

Vasily Borisovich Nesterenko

On August 25, 2008 there died Vasily Borisovich Nesterenko the world known scientist, prominent specialist in the field of nuclear power energy, nuclear and radiation safety, corresponding member of the national Academy of Sciences of Belarus, honoured worker of science and techniques of the BSSR, the BSSR State Prize laureate, the Deputy of the Supreme Soviet of the BSSR from 1980 to 1985, Doctor of technical sciences, professor.

We lost the extremely gifted, unique person whose life course was marked by significant achievements in the field of the creation of defense nuclear power energy and later (after the Chernobyl accident) in the field of the development and realization of the system of radiation protection of the population, first of all children affected by Chernobyl and living in vast territories of Belarus contaminated as a result of the Chernobyl accident.

Vasily Borisovich Nesterenko was born on December 1934 in the village Krasny Kut of Lugansk district, Donets Basin, the Ukraine. His early but conscious childhood was seared by the horrors of war.

In 1958 Vasily Borisovich graduated from the Baumann Moscow Higher Technical School (at present Moscow State Technical University) and began working as a research assistant of the world known Institute for Engines of the Academy of Sciences of the USSR.

In 1963 he was invited to Minsk as a specialist in the field of nuclear power energy in order to develop the corresponding defense scientific and technical sphere as a head of the laboratory of the Institute for Heat and Mass Exchange of the Academy of Sciences of Belarus. In 1965 starting with the moment of establishment of Belarusian Institute for Nuclear Power Energy he was appointed deputy director for scientific activities of that Institute and was chosen as a head of the scientific department. From 1977 to 1987 Vasily Borisovich worked as a director of the Institute for Nuclear Power Energy of the Academy of Sciences of the USSR and at the same time, starting with 1971, he was the chief designer of the mobile nuclear power plant created at the Institute for Nuclear Power Energy for military objective in the interests of the state. Namely, in position of the chief designer there appeared his scientific and engineering talent, huge erudition, inexhaustible energy and extraordinary managerial abilities. Working as a director with the team of two thousand scientists, designers and workers of the pilot factory he headed and completed the scientific and technical substantiation of that principally new NPP on dissociated gas heat-transfer material. At the same time as the chief designer of that NPP he implemented coordination and scientific and technical guidance of more than hundred largest organizations in some republics, Moscow and Leningrad which were responsible for elaboration of some unit of the mobile NPP. By 1987 this work guided by V.B. Nesterenko was completed, there were created two pilot models of the mobile NPP "Pamir" (the name of the mobile NPP). One of them was started and produced electric power.

Unfortunately, the perestroika and then the Chernobyl accident led to the suspension of that work and later – to the full dismantling of both pilot models of the mobile NPP that could be used with peaceful purposes.

The mobile NPP created under the Vasily Borisovich Nesterenko's guidance was started and produce electric energy undertime and it was not his fault that the state leaders of those times did not allow to complete that elaboration.

In April 2008 when the whole world was shocked by the hugest man-caused accident, the Chernobyl accident, ordered by the government Vasily Borisovich Nesterenko flied by helicopter to the burning reactor and together with the academician Legasov he was analyzing the radiation situation above the emergency fourth power-unit. That led to the intake of the large radiation dose inevitably and then made negative influence on his state of health.

As he remembered after that the first days after the Chernobyl events the urgent evacuation of children and adults, misunderstanding of current events and uncertainty taking decisions shocked him in the same was as the event occurred in the beginning of the Great Patriotic War that he met being a child. At that time he made a decision to denote his further life and scientific professional skills to overcoming of the effects of the Chernobyl accident, to elaboration and realization of protective measures for keeping the health of population, especially children, living in the territories contaminated as a result of the Chernobyl accident which made 23% of the total territory of Belarus with the population of 1.5 million inhabitants, including 500000 children. Within first months after the Chernobyl accident the Institute for Nuclear Power Energy of the Academy of Sciences of the BSSR guided by Vasily Borisovich worked the whole day through measuring radiation contamination in the huge number of soil samples from the whole Belarus in order to build together with other organizations. This topic was performed successfully.

As a specialist in the field of radiation safety Vasily Borisovich understood within first days after the accident that during many decades the main contribution to the population dose in contaminated territories would be made by foodstuffs. But at that time there were no necessary devices for measuring radiation in foodstuffs. There was a lack of skilled staff to perform such measurements and the system of such measurements and corresponding protective actions was not established.

