

4.3 Measurements of radioactivity in the Barents- and Kara Seas

Examinations of the radioactivity have been made in areas where waste has been dumped, but the analyses are executed by military laboratories, and the results have never been released. [] Examinations by Russian institutes have been performed by *The Maritime Department of the Soviet Ministry of Defence's 12th Central Scientific Institute, Roskomgridromet's Typhoon Institute of Science and The Naval Central Laboratory of Medicine*. *Civilian scientists have since 1967 not been granted permission to perform research closer than 50-100 kilometres to the dumping sites.* []

A joint Norwegian-Russian research expedition to the Kara Sea in August/September 1992 was not granted permission to go within the 12-mile boundary of Novaya Zemlya, or to take tests at the dumping fields in the Kara Sea. A new Norwegian-Russian research expedition was undertaken in the Kara Sea in September/October 1993. This expedition was granted permission to examine the dumping sites in the Kara Sea, as well as those in the Tsvolkly- and Stepovogo Fjords. They were, however, not permitted to examine the Abrosimova Bay where, among other things, most reactors containing fuel have been dumped. Promises have been made in Russia that this bay may be examined in 1995.

Results of the first Norwegian-Russian expedition indicate following pollution of sediments in the Kara Sea: ^{137}Cs -radioactivity from 3 to 22 Bq/m³, ^{90}Sr -radioactivity from 3 to 12 Bq/m³, and ^{239}Pu + ^{240}Pu -radioactivity of approximately 1.8 to 11.5 mBq/m³. Measurements indicate this pollution is due to contributions from reprocessing in Sellafield (UK), the rivers Ob and Jenitsej, and fallout following the Chernobyl accident [] . The preliminary results of the 1993 expedition indicate a possible leakage from one of the dumping sites in Stepovogo Bay.[]

Following the completion of the examinations of the submarine *Komsomolets* in the beginning of September 1993, the science ship *Akademik Mstislav Keldysh* sailed to the *Abrosimova Bay* to examine the conditions of the dumped objects. This ship is equipped with two manned submarines with video cameras and test-equipment for radioactivity. Results of these examinations have as of yet not been released.

Radioactivity has furthermore been measured on the eastern coastline of Novaya Zemlya. The examinations were performed by scientists from the nuclear testing field at the *Matotchin Straight* on Novaya Zemlya. [] It was claimed that, with one exception, elevated gamma-radiation was not detected. The exception concerns Abrosimova Bay, where parts of a used fuel assembly was found on the beach. Here, values exceeding 100 Roentgen/h was measured.[]