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Radiological Safety Advisory in Relation to Wildfires in the Chernobyl Exclusion Zone (CEZ)

10 April 2020

Civil society of Ukraine in general is aware and informed about the potential threats of radioactive contamination caused by the failure of Reactor Block 4 of Chernobyl Nuclear Power Plant in 1986. Wildfires burning in the contaminated forests in the Chernobyl Exclusion Zone (CEZ) bear the risk of redistribution of radionuclides by the smoke transport. In some cases, the re-distribution of radioactive particles occurs only in the very vicinity of the fires and do not affect populated areas outside the CEZ. Sometimes the smoke columns are transported over longer distances. The radioactivity usually does not reach threshold values critical for human health and security. However, in some cases radioactive particles deposited on agricultural fields, vegetable orchards, gardens or open water bodies may be harmful. Thus, the public is advised to monitor the news and warnings given by State authorities.

In addition, people living, working or travelling in / visiting remote areas of the country are recommended to actively monitor special information sources:

1) The radiological safety of citizens is regulated by the Law of Ukraine “On the Use of Nuclear Energy and Radiological Safety”, that describe principals of nuclear safety of population and environment and responsibility. Monitoring of levels of exposure doses (nZv/per hour) is provided by the Ukrainian Hydrometeorological Center based on regular measurements of this index on the national network of meteorological stations. The status of monitoring is accessible on the Center’s web-site:

- https://meteo.gov.ua/en/33345/racpc/racpc_current_situation/.

2) Highest contamination of the environment is observed in the 10-km zone around failed Chernobyl NPP and all over the CEZ, which is managed by State Agency of Ukraine on the Exclusion Zone Management (<http://dazv.gov.ua/en/>). Furthermore, the territory of Ukraine also covers former industrial sites that used or stored radionuclides. Nuclear industrial facilities are located all over the country and include nuclear power plants, waste management facilities and other objects that controlled by State Inspection of Ukraine on Nuclear Regulations (<http://www.snrc.gov.ua/nuclear/en/index>). Continuously updated maps of contamination are provided here:

- <https://sstc.ua/news/prognoz-peremishennya-potencijno-zabrudnenogo-atmosfernogo-povitrya-zumovlenogo-pozhezhami-v-chzv-na-10-11-kvitnya>

According to the Norms for Radiological Safety of Ukraine (1997) the annual limit of dose for citizen is 1 Milliroentgen (<http://www.insc.gov.ua/docs/nrbu97.pdf>). Agencies responsible for fighting forest fires and grassfires in the CEZ have been provided with detailed guidelines and rules for firefighters. The guidelines were developed by GFMC/REEFMC and OSCE:

- <https://gfmcc.org/online/globalnetworks/seeurope/OSCE-GFMC-Report-Fire-Management-Contaminated-Terrain-2014-ENG.pdf>

Additional pocket guidelines in Ukrainian are published by the REEFMC:

- <https://gfmcc.org/wp-content/uploads/REEFMC-Chernobyl-Fire-Management-Pocket-Book-2018-1.pdf>

In the following brief recommendations are given to people living, working, travelling or visiting remote areas of the country to actively participate in the preparedness and self-protection of personal health and security to possibly increasing levels of radiation.

The GFMC and REEFMC are partners of and providing advisory support in landscape fire management to:



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Recommendations to people living, working, travelling or visiting remote areas of the country to actively participate in the preparedness and self-protection of personal health and security to possibly increasing levels of radiation

- Monitor alerts and advisories of State authorities concerning additional radiation caused by fire smoke transport
- When travelling in rural areas have sufficient bottle water
- Do not collect and eat berries, mushroom, fruits or vegetables directly from the forest, fields, orchards or vegetable gardens without checking possible contamination
- Close your body tightly around your neck, apply long sleeves (no t-shirts) and full long pants
- A face mask should be worn if a smoke plume or a dust plume (both potentially transporting aerosols / dust particles that are radioactively contaminated and could be inhaled and deposited in the lungs)
- Use a so-called "household dosimeters" for checking the radiation safety of your home / accommodation, place of work, vehicles, household items, clothing construction materials and afore-mentioned vegetables and fruits
- Be alerted and shorten your presence if the threshold of 3 microsievert / hour has been recorded by the personal dosimeter

Geiger counters for personal use

Portable Geiger counters or dosimeters are available on the free market locally in Ukraine as so-called "household dosimeter". Without exclusively endorsing the product of this manufacturer, but just for the ease of providing a source for swift purchase, dosimeter measures gamma background level and accumulated dose. It can be ordered instantly – visit the website:

DKG-21M

- <http://ecotest.ua/products/dkg-21m/>

Gamma Sapiens detector of gamma exposure intellectual UDKG-01

- <http://ecotest.ua/products/gamma-sapiens/>

Increased Risk for people infected by COVID-19

COVID-19 infection causes pneumonia that can be severe and characterized by fever, cough, dyspnoea, bilateral pulmonary infiltrates, and acute respiratory injury. Individuals suffering COVID-19 infection and additional smoke emissions from wildfires are at highest risk.

Additional advisory support

In case of special situations two institutions may be contacted

- State Enterprise "EcoCenter" (Director: Mr. Sergey Kireev): Tel. +380-(0)4593-522-01
- Regional Eastern Europe Fire Monitoring Center (REFMC) (Head: Prof. Dr. Sergiy Zibtsev) Tel. +380-67-261-1682