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Artificial radionuclides in Russia due to the Fukushima NPP accident

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Radioactive emission into the atmosphere from the damaged reactors of the Fukushima Daiichi nuclear power plant (NPP) started on March 12th, 2011. The network of Federal Hydrometeorology and Environmental Monitoring Service (Rosgydromet) carries out supervision over a radiation situation on the territory of Russia. In Russia, the first radionuclides from Fukushima were detected on March 20th in the Far East by network. From March 20th to April 30th I-131 (particulate form), Cs-137 and Cs-134 were detected in samples of atmospheric aerosols at the 30 stations of networks and the same ones were detected in fallout at the 25 stations of networks.
The first detection of I-131 in the European territory of Russia (ETR) occurred on March 23rd; and in the South and the North of Siberia – on March 26th. The volumetric activities of I-131 in the ETR sharply increased from March 28th to 30th. Along with the increasing content of I-131 cesium isotopes appeared in the air. The maximum values of radionuclides volume activity were observed between April 3rd and 4th: for I-131 – 4,0 mBq/m3, for Cs-137 – 1,15 mBq/m3, for Cs-134 – 1,04 mBq/m3. Observed in the Far East, the maximum values for I-131 were 2-4 times lower than in the ETR. The maximum values for I-131 in the Asian territory of Russia (ATR) were 2 – 8 times lower, than in the ETR. The Cs-137/Cs-134 ratio in samples of atmospheric aerosols was about 1. The ratio I-131/Cs-137 in air changed in a wide range. From March 23rd to April 5th the ratio fluctuated within 11 to 34, from April 5th to 20th of the ratio decreased and varied within 1,5 to 7,7, further it became less than 1. The value of cesium isotopes in second quarter of 2011 in fallout was lower than 2 Bq/m2. The addition to the density of soil contamination by Cs-137 by 2 to 3 orders of magnitude less than the decrease of the density of contamination with this isotope of the global origin due to radioactive decay.
Based on the obtained experimental data we can conclude that the volumetric activities of radionuclides in the near-the-ground atmospheric layer were by 3 to 6 orders of magnitude below the permissible volume activity set by Radiation Safety Standards of Russia Federation.