children and adolescents living in the contaminated territories.

The consequences of the Chernobyl accident can not be eliminated in a few years. In one way or another, they will be experienced by many generations to come.

International bilateral and multilateral co-operation, mutual exchange of gained experience and information on alleviation of the consequences of the Chernobyl accident is of great significance.

Collaborative work of scientists from EU countries, Belarus, Russia and the Ukraine under the quadripartite "Agreement for International Collaboration on the Consequences of the Chernobyl Accident" has been an integral part of the established interaction. The obtained results have made a considerable contribution to studies of radioecological, medical and biological, social and economic issues resulted from the large – scale contamination. An important step has been made towards setting up a system of nuclear and radiation safety of Europe.

There is no such a thing as a guarantee against an accidents like the Chernobyl one. The mankind must have in hand knowledge and expertise required for minimizing negative effects of such accident, should they occur.

The participants of the Conference are convinced that the attention to the post – Chernobyl situation should not be reduced. They urge to expand mutually beneficial scientific and technical collaboration in this area. Application of the collaboration results and analysis of the lessons learnt in mitigation of the accident will make it possible to make a considerable step forward increased radiation safety of the European countries.

The Conference concludes that in the near future efforts should be focused on the following problems of priority

- rehabilitation of the contaminated territories;
- monitoring of health status and development of optimum methods for diagnosis, treatment and prevention of diseases for liquidators and other affected population groups;
- development of early diagnostics and therapeutic methods for thyroid and other cancers;
- development of a system to minimize social – psychological consequences of the accident;
- development of methods and computerized decision – making support systems to protect population in case of a radiation accident.

The experience of dealing with the nuclear disaster gained over the latest decade must belong to the whole mankind. Setting up reliable safeguards of radiation safety would benefit each inhabitant of the Earth.

From the CIS participants

Statement of the Ministries for
Emergency Situations of
Belarus, the Russian Federation
and Ukraine

**On the Post-Chernobyl Situation
in Belarus, Russian Federation and the Ukraine**

On April 26, 1986 the largest accident on the 4 unit of the Chernobyl NPP took place in the USSR. The accident of such a type was considered to be practically impossible and is referred to as beyond-design. As a result of the accident the reactor was destructed and during two weeks about 2 EBq of radionuclides were released in the environment. The fire in the reactor core led to dispersion of radioactive materials on vast territories of Belarus, Russia and Ukraine as well as some countries of Europe.

The composition of the radioactive releases included different radionuclides of iodine, caesium and strontium. This determined exposure of the population to short-lived radionuclides, first of all to isotopes of radioiodine and subsequent exposure due to long-lived radionuclides.

Neither the Soviet Union, nor other countries of the world were ready to eliminate the accident of such a magnitude.

Non-uniform character of the radionuclides release from the destroyed reactor, the complex path of the contaminated air, atmospheric precipitation during that period, difference in terrain-geochemical and microclimatic conditions on the territories, exposed to radioactive contamination, have resulted in formation of the extremely patchy contamination of the territory of Belarus, Ukraine and Russia with a various radionuclides ratio.

As of 01.01.95 the total area of these three states, contaminated by radiocaesium exceeding 37 kBq/m^2 (1 Ci/km^2) makes about 145 thousands km^2 , on which more than 7 mln. of people lived.

At the initial stage of the accident isotopes with short and medium half-lives were prevailing in fall outs, of them belong to ^{131}I being of the highest radiobiological significance.

Given the severity of the accident, a lot of people were involved in its liquidation - primarily non-professionals (about 800 000 people). From April 27 to mid-August 1986 116 000 residents were evacuated, which has turned out to be a justified and effective counter-measure. From 1990 to 1995 due to the formed radiation conditions, and because of social-psychological factors and political conditions, 52 500 people in Ukraine, 106 500 people in Belarus, about 47 500 people in Russia were additionally resettled.

Of the total number of the liquidators 237 people were taken to hospital under the assumption of overexposure. Of them 134 had diagnosis of acute radiation sindrom (ARS). 56 people got radiation burns, two of them, in addition had thermal skin injuries. 28 patients died soon as a result of the exposure, two others were lost due to initial explosions and fires. One died of prospective coronary thrombosis.

For the period from 1987 to 1990 five patients died and from 1992 to 01.03.96 nine more people died with the confirmed diagnosis ARS.

