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Radiation and environmental monitoring at the sites for the RW and SNF temporary storage in Russia

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In the light of the operation life termination of the Navy nuclear submarines and their technical service vessels, and because of international obligations of the Russian Federation to reduce armaments, the intensive decommissioning has started since the latter 1980-s. The decommissioning rate was higher than these submarine dismantlement rate determined by the available abilities of the industrial infrastructure. Therefore, radioactive wastes were being accumulated at the sites for the RW and SNF temporary storage (STS), like a shot. From this perspective, ex-Navy shore technical bases located in Murmansk region (Andreeva Bay and Gremikha village) and at the Primorsk Territory (Sysoeva Inlet) are the subjects of the highest attention. To gather full information on the current radiation situation, independent in relation the regulatory bodies, the FMBC specialists carried out radiation and hygienic monitoring. It included dynamic observation both of the radiation-and-hygienic situation parameters and doses to the public living close to the radiation hazardous facilities –STS in Murmansk region and Primorsk Territory. During the expedition travels, samples of environmental media, local foodstuffs and drinking water have been collected. Radiochemical analysis and gamma-spectrometry methods were used in the sample examination. The findings of radiation and environmental monitoring confirm considerable exceeding (in comparison with normal background values) of man-made radionuclide contents in seawater, seaweeds, bottom sediments, vegetation and soil at local parts of the coastal stripe of the STS health protection zone. The radionuclide sorption examination in soil and ground water permits to assume effective migration from the contaminated areas via ground water and following radioactivity intake by the marine media at the off-shore water area. Taking into account further contamination of the STS area, observation of the radiation situation dynamic change should be continued both under regular operation mode and during the SNF and RW removal operations.

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