

Annex A to Information Letter 03/2021 - Radioactivity Notices (exemptions for monitoring) under the Water Supply (Water Quality) Regulations 2016 (as amended) (England) and the Water Supply (Water Quality) Regulation 2018 (Wales)

Annex A - Conditions and Requirements for Radioactivity Monitoring Exemption Applications

Conditions

1. Applications for radioactivity monitoring exemptions can be made to the Inspectorate throughout the year. Exemptions for calculated indicative dose, radon and tritium monitoring are granted through notice under regulation 6(12) (England) or 6(14) (Wales) ('radioactivity notice'). Where radioactivity notices are served, the exemption from monitoring will last for a period of five years unless withdrawn under regulation 6(14) (England) or 6(16) (Wales).
2. Where companies wish to reapply for compliance monitoring exemptions for radioactivity parameters, where a radioactivity notice is already in place, this should be done no later than three months prior to the expiry date of the existing notice. Where appropriate, replacement notices will be issued from the previous notices' expiry date, for a period of five years.
3. For the radioactivity parameter radon, the report DWI 70/2/301 'Understanding the implication of the EC's proposals relating to radon in drinking water for the UK', mapped and delineated the UK based on whether the geology, existing sample result data and radon-in-air hazards were indicative of a high, moderate or low risk of radon being present as a drinking water quality hazard. Monitoring for radon was then split as follows:
 - Surface waters will not require monitoring for radon.
 - Groundwaters in low hazard areas will not require monitoring for radon.
 - Groundwater supplies in high and moderate hazard areas are subject to further investigation.

The Inspectorate wrote to companies in early 2016 to highlight those sites within 1km of high or medium hazard areas based on this report. Any new sources since this time should be reviewed against the report to establish which category the source falls into (for any difficulties in completing this, please contact the Inspectorate for assistance).

A radioactivity notice facilitates the exemption from radon monitoring for surface waters and groundwaters in low radon hazard areas. As a result, companies must still apply to the Inspectorate for a radon radioactivity notice in order to cease compliance monitoring for radon for low risk sources. The same principles apply for sources where there are no anthropogenic sources of tritium, in that radioactivity notices must still be in place to allow the exemption from regulatory monitoring for tritium.

4. The Inspectorate's Part 4 guidance outlines that for the purposes of the radioactivity parameters, companies should designate the treatment works' sampling point as the supply point for the zones supplied (irrespective of blending downstream). Consequently, it is the Inspectorate's preference that exemptions are applied to supply points that are the points where water leaves the treatment works.
5. Water supply zones that receive water from a wholesale or supplementary supply, may designate the point at which the wholesaler's supply enters the supplier's system as a supply point for monitoring purposes under the guidance for regulation 5(5). In these circumstances, companies are encouraged to use these supply points when seeking a radioactivity exemption.
6. Where companies' water treatment works or zones supplied by wholesale or supplementary source are not designated as supply points, the Inspectorate will consider applications for the treatment works or the water supply zone, providing all other requirements are met.
7. Recipients of wholesale or supplementary sources may use the supplying companies' risk assessments and/or sampling data to support applications for radioactivity notices. Recipient and supplying companies are required to work collaboratively together in these circumstances to ensure consistency between corresponding applications.
8. Applications will not be considered for sources where a regulation 9(4) notice is in place for enhanced monitoring for radioactivity parameters.
9. Where the Inspectorate is satisfied that the water supplied to the zone in the application is unlikely to exceed a radioactivity prescribed value, a radioactivity notice will be issued to the company for the specified supply points and parameters.
10. Where supply points are not covered by a notice, compliance monitoring is required.
11. Under the requirements for regulation 27(3), companies must continually review their risk assessments. Consequently, companies must ensure their risk assessments are continually reviewed during the period a radioactivity notice is in place, including as a minimum, a review of catchment risks (primarily applicable to new or existing potential sources of artificial radioactivity) and verification that there has been no change to radioactivity risk level used to obtain an exemption.
12. It is expected that operational monitoring will continue at regular intervals during the period a radioactivity notice is in effect in order to verify the company's risk assessments, to confirm that there has been no change to the circumstances on which a notice has been granted and to aid future applications for exemptions. Companies' risk assessments should determine the level of risk-based operational sampling required over the period.
13. Any operational radioactivity monitoring taken during a period in which a radioactivity notice is in place, that exceeds the prescribed value, must be immediately reported to the Inspectorate (refer to paragraph 14 for alpha and beta).

Additionally, any new or emerging risks identified through companies' continuous review of the risk from radioactivity that could lead to a breach of a prescribed value for which a radioactivity notice is in place for, must also be immediately reported. In both instances, this must be reported as an event to the Inspectorate, as required by regulation 35(6).