The health of other involved in elimination of the Chernobyl accident consequences was steadily worsening for 9 years after the accident. The proportion of healthy people decreased from 78% in 1988 to 20% in 1995.

The main contribution to these negative indicators was made by non-tumour pathology (disorders of the nervous, cardio-vascular, respiratory, digestive, urine and osteo-muscular systems). Higher levels of morbidity are detected in the liquidators, of 1986-1987 first of all.

A trend for the increase in cases of leukaemia, limphomas and thyroid cancers has been seen in the liquidators of 1986 only.

Total mortality in the cohort of liquidators of 1986-1987 does not exceed that of the reference group of the population.

Serious concern is caused by the significant growth of complete or partial disability rate among the liquidators of the Chernobyl accident, especially in the group of the 1986 liquidators.

According to the data of the specialized medical records of the evacuated population and population inhabiting the contaminated territories in comparison with the referent healthy indices decreased significantly. The share of healthy people among the evacuated decreased from 59% to 21%; among the population of the controlled territories from 52% to 24%; among the children born from the exposed parents from 81% up to 32%. A particular concern is children, born from the liquidators of 1986.

The significant growth of thyroid cancer morbidity is observed in children and adolescents of Belarus, Ukraine and Russia. Total number of those who became ill, aged at the time of the accident from 0 to 18 years, amounts to 1000 in three specified countries. The performed radiation-epidemiological studies show that the overwhelming number of the identified types of thyroid cancer is due to radiation effect of the Chernobyl catastrophe.

Results, received so far, have shown, that in all three countries the excess of morbidity of solid cancers and leukosis is not yet registered among the population, dwelling in the contaminated territories.

Any accidental factors, which can influence health indices of the population during the acute period were mainly including radiation exposure. They, however, were later added by effects associated with the accident. In this complicated situation reliable predictions and epidemiological survey it was impossible to make became especially important.

The information base of research relies on the existing system of registration of disease and the death causes as well as on specially created all-union and then national Registers of three countries. Besides in each of the three countries specialized epidemiological projects are being carried out with regard to the radiation induced diseases. It is important to note compatibility of information bases, in principle enabling one to analyze accumulated data of three countries to be analysed as a file.

The depth and the magnitude of social-psychological consequences of the Chernobyl accident were most graphic. The accident has transformed the mentality of the population on the three affected countries involved, has changed a system of social and cultural values, has affected life of large groups of people. The accident has caused high distress, psychological discomfort and had other implications with particular features in various groups. Stress tends to be transformed into psychosomatic illnesses, which will determine a further decrease in life quality and a health state, including that in generations to come.

About 4300 km² of the most contaminated areas in the Ukraine, Belarus and Russia is separated as an alienation zone. Acute radiobiological effects occurred in a close vicinity of the wrecked reactor. They resulted in death of woods on the area of 30 km² and in varying radiation damage to plants and animals as well as in degradation of biocenosis. A permanent danger of contaminating rivers Dnieper and Pripyat to levels above sanitary norms is posed by the presence of highly contaminated sites including more than 800 radioactive waste repositories, the "Shelter" installation, pool-cooler etc. in the alienation zone. That demands measures to rectify a radioecological situation.

One of the consequences of the accidents determining its catastrophic character is contamination of extensive agricultural lands with long-lived radionuclides. In Belarus, Russia and Ukraine the arable lands with the Cs-137 contamination density of more than 37 KBq/m² make 94 000 km². The environmental conditions of the contaminated areas have led to intense incorporation of the radionuclides in the biological chains. The major radiation factor on the contaminated areas is internal exposure associated with consumption of local foodstuffs.

In the three countries countermeasures have been carried out on extensive areas which has allowed contamination of the produce to be reduced by a factor of 2-5.

Though the concentration of radiocesium in produce on the contaminated areas in most cases does not exceed the levels recommended as threshold by WHO and FAO it is still 1 to 2 orders of magnitude higher than on the other territories of CIS and Europe.

Particularly high concentrations of Cs-137 (up to 100 Kbk/kg and more) are observed in mushrooms and berries which have been traditionally consumed by the local population.

Concern is caused by production of food on private farms where milk contamination is as high or even higher the standards in 10-20% cases. Solution of these problems calls for long-term works on rehabilitation of the areas.

In the countries of Europe (Sweden, UK and others) where the environmental conditions are similar to those in Polesye high contamination of mushrooms and berries, meat of wild animals and lake fish has been reported.

