ra, Impatiens glandulifera, Quercus rubra, Phalacroloma septentrionale, Sarothamnus scoparius, Echinocystis lobata, Cornus alba.

On the territory adjacent to Brest o factory f building materials (roadside, meadow, pine forest) grow *Helianthus tuberosus, Galega orientalis, Sarothamnus scoparius, Angelica officinalis, Rumex confertus, Quercus rubra, Galinsoga parviflora.*

In the vicinity of the area of the Zadvortsy-districts identified *Solidago canadensis*, *Helianthus tuberosus*.

On the territory of Wulka-districts and South-districts of Brest grow along along roads and ponds, on wastelands, in green areas grow: *Sambucus nigra*, *Galinsoga parviflora*, *Parthenocissus quinquefolia*, *Angelica officinalis*, *Xanthium albinum*, *Acer negundo*, *Impatiens parviflora*, *Hippophae rhamnoides*, *Festuca arundinacea*, *Oenothera biennis*, *Reynoutria japonica*, *Robinia pseudoacacia*, *Cornus alba*, *Populus alba*, *Phragmites australis*, *Rumex confertus*.

In the surveyed territory of the city of Brest were identified 33 species, belonging to the category of invasive plants in Belarus.

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DATA OF RADIONUCLEUM CONTAMINATION DIFFERENT TYPE LAKES FOR THE RADIATION IMPACT ESTIMATION OF ON THE OBJECTS OF BIOTA

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The work is devoted to the analysis of the concept of "acceptable risk" from the operation of a nuclear facility, the data of monitoring the radiation situation at water bodies affected by the Chernobyl nuclear power plant accident in 1986 are analyzed.

Keywords: acceptable risk, monitoring, Chernobyl nuclear power plant, biota.

The construction and operation of nuclear power plants lead to an increase in the radiation impact on the environment and human beings. The biological effect of ionizing radiation is determined by many factors: the activity of the radiation source, the duration of irradiation, fractionation, radiosensitivity, the physiological state of the organism, etc. Harmful effects of ionizing radiation are usually characterized for a single person by the probability (risk) of the disease or death as a result of irradiation [1].

According to the data available in the literature [2], in the first period after the Chernobyl accident (1986) maximum levels of internal irradiation of plankton and macrophytes were recorded. Doses of irradiation of fish are closely related to their ecology, primarily with the peculiarities of nutrition and the magnitude of pollution of the habitat.

The system of observations of the radiation situation in water bodies in the areas of the location of radiation hazardous enterprises should be based on the possibility of its effective use not so much in the normal operation of the enterprise (nuclear power plant, radiochemical plant, etc.) as in emergency situations of varying severity, however small was the likelihood of such accidents. To maintain a system of observations in constant emergency preparedness, the system must be periodically checked for operability.The sensitivity should be so high as to determine radioactive contamination of the aquatic environment at the level of the global background and insignificant excesses over this background due to emissions during normal operation of the enterprise. Regular measurements of radioactive contamination of a given water body and assessment of radionuclide release to other water systems in normal operation of the enterprise not only maintains a monitoring system in permanent emergency preparedness, but also serves as a means of monitoring the stability of the radiological situation in the vicinity of the enterprise during normal operation. [3]

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METHODS OF CONTROLLING RESPIRATORY CYCLE IN RADIATION THERAPY

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Considered aspects of the use of methods of determining the boundaries of the irradiated target during the respiratory cycle of the patient during the treatment with ionizing radiation in order to determine the dose more accurately.

Keywords: radiation therapy, breath control, planned target volume (PTV), 4 DCT.

Currently for accurate dose delivery in radiation therapy, various fixation devices are used, but, unfortunately, none of them takes into account the movement of the irradiated target during the respiratory cycle. It is known that the position of a number of anatomical structures of the body depends on the phase of the respiratory cycle: first, it concerns the organs of the chest and abdomen. Therefore, the control of respiratory movements plays an important role in the treatment of malignant tumors of the lungs, liver, pancreas, kidneys, breast, etc. The ability to take into account changes in the position of these structures during radiation therapy can increase the accuracy of dose delivery and reduce the radiation load on the surrounding healthy organs and tissues.

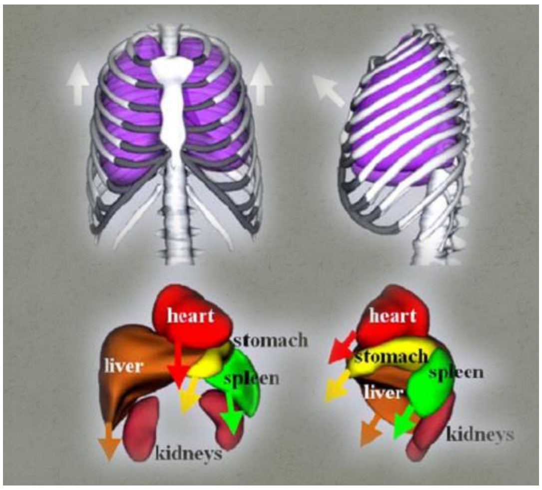

Fig. 1. Direction of movement of organs during the respiratory cycle

Standard methods of radiation therapy do not involve direct control of the target position and critical organs depending on the cycle of respiratory movements. Compensation of variability of the target positions and of its parts depending on the phase of the respiratory cycle during a session of radiation therapy is usually based on the increase of the indentation forming the planning target volume (PTV), which increases the risk of post-radiation complications.

The solution to this problem based on the determination of the volume covering the full range of tumor movement (ITV, Internal Tumor Volume). The main advantage of determining the volume of ITV is the use of individual indentation, taking into account the breathing range of a particular patient.