

SCHEDULE 4

Sampling and Analysis

PART 3

Monitoring for Indicative Dose and Analytical Performance Characteristics

Calculation of the ID

7. The ID must be calculated from the measured radionuclide concentrations and the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom(1) or more recent information recognised by the Department, on the basis of the annual intake of water (730l for adults).

Where the following formula is satisfied, it can be assumed that the ID is less than the parametric value of 0.1mSv and no further investigation is required.

$$\sum_{i=1}^n \frac{C_i(\text{obs})}{C_i(\text{der})} \leq 1$$

where

$C_i(\text{obs})$ = observed concentration of radionuclide i

$C_i(\text{der})$ = derived concentration of radionuclide i (see Table D)

n = number of radionuclides detected.

TABLE D**Derived concentrations for radioactivity in water intended for human consumption**

<i>Origin</i>	<i>Radionuclide⁽¹⁾</i>	<i>Derived concentration (Bq/l)</i>
Natural	U-238 ⁽²⁾	3.0
	U-234 ⁽²⁾	2.8
	Ra-226	0.5
	Ra-228	0.2
	Pb-210	0.2
	Po-210	0.1
Artificial	C-14	240
	Sr-90	4.9

(1) This table includes values for the most common natural and artificial radionuclides; these are precise values, calculated for a dose of 0.1mSV, an annual intake of 730 litres and using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom; derived concentration for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Department.

(2) This allows only for the radiological properties of uranium, not for its chemical toxicity.

(1) O.J. No. L159, 29.6.96, P. 27

Status: This is the original version (as it was originally made).

<i>Origin</i>	<i>Radionuclide⁽¹⁾</i>	<i>Derived concentration (Bq/l)</i>
	Pu-239 / Pu-240	0.6
	Am-241	0.7
	Co-60	40
	Cs-134	7.2
	Cs-137	11
	I-131	6.2

- (1) This table includes values for the most common natural and artificial radionuclides; these are precise values, calculated for a dose of 0.1mSV, an annual intake of 730 litres and using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom; derived concentration for other radionuclides can be calculated on the same basis, and values can be updated on the basis of more recent information recognised by the Department.
- (2) This allows only for the radiological properties of uranium, not for its chemical toxicity.