The accident has led to huge losses in economy.

Direct losses alone including the costs of basic and working assets, facilities of social infrastructure, dwellings and natural resources taken out of use have added up to dozens of billions of US dollars.

Indirect losses, lost profits and costs related to elimination of the consequences were also very significant.

The Chernobyl disaster had a major destructive effect on development of the affected areas and caused growth in socio-psychological tensions.

The accident has revealed imperfections in provision of nuclear and radiation safety. In the Soviet Union there was no comprehensive legislation on nuclear power and the organizations running nuclear facilities were not independent of the authorities involved in regulating nuclear and radiation safety and inspection of nuclear facilities operation .

Many conclusions have been drawn : in the affected CIS countries special authorities responsible for control of nuclear and radiation safety and inspection of nuclear facilities operation have been set up which are independent of the organizations running these facilities. A variety of measures have been implemented to improve the structure of nuclear plants, enhance nuclear, radiation and fire safety. This has made it possible to increase the reliability and safety of nuclear facilities in general .

At present there are a number of complicated problems calling for long-term efforts.

A problem of medical care for the liquidators and exposed population will not lose its actuality in many years to come. In the first instance one should distinguish effects related to the damage to thyroid gland.

Radiation and hygienic conditions in many regions of Belarus, Russia and the Ukraine demand measures aimed at radiation medical and social protection for the population and rehabilitation of territories to be continued.

It is necessary to keep on scientific research programmes in key areas that are important for overcoming the consequences of the Chernobyl accident and hereafter setting up a radiation safety system in Europe. The natural decontamination of the contaminated territories proceeds slowly with speed close to or considerably smaller than that of caesium -137 radioactive decay. Radiation conditions formed in 10 years after the accident will be preserved long time. It set forth a necessity of long-term radioecological and radiation-hygienic monitoring health of the population and environment.

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of Belarus, Russia and Ukraine

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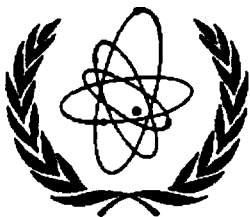
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I hope that, with the help of the European Commission, our collaboration in dealing with the most acute and most alarming problems resulting from the Chernobyl accident will continue. I hope that we shall all participate in the second such conference.

I should like to thank the European Parliament and all the other international bodies for their active participation in the work of this conference. I should also like to express my sincere gratitude to the immediate conference organizers Mr. Jaak Sinnaeve and Ms. Anna Karaoglou and through them to the entire European Commission. In addition, a heartfelt "thank you" should go to my fellow Ministers Sergei Kuzhugetovich Shoigu of Russia and Vladimir Ivanovich Kholosha of Ukraine.

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Международное агентство по атомной энергии

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ОТНОСЯЩИЙСЯ К ЧЕРНОБЫЛЬСКОЙ АВАРИИ МАТЕРИАЛ, ПРЕДСТАВЛЕННЫЙ БЕЛАРУСЬЮ

Материал, содержащийся в Приложениях 1-4, предоставлен Постоянным представителем Беларуси при Международном агентстве по атомной энергии, который предложил распространить его среди государств-членов в связи с Первой международной конференцией Европейской комиссии, Беларуси, Российской Федерации и Украины по последствиям чернобыльской аварии, проведенной в Минске с 18 по 22 марта 1996 года.

ЗАЯВЛЕНИЕ

участников Первой международной конференции Европейской Комиссии, Беларуси, Российской Федерации и Украины по радиологическим последствиям чернобыльской аварии

10 лет прошло после аварии на Чернобыльской АЭС — крупнейшей техногенной аварии XX века, воздействию которой подверглись обширные территории и миллионы людей.

Авария в Чернобыле встревожила мировое сообщество. Глобальный характер ее последствий заставил весь мир по-новому взглянуть на проблему национальной и планетарной безопасности.

Чернобыльская авария стала национальной трагедией для Беларуси, Украины и России. Катастрофа привела к крупномасштабному радиоактивному загрязнению окружающей среды, явилась мощнейшим деструктивным фактором устойчивого развития пострадавших регионов, обусловила рост социально — психологической напряженности.

Участники конференции выражают озабоченность ухудшением состояния здоровья пострадавшего населения, вызванного комплексом факторов радиационной и нерадиационной природы, включая экономические, психологические и социальные.