14. Where screening exceedances are observed during a period covered by a radioactivity notice, companies should carry out the necessary investigations to identify whether the calculated indicative dose is at risk of being exceeded (refer to the Inspectorate's Part 4 guidance). Where there is a risk of exceedance, this must be reported as an event to the Inspectorate, as required by regulation 35(6).
15. If at any time the indicative dose is found to exceed 0.1mSv, uranium detected above 30µg/l, radon above 1,000Bq/l or artificial sources of tritium exceeds 100Bq/l, then this should be reported to the Inspectorate as an event, as required by regulation 35(6), and further action taken (refer to the Inspectorate's Part 4 guidance). If action is required to protect public health, the Inspectorate may serve a regulation 20(4) notice.
16. Any notifications made in line with paragraphs 13 or 14, will be reviewed by the Inspectorate and withdrawal, under regulation 6(14) (England) or 6(16) (Wales), of the relevant radioactivity notice will be considered.
17. Where notices are withdrawn, companies must immediately revert to standard frequency monitoring for the relevant radioactivity parameters, on a pro rata basis for the remainder of that year.
18. Where a radioactivity notice is withdrawn and the company subsequently believes the risk of exceeding a radioactivity parameter has satisfactorily been reduced (e.g. mitigation measures have been put in place or further evidence has become available etc.), then a new application for an exemption may be made. The new application must fulfil all conditions and requirements set out in this Annex and report any mitigation put in place or new evidence found since the event was reported (see paragraph 13 and 14), supported by a period of monitoring, at the standard regulatory frequency, that is appropriate to demonstrate recurrence is unlikely.
19. Applications for radioactivity notices containing the below requirements should be sent by email to DWI.Enforcement@defra.gov.uk

The Requirements

20. Water companies wishing to apply for an exemption should submit a report which includes as a minimum the following information:
 - i. The supply points where the exemptions are being applied for and for which radioactivity parameters. The application should also clearly identify the water treatment works that the supply points relate to, where this is not immediately obvious.
 - ii. The zones supplied by the supply points in question.

- iii. Confirmation that the company has completed a regulation 27 risk assessment and submitted (in accordance with the process laid out in Information Letter 02/2019) an up-to-date regulation 28(1) risk assessment report for each radioactivity parameter and site in their application.
- iv. A report summarising the supportive information or evidence used to create or update the current regulation 28(1) risk assessment report, including:
 - Confirmation that the current risk assessment for the source being applied for, has concluded that there is no reasonably foreseeable circumstances that could lead to a potential breach of any of the prescribed values for the radioactivity parameters being applied for, within the next five years.
 - Confirmation that the risk assessments included a recent robust review of catchment risks (including a review of the presence of any artificial sources of radioactivity). In particular, for radon, confirmation that the company has completed their own catchment risk assessments to confirm the supplies identified as low risk in the report DWI 70/2/301 (surface waters and groundwaters in low hazard areas, see paragraph 3 above) are such and that the supplies are not at risk of exceeding the specified value for radon. For groundwater supplies in high and moderate hazard areas sources, companies must clearly demonstrate, with robust evidence, why they consider an exemption for radon is appropriate. A summary should be provided outlining how the catchment risk assessment was completed.
 - Summary details of any artificial sources within catchments. This must include the risk assessment determination of which individual radionuclides may be present and the risks posed. Supportive monitoring data must also be included to demonstrate whether indicative dose is or is likely to be exceeded.
 - Some low energy emitters will not be detected by screening for gross beta activity, therefore confirmation that the risk assessment has determined there is no likely sources of radioactivity that may not be detected through routine screening, is required.
 - Any permits issued by the Environment Agency or Natural Resources Wales.
 - Any other information that is material to a potential risk of radioactivity being present in treated water.
- v. Any monitoring data for the radioactivity parameters (or radionuclides where relevant) undertaken to support the application. Companies should summarise the data for the five years prior to the application into minimum and maximum results per year and indicate the number of samples per year.

- vi. Confirmation that there has been no significant change (gradual or stepped) in monitored radioactivity results over the past 15 years (where available).
- vii. Any known monitoring data that has exceeded the prescribed value for the radioactivity parameters applied for, or where radionuclide detected is greater than 20% of the derived concentration, or uranium isotopes are more than 30µg/l. Where this may relate to gross alpha or beta, supporting evidence must be provided to demonstrate whether the prescribed value for indicative dose is or is likely to be exceeded (as per the Inspectorate's Part 4 guidance). Where there are no known exceedances, companies should confirm this.
- viii. Confirmation of whether any treatment to reduce the level of radionuclides in water intended for human consumption has been undertaken or is in place.
- ix. Any other data from other supporting sources (e.g. the Environment Agency or Natural Resources Wales) companies may wish to use to support their application.