



guardians of drinking water quality

**DRINKING WATER INSPECTORATE**  
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DWI Information Letter 1/2001

8 January 2001

**To: Board Level Contacts of Water and Sewerage Companies and Water Companies in England and Wales.**

Dear Sir or Madam,

## **RADON AND URANIUM IN DRINKING WATER SUPPLIES**

### **Purpose**

1. I am writing to advise you that questions may be raised about the radon and uranium concentrations in public drinking water supplies as a consequence of the release on 9 January 2001 of the results of a study of private water supplies in West Devon and to remind you of the requirements of the Water Supply (Water Quality) Regulations 1989.

### **Background**

2. A study of radon in private water supplies in West Devon was sponsored by the Department of the Environment, Transport and the Regions (DETR) and undertaken in conjunction with West Devon Borough Council. The study showed elevated levels of radon and uranium in some of the private water supplies from local wells and boreholes. West Devon Borough Council are advising the individual private water supply owners and users of the results of the samples taken from their supplies on Monday 8 January 2001. West Devon Borough Council, in conjunction with South and West Devon Health Authority, is holding a press conference about the results on Tuesday 9 January 2001.
3. As a consequence of this study DETR is sending a letter to the Chief Environmental Health Officers of all local authorities advising them of the results of the study and reminding them of their duties under the Water Industry Act 1991 in respect of private water supplies. A copy of that letter is attached for your information at Annex A.
4. It is likely that water companies may be asked for information about radon and uranium in their public water supplies and they may be asked about radioactivity more generally and about sampling and analysis of water supplies for radioactivity.

## Action by water companies

5. Water companies are reminded of the following requirements of the Water Supply (Water Quality) Regulations 1989:
  - water shall be regarded as wholesome provided that it does not contain any element, organism or substance
    - (other than a parameter) at a concentration or value which would be detrimental to public health (regulation 3(3)(a))
    - (whether or not a parameter) at a concentration or value which in conjunction with any other organism or substance it contains (whether or not a parameter) would be detrimental to public health (regulation 3(3)(b)); and
  - a water undertaker shall take sufficient samples from water within a water supply zone in respect of any element, organism or substance (other than a parameter) as soon as it believes or has reasonable grounds for believing that that element, organism or substance, whether alone or in combination with any other element, organism or substance may cause the supply within that zone to be unwholesome (regulation 14).
6. Through the responses to DWI Information Letter 19/2000, the Inspectorate is aware that many water companies have analysed some or all of their water supplies for some radioactivity determinands, mainly gross alpha and gross beta activities. The gross alpha measurements will include uranium-234, uranium-235 and uranium-238 but not radon. Few water companies have monitored for radon. The long running DETR programme, managed by the Environment Agency, for chemical and radiochemical analysis of public drinking water supplies in England and Wales includes 32 water sources and supplies to about 15% of the population. This programme includes gross alpha and beta activities and the specific radionuclides uranium-234, uranium-235, uranium-238 and polonium-210, one of the daughter products of radon.
7. If water companies do not have relevant information on radon and uranium in their water supplies, it may be prudent for them to arrange urgently a sampling and analysis programme to obtain that information. It is expected that they should have sampled and analysed those supplies drawn from underground strata where the presence of radon and uranium is likely. The results of any such monitoring should be reported to the Inspectorate using the form at Annex A of DWI Information Letter 19/2000 (an Excel version will be e-mailed on request).
8. I also attach:
  - a note prepared by Michael Waring of Department of Health on an assessment of the effects (toxicity) of uranium in drinking water (Annex B); and
  - a note prepared by Gerry Kendall of the National Radiological Protection Board on controlling the levels of radon in air and water (Annex C).

In respect of radon, DWI Information Letter 19/2000 mentioned the draft European Commission Recommendation on the protection of the public

against exposure to radon in water supplies which suggests a reference level for radon of 100 Bq/l for public water supplies.

## **Enquiries**

9. Enquiries on this letter should be addressed to Owen Hydes (020 7944 5960) or David Drury (020 7944 5976).
10. Copies of this letter are being sent to Pamela Taylor, Chief Executive, Water UK; Rodney Anderson, Water Supply and Regulation Division, Department of the Environment, Transport and Regions; Bob Macey, Environment Division, The National Assembly for Wales; Tim Hooton, Water Services Unit, Scottish Executive; Randal Scott, Drinking Water Inspectorate for Northern Ireland; and Rowena Tye, Office of Water Services.
11. Please acknowledge receipt of this letter using the enclosed slip and envelope.

Yours faithfully

**Michael Rouse**  
Chief Inspector  
Drinking Water Inspectorate