Очевидным следствием аварии является продолжающееся значительное увеличение частоты случаев рака щитовидной железы у детей и подростков. Группами повышенного риска являются ликвидаторы 1986 — 1987 годов, эвакуированное население, дети и подростки, проживающие на загрязненных территориях. Последствия Чернобыльской аварии нельзя устранить в течение нескольких лет. В той или иной мере они будут ощущаться не одним поколением.

Огромное значение имеет международное многостороннее и двустороннее сотрудничество, взаимный обмен опытом и информацией по смягчению последствий Чернобыльской аварии. Важным звеном такого взаимодействия явилась совместная работа ученых стран Европейского Союза, Беларуси, России и Украины в рамках четырехстороннего Соглашения о международном сотрудничестве по вопросам, связанным с последствиями аварии на Чернобыльской АЭС. Полученные результаты внесли существенный вклад в изучение радиозоологических, медико — биологических и социально — экономических проблем, обусловленных широкомасштабным радиоактивным загрязнением. Сделан конкретный шаг в создании системы ядерной и радиационной безопасности Европы. От аварий, подобных Чернобыльской, никто полностью не застрахован. Человечество должно располагать необходимыми знаниями и опытом для минимизации их негативного воздействия.

Участники конференции считают, что внимание к постчернобыльской ситуации не должно быть ослаблено, и призывают к расширению взаимообогащающего научно — технического сотрудничества в данном направлении. Использование результатов сотрудничества и анализ уроков ликвидации последствий аварии позволит сделать существенный шаг в повышении радиационной безопасности европейских стран.

На ближайшую перспективу Конференция считает необходимым сосредоточить усилия на решении следующих приоритетных проблем:

- реабилитация загрязненных радионуклидами территорий;
- мониторинг состояния здоровья и разработка оптимальных методов диагностики, профилактических, лечебных мероприятий по предупреждению болезней у "ликвидаторов" и других групп пострадавшего населения, методов ранней диагностики и лечения рака щитовидной железы и другой локализации;
- разработка системы минимизации социально–психологических последствий катастрофы;
- разработка методов и компьютерных систем поддержки принятия решений по защите населения в случае радиационной аварии.

Опыт борьбы с ядерной бедой, накопленный за десятилетие, должен стать достоянием человечества. Создание надежных гарантий радиационной безопасности – в интересах каждого жителя Земли.

От участников из государств–членов СНГ

Заявление министерств
по чрезвычайным ситуациям
Беларуси, России и Украины

О постчернобыльской ситуации в Беларуси, России и Украине

1. 26 апреля 1986 г. в СССР произошла крупнейшая авария на 4 блоке Чернобыльской АЭС. Авария такого типа считалась практически невозможной и относится к запроектной. В результате аварии произошло разрушение реактора и в окружающую среду в течение двух недель было выброшено около 2 ЭБк радионуклидов. Пожар в активной зоне реактора способствовал распространению радиоактивных веществ на больших территориях Беларуси, России и Украины, а также некоторых стран Европы.

В состав радиоактивных выбросов входило большое количество радионуклидов йода, цезия и стронция. Это определило облучение населения короткоживущими радионуклидами, в первую очередь изотопами радиойода, и последующее облучение за счет долгоживущих радионуклидов.

К ликвидации аварии такого масштаба не были готовы ни в Советском Союзе, ни в других странах мира.

2. Неравномерный характер выброса радионуклидов из разрушенного реактора, сложная траектория движения загрязненных воздушных масс, выпадение в этот период атмосферных осадков, различие ландшафтно – геохимических, микроклиматических условий на территориях, подвергшихся радиоактивному загрязнению, привели к формированию чрезвычайно пятнистого загрязнения территории Беларуси, Украины и России с различным соотношением радионуклидов.

По состоянию на 01.01.95 г. общая площадь земель этих трех государств, загрязненных радиоцезием свыше 37 кБк/м² (1 Ки/км²), составляет около 145 тыс. км², на которых проживают более 7 млн. человек.

На начальном этапе аварии в выпадениях преобладали изотопы с коротким и средним периодами полураспада, среди которых наибольшее радиобиологическое значение принадлежит йоду – 131.

