**AMENDMENTS 001-056**
by the Committee on the Environment, Public Health and Food Safety

**Report**
**Michèle Rivasi** **A7-0033/2013**
Radioactive substances in water intended for human consumption

Proposal for a directive (COM(2012)0147 – C7-0105/2012 – 2012/0074(NLE))

---

**Amendment 1**

**Proposal for a directive**
**Title**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***COUNCIL DIRECTIVE*** laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption | ***DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL*** laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption ***and amending Council Directive 98/83/EC*** |

**Amendment 2**

**Proposal for a directive**
**Legal basis**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| THE COUNCIL OF THE EUROPEAN UNION, | ***THE EUROPEAN PARLIAMENT AND*** THE COUNCIL OF THE EUROPEAN UNION, |
| Having regard to the Treaty ***establishing the European Atomic Energy Community,*** | Having regard to the Treaty ***on the Functioning of the European Union, and*** |

| | |
|---|---|
| ***and in particular Articles 31 and 32 thereof***, | ***in particular Article 192(1) thereof***, |
| Having regard to the proposal from the Commission ***drawn up after obtaining the opinion of a group of persons appointed by the Scientific and Technical Committee from among scientific experts in the Member States, in accordance with Article 31 of the Treaty,*** | Having regard to the proposal from the ***European*** Commission, |
| | ***After transmission of the draft legislative act to the national parliaments,*** |
| Having regard to the opinion of the European Economic and Social Committee, | Having regard to the opinion of the European Economic and Social Committee[1], |
| | ***Having regard to the opinion of the Committee of the Regions[2],*** |
| ***After consulting the European Parliament,*** | ***Acting in accordance with the ordinary legislative procedure,*** |
| | ***[1] OJ C 229 23.07.2012, p. 145.*** |
| | ***[2] OJ C ..., p. .*** |

*Justification*

*The present Directive concerns water intended for human consumption. Radionuclides in water intended for human consumption are currently dealt with under the Directive 98/83/EC (Drinking water directive) which sets parametric values for tritium and the total indicative dose. The Commission should normally have adopted measures on monitoring frequencies and methods in accordance with the regulatory procedure with scrutiny (due in 2000). It is therefore appropriate to use the same legal base as in Dir 98/83/EC. If radionuclides were dealt with under Euratom, while all other carcinogenic contaminants such as chemicals were dealt with under the Treaty, the cumulative effects of adverse effects could not be taken into account. In consistency with European Parliament's vote on P7_TA(2011)0055 (Belet report) from 15/2/2011, radioprotection rules should therefore be dealt with under the Treaty.*

**Amendment 3**

**Proposal for a directive**
**Recital -1 (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(-1) In accordance with Article 191 of the Treaty on the Functioning of the European Union, Union policy on the environment should be based on the*** |

***principles of precaution and preventive action and help to achieve objectives such as preserving, protecting and improving the quality of the environment and protecting human health.***

*Justification*

*See justification to Amendment 2 on the change of legal basis.*

**Amendment 4**

**Proposal for a directive**
**Recital 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (1) The ingestion of water is one of the pathways of incorporation of ***radioactive*** substances into the human body. In accordance with Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation, the contribution to the exposure of the population as a whole from practices which involve a risk from ionizing radiation must be kept as low as ***reasonably achievable*** | (1) The ingestion of water is one of the pathways of incorporation of ***harmful*** substances into the human body. ***Ingestion of radioactive isotopes or radionuclides can lead to a number of health problems.*** In accordance with Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionizing radiation, the contribution to the exposure of the population as a whole***,*** ***taking into account long-term cumulative exposure,*** from practices which involve a risk from ionizing radiation must be kept as low as ***possible.*** |

**Amendment 5**

**Proposal for a directive**
**Recital 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1a) Filtering out radioactive isotopes from water leads to filters becoming radioactive waste that must then be disposed of with caution and in accordance with the procedures in force.*** |

