

Table 10.12 Guideline values for radiological quality of drinking water

Guideline value

The total estimated dose per year from all radionuclides in drinking water, excluding the dose from potassium-40, should not exceed 1.0 mSv.

If this guideline value is exceeded, the water provider, in conjunction with the relevant health authority, should evaluate possible remedial actions on a cost-benefit basis to assess what action can be justified to reduce the annual exposure.

Screening of water supplies

Compliance with the guideline for radiological quality of drinking water should be assessed, initially, by screening for gross alpha and gross beta activity concentrations. The recommended screening level for gross alpha activity is 0.5 Bq/L. The recommended screening level for gross beta activity is 0.5 Bq/L after subtraction of the contribution from potassium-40.

If either of these activity concentrations is exceeded, specific radionuclides should be identified and their activity concentrations determined. The concentration of both radium-226 and radium-228 should always be determined, as these are the most significant naturally occurring radionuclides in Australian water supplies. Other radionuclides should be identified if necessary to ensure all gross alpha and beta activity is accounted for, after taking into account the counting and other analytical uncertainties involved in the determination.