3. Учитывая тяжесть аварии, в ее ликвидацию было вовлечено большое количество людей – в основном непрофессионалов (около 800 000 человек). За период с 27 апреля до середины августа 1986 г. было эвакуировано 116 000 жителей, что оказалось оправданной и эффективной контрмерой. С 1990 по 1995 год в связи со сложившейся радиационной обстановкой, а также учитывая социально – психологические факторы и политическую обстановку, дополнительно переселено в Украине 52 500 человек, в Беларуси – 106 500, в России – около 47 500 человек.

Из общего числа ликвидаторов 237 человек были госпитализированы по предположению о переоблучении. У 134 из них был установлен диагноз острой лучевой болезни (ОЛБ). Радиационные ожоги получили 56 человек, двое из них, кроме того, имели термические поражения кожи. 28 пациентов вскоре умерли в результате радиоактивного облучения, двое погибли

вследствие первоначальных взрывов и пожаров, один скончался от предполагаемого тромбоза коронарных сосудов.

За период с 1987 по 1990 год умерло 5 больных и с 1992 по 01.03.96 г. — ещё 9 с подтвержденным диагнозом ОЛБ.

Состояние здоровья участников ликвидации последствий чернобыльской аварии за 9 послеаварийных лет прогрессивно ухудшалось. Доля здоровых лиц снизилась с 78% в 1988 г. до 20% в 1995 г.

Основной вклад в эти негативные показатели внесли неопухоловые формы патологии (болезни нервной, сердечно-сосудистой систем, органов дыхания, пищеварения, моче-половой и костно-мышечной систем). Более высокие уровни заболеваемости определены у ликвидаторов, прежде всего 1986–1987 гг., с дозами внешнего облучения более 250 мЗв.

Наметилась тенденция к увеличению числа случаев лейкоemий, лимфом, а также раков щитовидной железы у ликвидаторов 1986 г.

Общая смертность в когорте ликвидаторов 1986–1987 гг. не превышает показателей референтной группы населения.

Вызывает серьёзную озабоченность значительный рост инвалидизации с полной или частичной утратой трудоспособности среди участников ликвидации чернобыльской катастрофы, особенно у группы ликвидаторов 1986 г.

По данным специализированной диспансеризации в сравнении с референтными группами существенно ухудшились показатели здоровья эвакуированного населения и населения, проживающего на загрязнённых территориях. Доля здоровых лиц среди эвакуированных снизилась с 59% до 21%; среди населения контролируемых территорий — с 52% до 24%; среди детей, родившихся от облучённых родителей, — с 81% до 32%. Особую тревогу вызывает состояние здоровья детей, родившихся от ликвидаторов 1986 г.

Отмечен значительный рост заболеваемости раком щитовидной железы у детей и подростков Беларуси, Украины и России. Общее количество заболевших, возраст которых на момент аварии находился в пределах 0–18 лет, составило в трех указанных странах около 1000 человек. Радиационно-эпидемиологическими исследованиями установлено, что подавляющее число выявленных раков щитовидной железы обусловлено радиационным воздействием чернобыльской катастрофы.

Результаты, полученные к настоящему времени, показали, что во всех трех странах пока что не регистрируется эксцесс заболеваемости солидными раками и лейкозами населения, проживающего на загрязнённых радионуклидами территориях.

Аварийные факторы, способные повлиять на показатели здоровья населения в остром периоде, включали в основном радиационное воздействие, однако затем к ним присоединились другие неблагоприятные влияния, обусловленные аварией. В этой сложной ситуации невозможно было построить надежные прогнозы и особо важное значение приобрело эпидемиологическое наблюдение.

Информационная база исследований опирается на существующую систему регистрации болезней и причин смерти и на специально созданные Всесоюзный, а затем и национальные Регистры трех стран. Кроме того, в каждой из трех стран реализуются специализированные эпидемиологические проекты в отношении радиационно зависимых

заболеваний. Важно отметить совместимость информационных баз, принципиально позволяющих анализировать накопленные данные трех стран как единый массив.

Глубина и широкомасштабность социально–психологических последствий чернобыльской аварии оказались одним из наиболее ярко выраженных феноменов. Катастрофа трансформировала сознание вовлеченного населения трех пострадавших стран, изменила систему социальных и культурных ценностей, повлияла на процессы жизнедеятельности больших контингентов. Авария вызвала высокую тревожность, психологический дискомфорт и другие последствия, имеющие характерные особенности в различных группах. Стресс имеет тенденцию трансформироваться в психосоматические заболевания, которые определяют дальнейшее снижение качества жизни и уровня здоровья, в том числе и последующих поколений.