Taking into account the urgency of solving that problem and other problems in that field of radiation protection, Vasily Borisovich Nesterenko supported by Andrey Sakharov, the prominent Belarusian writer Ales Adamovich and Anatoly Karpov created in 1990 and permanently headed the non-governmental Institute of Radiation Safety "Belrad".

After the establishment of this Institute, under Vasily Nesterenko's guidance within two years (1991 to 1993) in contaminated territories of Belarus there was created a strong system for radiation control of local foodstuffs produced and consumed in private farmstead. At that time it included 370 local centres for radiation control and gave a possibility for the addressed and regular

determination of the degree of radiation contamination and correspondingly for performing adequate protective measures.

Though because of the lack of financing the number of local centres started to be reduced slowly the significant data base received by the Institute BELRAD from them consists of more than 400000 measurements that is good memory about this self-sacrificing man.

Under the director's guidance the Institute organized the mass output of necessary measuring units intended for local centres for radiation control and training the specialists from the local population at the training centre of the Institute.

Receiving the data on radiation and often high contamination of foodstuffs Vasily Borisovich understood clearly that it was important but insufficient for the organization of radiation protection of every concrete inhabitant and every child. In connection with that starting with 1997 in frameworks of the Institute he developed the new work sector: measurements of $^{137}\text{Caesium}$ contents in the inhabitants of contaminated regions of Belarus, mainly children.

Here Vasily Borisovich Nesterenko spent a lot of strength, organization and creative energy in order to establish and to equip the laboratory for human radiation spectrometry (WBC). By the way, the great assistance in equipping the laboratory organized by Vasily Borisovich was provided by the Ukrainian Institute for Medical and Ecological Systems. Nowadays such a laboratory exists as the memory about Vasily Borisovich, it was certified by the Belarusian State Committee for Standards and consists of 7 mobile WBC complexes. Starting with 1997 about 400000 measurements of radionuclides contents in children were performed due to it. That permitted to the Institute to build the maps on $^{137}\text{Caesium}$ deposition in children in 13 districts of Gomel region as well as to conduct, by Vasily Borisovich Nesterenko's proposal, necessary protective measures for elimination of radionuclides from the organism, namely by applying pectin preparations.

In last years in the Institute BELRAD, due to the same inexhaustible Vasily Borisovich Nesterenko's energy, there was organized the production and out put of the dried pectin vitamin preparation "Vitapect-2" that can decrease 30 to 40% decrease of Caesium in the organism with one course (about 20 days).

The last good memory about Vasily Borisovich Nesterenko is the fact that within his death year 2008 the mobile laboratory for parallel measurements for radionuclides contents and foodstuffs in villages was created by his initiative and began its activities. This will permit to increase the corresponding addressed measures.

Vasily Borisovich Nesterenko is an author of more than 300 scientific works, including 15 monograph, and 320 inventions. From 1990 to 1994 V.B. Nesterenko was the chairman of the United Advisory Council of Belarus, Russia and the Ukraine for the problems of the Chernobyl accident. As a results under his guidance and co-authorship there was published the expert conclusion consisting of four volumes "Chernobyl Accident: Reasons and Consequences" describing the influence of the consequences of Chernobyl on the population and

environment of the affected regions in Belarus, Russia and the Ukraine. This four-volume book is actual and useful nowadays in many respects. We are extremely thankful to Vasily Borisovich for his guidance and participation in its creation.

The great force of persuasion and confidence in the correctness of his thoughts, ideas and civic position helped Vasily Borisovich Nesterenko to enter into creative relations and to find technical and material support in solving the Chernobyl problems among the Chernobyl initiative, public and charitable organizations and embassies of some countries: Germany, France, Ireland, Japan, Spain, Canada, Italy, Slovakia, Lithuania, the Ukraine and Russia.

In the last valedictory about Vasily Borisovich we would like to say that the vast army of people he used to work together and to communicate with can say with a single heart that dealt with the unique many-sided person of great energy, erudition and soul.

The strict exactingness to himself and other persons in solving the tasks he faced, the straightforwardness and uncompromisingness in upholding his ideas and positions was combined in him with the extreme fairness and kindness in relation to people, with the readiness to meet and to help any person in his or her difficult situation.

He loved children and during his last years was happy helping a plenty of Chernobyl children in keeping their health.

The active continuation of his activities will be the best memory about this unusual man and citizen.

Team of the Institute of radiation safety BELRAD
Ukrainian colleagues