The problem of tick-borne infections is relevant for Belarus: according to sanitary and epidemiological observations, 76 % of the area of Belarus is unfit for tick-borne encephalitis, 92 % – according to Lyme-borreliosis. Over the past 15 years, 10421 cases of Lyme-borreliosis among adults and 969 among children, 1262 and 95 cases of tick-borne encephalitis, respectively, have been diagnosed in the country. The relevance of our research is to assess the degree of awareness of the population of the city of Minsk on the issues of the ecological and parasitological situation of tick-borne infections.

We have developed a questionnaire to address the issues of environmental literacy of the population of the city of Minsk regarding the ecological and parasitological situation. The questionnaire includes eighteen questions and touches upon the main points that allow to determine the level of awareness of the population about mites and infections that they suffer. In the course of the survey, 100 people were interviewed. The respondents were people who had a rest in three different biotopes in Minsk (Komsomolskoye Lake, Chelyuskintsev Park, the park of the 60th anniversary of October).

As a result of the questionnaire, it was revealed that 58 % of respondents don't know what the tick looks like, but they know the value of the tick as a carrier of diseases. It is established that 58 % of the respondents believe that only tick-borne encephalitis can be transmitted through the tick bite and only 10 % of the respondents know that the mites are carriers of other diseases. Very few respondents (14 %) know that tick-borne encephalitis can be infected not only through the tick bite. At the same time, 83 % of respondents are aware of the symptoms that occur when tick-borne encephalitis is infected. Almost all of the respondents know that 89 % of people correctly answered how to act in the bite of a tick and 96 % of the people correctly answered where the inability to remove the tick should be handled in-house.

Regarding the protection against the attack of ticks, the knowledge of respondents is distributed as follows: 49 % believe that clothing to protect against tick bite should not cover the head and can be any color, 48 % know that clothing to protect against tick bites should cover the body and head as much as possible.

Regarding the occurrence of ticks, 55 % of respondents noted that they were bitten by tick (people themselves or their relatives and pets). The main contact points were forest (63,7 %), park (18,2 %), field (5,5 %).

An analysis of the population's awareness of the ecological and parasitological situation in the city showed that the main (22 %) source of information about ticks for people is familiar or relatives. Source for 19 % was the Internet. 94 % of respondents believe that they need alerts in places of rest.

As a result of our sociological research, it can be concluded that the level of knowledge of the majority of respondents, the ticks and the infections they are suffering, is not complete enough. It is required to implement a number of measures to improve the enviromental awareness of the population, paying special attention to the prevention of tick bites.

## THE CONCEPT OF USED NUCLEAR FUEL MANAGEMENT AT THE BELARUSIAN NPP

**A. Savin, O. Khadzhinova**

*Belarusian State University, ISEI BSU,*
*Minsk, Republic of Belarus*
*s.android.0906@mail.ru*

Safety in handling spent nuclear fuel is one of the components of national safety, therefore the main guarantor of its safety is the state. According to the norms of international law and international practice, the Republic of Belarus assumes responsibility for ensuring safety in the management of spent nuclear fuel, and has undertaken for comply with the fundamental principles of international nuclear legislation on the organization of activities in the area under consideration.

*Keywords*: used nuclear fuel, safety, source, storage.

The Republic of Belarus is constructing a nuclear power plant under a Russian NPP-2006 project comprising two power units with a total capacity of about 2,400 MW.

The project of the Belarusian NPP provides the management of spent nuclear fuel (SNF). The spent fuel assemblies are unloaded from the reactor to the soak pool, to here they are stored 10 years in order to reduce the activity and residual heat of fuel assemblies to acceptable values permissible for their transportation. At the next stage, there is a need to resolve the issue of further treatment of SNF of the Belarusian NPP.

Until now, in the world practice there is no single concept of handling spent nuclear fuel. Currently used technologies provide two ways of handling:

1) deferred solution – storage for several decades after the pool of aging;

2) reprocessing (regeneration) of SNF with the separation of uranium and plutonium, as well as valuable radionuclides.

Today SNF in most countries is seen as a useful resource, and not as waste. The country-supplier of fresh fuel readily takes SNF for storage, since in the future it can potentially become a source of radionuclides required in various fields of science and technology.

Some countries choose storage or direct disposal without processing in specially constructed storage facilities (deferred solution) as a way of handling SNF. This is due to the fact that the establishment of plants for reprocessing spent nuclear fuel is very costly.

Therefore, the task of developing an independent concept for SNF management is an urgent task for the Republic of Belarus.

**BIBLIOGRAPHY**

1. INFCIRC/602/Rev.5 «Joint Convention on the Safety of Spent Fuel. Managmant and on the safty of radioactiv waste managmant». IAEA. 18.12.14.

2. Spent Nuclear Fuel of the NPP // Newsletter. Series: Nuclear Power Engineering, «The Joint Institute for Power and Nuclear Research – Sosny» of the National Academy of Sciences of Belarus, Minsk – No. 7. – 2010.

## MONITORING OF EMISSIONS TO ATMOSPHERIC AIR AT THE MINSK WHEEL TRACTOR PLANT

**Y. Senyuk, A. Rodzkin**

*Belarusian State University, ISEI BSU,*
*Minsk, Republic of Belarus*
*rodzkin@mail.ru*

In this research, the activity of the Minsk Wheel Tractor Plant was analyzed to reduce the negative impact on the environment, in particular, on the atmospheric air.

*Keywords*: emissions of pollutants, sources of pollutants, measures to reduce emissions of pollutants.

The main products manufactured by OJSC “MWTP” are the production of special multi-wheeled vehicles, autotrains, crane chassis and wheel chassis of high cross-country capacity and haulage, trailers for oil, gas, timber, construction, geological exploration, utilities, military-industrial complex, and release of spare parts for their products.

All activities of the enterprise are regulated by regulatory legal acts, technical regulations and technical documents, as well as requirements for products that guarantee the prevention of negative impacts on the environment and the population of Minsk.

The Minsk city committee of natural resources and environmental protection for the main industrial site of OJSC "MWTP" received permission to release pollutants into the air for five years. The number of names of pollutants allowed for emission is 50 units. The permissible emission standards set by the resolution are 93, 583 tons per year.

According to the construction of the sanitary protection zone, the main production site belongs to the 3-rd class of danger according to the sanitary classification with a sanitary protection zone makes 500 meters.

Emissions of pollutants into the air are carried out from 647 emission sources. The most significant sources of emissions are flares, stacks of process units, treatment facilities. The main pollutants are nitrogen dioxide, carbon oxide, particulate matter and inorganic dust containing less than 70 % silicon dioxide.

At the enterprise the ecological passport, which defines the basic kinds of influences on an environment and their sources is developed. To control the emission of pollutants into the atmosphere, the enterprise carries out the emission inventory, identifies constant sources of emissions and on this basis standards for the formation of emissions into the atmosphere are developed and discussed.

Ventilation is provided in all production and supplementary premises of the enterprise (natural, mechanical, mixed). Sources of pollutants release into the atmospheric air (machines, equipment, vehicles) are equipped with a gas cleaning unit, which allows to reduce the emission of pollutants (wood dust) by 0,286 tons per year. Emissions of pollutants into the atmosphere by mobile sources of emissions are a subject to verification using instrumental methods to make sure that the actual content of pollutants meets the standards for the content of pollutants in the exhaust gases of mobile emission sources. The main measure to reduce air pollution is the gradual transfer of