

## List of Detected Gamma-Ray Emitting Radionuclides Other than Cs-134 and Cs-137 (FY2014)

As part of the FY2014 Radioactive Material Monitoring in the Water Environment conducted by the Ministry of the Environment, measurement data obtained for water, sediments and the surrounding environment (soil) using a germanium semiconductor detector were analyzed in order to compile data for gamma-ray emitting radionuclides other than Cs-134 and Cs-137 (I-131, Ag-110m, Te-129, Te-129m, Nb-95, Sb-125, Ce-144, etc.) and major naturally occurring radionuclides (K-40, etc.). The analysis was conducted separately for each type of sample (water, sediments and soil collected in the surrounding environment).

As a result of the analysis of 3,856 water samples, 3,035 sediment samples and 4,524 soil samples (collected in the surrounding environment), no artificial radionuclide other than Cs-134 and Cs-137 was detectable.

Naturally occurring radionuclides were detected as follows. Potassium-40 was detected in water samples (in approx. 10% of the total); lead-212 (48% (id.)), lead-214 (24% (id.)), thallium-208 (24% (id.)), bismuth-214 (24% (id.)), actinium (24% (id.)), and potassium-40 (91% (id.)) were detected in sediment samples; and lead-212 (23% (id.)), thallium-208 (8% (id.)), actinium-228 (9% (id.)), and potassium-40 (91% (id.)) were detected in soil samples (collected in the surrounding environment).