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RADIOECOLOGICAL INFLUENCE OF THE SIBERIAN CHEMICAL COMBINE IN TOMSK DISTRICT

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Siberian chemical combine is one of the largest complex working with radioactive materials. Production cycles of combine result in low-level, intermediate-level and high-level radioactive waste, mostly in liquid state, partly in solid and gaseous-aerosolic state. During exploitation combine made significant emissions of 137Cs, 90Sr, radioactive gases, iodine isotopes, as well as aerosols containing 234U, 235U, 238U, 239Pu, 241Am.

Discharge of radioactive waters in previous years led to contamination of bottom sediments and floodplain soil with radionuclides. Contamination was distributed from SCC reservoir drain through river Romashka and onto Tom' river near Chernilshikovo village. Aerial transportation of radioactive materials took place mostly in north-east direction. It should be noted that shortly after 1993 accident wind also transported contaminants in that direction which led to low level of contamination in Tomsk. Only villages Georgievka and Naumovka were contaminated significantly. Accident resulted in 100 ha territory contamination by radionuclides with a relatively short half-lifes, therefore in 1994 radiation levels already dropped to normal.

According to research Analysis of long radiocontamination and cancer incidence among population of the Tomsk region living in areas exposed to environmental pollution from the Siberian Chemical plant, conducted by L.F. Pisareva, I.N. Odintsova, V.F. Raputa, V.A. Vorobyov and O.A. Ananina combine influence over cancer incidence in Tomsk is low, it is, however, expectedly higher in northern parts of city.

After nuclear reactors producing plutonium were shut down, levels of contamination dropped significantly.

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