6. В Украине, Беларуси и России около 4300 км² наиболее загрязнённой территории выделено в зону отчуждения.

В непосредственной близости от аварийного блока имели место острые радиобиологические эффекты, приведшие к гибели лесов на площади 30 км² и лучевому поражению растений и животных различной степени, деградации биоценозов.

Наличие в зоне отчуждения участков с крайне высокими плотностями загрязнения, более 800 хранилищ радиоактивных отходов, объекта "Укрытие", водоёма–охладителя и другие факторы создают постоянную опасность загрязнения рек Припять и Днепр выше санитарных норм, требует мероприятий по стабилизации радиоз экологической ситуации.

7. Одно из последствий аварии, определяющих её как катастрофу, – загрязнение больших территорий сельскохозяйственных угодий долгоживущими радионуклидами. В Беларуси, России и Украине площадь этих угодий с плотностью загрязнения цезием – 137 более 37 кБк/м² составила 94 000 км². Экологические условия загрязнённых районов приводят к интенсивному включению радионуклидов в биологические цепи. Основным фактором радиационной обстановки на загрязнённых территориях является внутреннее облучение, связанное с потреблением местных продуктов питания.

В трёх странах на больших площадях проведены контрмеры, обеспечившие уменьшение загрязнения сельскохозяйственной продукции в 2–5 раз.

Хотя на загрязнённых территориях содержание радиоактивного цезия в продукции в большинстве случаев не превышает уровней, рекомендованных в качестве пределов ВОЗ и ФАО, тем не менее оно остаётся на 1–2 порядка выше, чем на остальных территориях стран СНГ и Европы.

Особенно высокие концентрации цезия – 137 (до 100 кБк/кг и более) наблюдаются в грибах и ягодах, которые традиционно широко используются в пищу местным населением.

В странах Европы (Швеция, Англия и др.), где экологические условия сходны с условиями Полесья, отмечается высокое загрязнение грибов и ягод, мяса диких животных и озёрной рыбы.

Вызывает озабоченность проблема производства продукции в личных крестьянских хозяйствах, где загрязнение молока достигает или превышает

нормативы в 10–20 % случаев. Решение этих проблем требует длительного проведения работ по реабилитации территорий.

Авария причинила колоссальные экономические потери.

Только прямые потери, которые включают стоимость выведенных из использования основных и оборотных производственных фондов, объектов социальной инфраструктуры, жилья и природных ресурсов, составили десятки миллиардов долларов США.

Велики также косвенные потери, упущенная выгода и затраты на ликвидацию последствий.

Катастрофа явилась мощным деструктивным фактором развития пострадавших регионов, обусловила рост социально–психологической напряжённости.

8. Авария показала несовершенство обеспечения ядерной и радиационной безопасности. В Советском Союзе отсутствовало целостное ядерное законодательство, не была обеспечена независимость от эксплуатирующих организаций органов, регулирующих ядерную и радиационную безопасность и осуществляющих надзор за эксплуатацией ядерных установок.

Многие выводы сделаны. В пострадавших странах СНГ созданы независимые от эксплуатирующих организаций органы регулирования ядерной и радиационной безопасности, осуществлён целый комплекс мер по улучшению конструкций ядерных установок, повышению их ядерной, радиационной и пожарной безопасности. Это позволило серьёзно усилить надёжность и безопасность эксплуатации ядерных установок в целом.

Имеется ряд сложных проблем, которые потребуют долгосрочных усилий.

Проблема медицинской помощи участникам ликвидации последствий аварии и облученному населению останется актуальной и через десятки лет. В первую очередь в ней необходимо выделить эффекты, связанные с поражением щитовидной железы.

Радиационно–гигиеническая обстановка во многих районах Беларуси, России и Украины требует продолжения мер по радиационной, медицинской и социальной защите населения, реабилитации территорий.

Необходимо продолжить научные исследования по ключевым направлениям, важным для преодоления последствий чернобыльской аварии и создания в будущем системы радиационной безопасности Европы.

Естественная дезактивация загрязнённых территорий протекает медленно, со скоростью, близкой или значительно меньшей скорости радиоактивного распада цезия–137. Радиационная обстановка, сложившаяся через 10 лет после аварии, будет длительное время сохраняться. Это обуславливает необходимость длительного радиоэкологического и радиационно–гигиенического мониторинга.

Проведение контрмер в сельском хозяйстве остается необходимым на значительной части загрязненных территорий. В реальной экономической ситуации в странах СНГ наблюдается снижение масштабов работ по реабилитации сельских регионов, что уже проявляется в тенденции к повышению загрязнения продуктов питания радионуклидами и более интенсивного использования загрязненных продуктов полуприродных экосистем.

Заявление министерств здравоохранения Беларуси, России и Украины

Одна из наиболее серьезных радиационных аварий за всю историю атомной промышленности произошла 26 апреля 1986 года на Чернобыльской атомной станции на Украине. Почти пять миллионов человек оказались жителями территорий, где загрязнение радионуклидами превышало 37 кБк/м². 278 000 человек проживали в районах с плотностьв загрязнения выше 555 кБк/м². Около 800 000 человек (ликвидаторы) приняли участие в спасательно – восстановительных работах в зоне аварии.

Среди медицинских последствий Чернобыльской аварии наибольшую озабоченность вызывает прогрессивный рост заболеваемости раком щитовидной железы среди детей, проживающих на контролируемых территориях Беларуси, России и Украины.

Анализ данных, накопленных в трех государствах, свидетельствует о неблагоприятных тенденциях в динамике отдельных классов заболеваний у населения загрязненных территорий и ликвидаторов.

Уровень заболеваемости гемобластозами, имеющими тесную этиологическую связь с радиацией, в послеаварийный период практически не изменился.

Чернобыльская авария стоила жизни и нанесла ущерб здоровью работников атомной электростанции, а также создала потенциальную угрозу здоровью многих других людей, например, участников восстановительных работ после аварии и населения, проживавшего в районах, загрязненных радионуклидами. Помимо всех вызванных радиацией последствий, эти люди пострадали также от психологического стресса и шока, который оказал отрицательное воздействие на их физическое и психологическое здоровье.

В оказании помощи Беларуси, России и Украине по уменьшению последствий Чернобыльской аварии приняли участие многие страны и международные организации (ЕЕС, ООН, ВОЗ, МАГАТЭ, ЮНЕСКО, Международная Федерация Красного Креста и Красного Полумесяца, Совет Европы и др.).

Минимизация медицинских последствий Чернобыльской аварии представляет собой крайне сложную долговременную проблему. Целесообразно дальнейшее развитие работ в рамках национальных программ по международному сотрудничеству в рамках проектов ЕС.

Необходимо дальнейшее усиление кооперации ЕС, Республики Беларусь, России и Украины, а также других заинтересованных стран по оценке и минимизации медицинских последствий Чернобыльской катастрофы на основе единой научной методологии.

Наиболее перспективными исследованиями в будущем являются:

1. Продолжение тщательного наблюдения за состоянием здоровья уникальных по величине популяций людей, подвергшихся облучению в малых дозах.
2. Расширение и углубление эпидемиологических исследований рака щитовидной железы, особенно у детей, и других новообразований, а также генетических нарушений. Диагностика, лечение и реабилитация заболевших.
3. Эпидемиологические когортные исследования и исследования по методике "кейс – контроль" ликвидаторов 1986–1987 гг. с целью выявления частоты встречаемости лейкозов и солидных злокачественных опухолей.
4. Анализ причин заболеваемости, смертности и инвалидности от общесоматических, невротических и психосоматических заболеваний у населения, подвергшегося облучению, и ликвидаторов. Вычленение влияния факторов нерадиационной природы.
5. Развитие методов биологической дозиметрии, включая ретроспективную оценку доз.

Крайне важны исследования молекулярных, клеточных и биологических характеристик радиационно – индуцированного рака щитовидной железы.

Заключительная речь Министра
по чрезвычайным ситуациям и
защите населения от последствий
катастрофы на ЧАЭС
Республики Беларусь И.А. Кеника.

**Уважаемые участники конференции,
дамы и господа,**

Сегодня мы завершаем нашу совместную работу по программе Первой международной конференции Европейской Комиссии, Беларуси, Российской Федерации и Украины по радиологическим последствиям чернобыльской катастрофы.

За прошедшие пять дней на пленарных и секционных заседаниях были сделаны важные и интересные научные доклады, прошли плодотворные, конструктивные дискуссии, проведены выставки, состоялись пресс – конференции.

Важность нашей конференции нельзя недооценить. Она затронула самые различные аспекты чернобыльских проблем.

Считаю, что основным итогом конференции явился глубокий и объективный анализ ситуации, который, несомненно, полезен для западных стран, и который будет полезен пострадавшим государствам при выработке научно обоснованных предложений по дальнейшей минимизации последствий катастрофы.

В ходе конференции каждый из ее участников имел возможность провести свои дополнительные встречи и переговоры с коллегами из нашей страны, России и Украины. А укрепление контактов на человеческом, личностном уровне общения – это хороший стимул для плодотворного международного научного сотрудничества.

Укрепление взаимопонимания государств во многом зависит не только от результатов взаимодействия политиков с политиками, но и от встреч политических деятелей с учеными, с представителями общественных организаций и движений, от контактов с рядовыми гражданами. Поэтому значимость нашей совместной работы перерастает рамки научного сотрудничества. Эта работа особенно важна в контексте укрепления сотрудничества наших трех стран – Беларуси, России и Украины – с европейскими международными институтами, прежде всего с Европейским Союзом, Советом Европы.

Одной из серьезных проблем, порожденных чернобыльской катастрофой, является чернобыльский стресс, сложное психологическое явление, обуславливающее психологическую напряженность в обществе. В этой связи сам факт проведения такой конференции, как наша, служит положительным фактором, снижающим эту напряженность.

Я думаю, что широкая дискуссия по медицинским проблемам состоялась на конференции не только в интересах установления научной истины. Можно надеяться, что будут выработаны конкретные рекомендации, внедрение которых обеспечит своевременную и

действенную медицинскую помощь по сохранению и укреплению здоровья населения, вовлеченного в чернобыльскую катастрофу

Результаты работы конференции, ее заключительные документы я рассматриваю прежде всего как официальное признание международным научным сообществом истинных масштабов чернобыльской катастрофы.

В то же время, принятые итоговые документы конференции – это взгляд в будущее, прочный фундамент для развития международного "чернобыльского" сотрудничества.

Уверен, что согласованная позиция ученых Беларуси, России, Украины и Европейской Комиссии, выраженная в ходе конференции, будет адекватно воспринята международным научным сообществом. Полагаю, что результаты нашей конференции и мнение ее участников должны быть учтены в ходе международной конференции "Десятилетие после Чернобыля: оценка последствий аварии", которая состоится 8–12 апреля в Вене.

Исторически случилось, что мир во многом узнает новое независимое государство – Республику Беларусь – через слово "Чернобыль". Это трагедия для Беларуси, России, Украины. Мы чувствуем, что тематика, которой посвящена наша конференция, волнует международное сообщество. Об этом свидетельствует широкое международное сотрудничество с такими авторитетными организациями как Европейский Союз, Организация Объединенных Наций и ее структуры, Федерация Обществ Красного Креста и Красного Полумесяца и с рядом других организаций, представленных на конференции. Вместе с тем, хочу еще раз подчеркнуть, что для Беларуси, России и Украины "Чернобыль" – это не просто тема для научных исследований, это реальность, в которой живут и работают миллионы наших людей. Вот почему достоверная оценка и прогноз последствий радиационной аварии такого масштаба волнуют нас. Вот почему мы приветствуем усилия международной научной общественности и благодарны вам, участникам конференции.

Я надеюсь, что с помощью Европейской Комиссии наше сотрудничество по наиболее актуальным, наиболее тревожным проблемам последствий чернобыльской катастрофы будет продолжено. Надеюсь, что все мы будем участниками и второй такой конференции.

Хочу поблагодарить Европейский Парламент, все другие международные организации за активное участие в работе конференции. Искреннюю признательность хочу выразить непосредственным организаторам конференции господину Жаку Синнаву, госпоже Анне Караглоу и в их лице всей Европейской Комиссии. Большое спасибо моим коллегам – министрам России и Украины Сергею Кужугетовичу Шойгу и Владимиру Ивановичу Холоше, всем участникам конференции.

Я желаю всем вам доброго здоровья, новых научных открытий и достижений, творческого роста. Я желаю вам того самого главного, чего ожидает ученый от своего труда – радости от познания неизвестного и благодарности тех, кто нуждается в ваших результатах.

Еще раз большое спасибо. Мы всегда будем рады видеть вас на нашей гостеприимной белорусской земле.