**Amendment 6**

**Proposal for a directive**
**Recital 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1b) The process of removal of radioactive isotopes from water depends on national laboratories, regular update of measurements and research.*** |

**Amendment 7**

**Proposal for a directive**
**Recital 1 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1c) The information provided by the Member States in the triennial report on the Drinking Water Directive is incomplete or missing with regard to levels of radioactivity in drinking water.*** |

**Amendment 8**

**Proposal for a directive**
**Recital 1 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(1d) In order to reduce the costs of treating drinking water, preventive measures are necessary.*** |

**Amendment 9**

**Proposal for a directive**
**Recital 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (2) ***In view of the importance for human*** health ***of the quality of water intended for human consumption***, it is necessary to lay down ***at Community level*** quality | (2) ***In order to ensure a high level of public*** health ***protection***, it is necessary to lay down ***common*** quality standards ***for water intended for human consumption*** |

| | |
|---|---|
| standards ***which have*** an indicator function and provide for the monitoring of ***the*** compliance with those standards. | ***serving*** an indicator function, and ***to*** provide for the monitoring of compliance with those standards. |

*Justification*

*See justification to Amendment 2 on the change of legal basis.*

**Amendment 10**

**Proposal for a directive**
**Recital 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (3) Indicator parameters have already been set out in Annex I, Part C relating to radioactive substances, as well as the related monitoring provisions in Annex II to Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. ***However, those parameters fall within the scope of the basic standards defined in Article 30 of the Euratom Treaty.*** | (3) Indicator parameters have already been set out in Annex I, Part C relating to radioactive substances, as well as the related monitoring provisions in Annex II to Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. |

*Justification*

*See justification to Amendment 2 on the change of legal basis.*

**Amendment 11**
**Proposal for a directive**
**Recital 3 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(3a) The parametric values are based on the scientific knowledge available, taking into account the precautionary principle. Those values have been selected to ensure that water intended for human consumption can be consumed safely on a life-long basis, taking as a reference citizens who are most vulnerable, and thus to also ensure a high level of health protection.*** |

**Amendment 12**

**Proposal for a directive**
**Recital 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (4) The requirements for monitoring levels of radioactivity in water intended for human consumption should therefore be ***adopted in specific*** legislation ***that ensures the*** uniformity, coherence and completeness of ***radiation*** protection legislation under the ***Euratom Treaty***. | (4) The requirements for monitoring levels of radioactivity in water intended for human consumption should therefore be ***correlated with the requirements laid down in existing*** legislation ***for other chemical substances found in water, which have a detrimental effect on the environment and on human health. This measure would ensure the*** uniformity, coherence and completeness of ***human health and environmental*** protection legislation under the ***Treaty on the Functioning of the European Union***. |

**Amendment 13**

**Proposal for a directive**
**Recital 5**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 5) The provisions of this Directive adopted under the ***Euratom*** Treaty ***should supersede those of the*** Directive 98/83/EC ***as regards the contamination of*** drinking water ***by radioactive substances***. | (5) ***This*** Directive adopted under the Treaty ***on the Functioning of the European Union updates the indicator parameters set out in Part C of Annex I to*** Directive 98/83/EC***, and lays down rules on the monitoring of the presence of radioactive substances in*** drinking water. |

**Amendment 14**

**Proposal for a directive**
**Recital 6**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (6) In the event of non-compliance with a parameter that has an indicator function, the Member State concerned should ***assess whether that non-compliance poses any*** risk to human health and***, where necessary,*** | (6) In the event of non-compliance with a parameter that has an indicator function, the Member State concerned should ***be bound to determine the cause thereof, to assess the level of the*** risk to human health |

| | |
|---|---|
| take ***remedial*** action ***to restore*** the quality ***of the water.*** | ***including in the long-term and the possibilities for intervention*** and, ***on the basis of these findings,*** take action ***to ensure the water supply complies with the*** quality ***criteria laid down in this Directive as soon as possible***. ***This necessary remedial action may go as far as shutting down the facility concerned if the quality of water requires such action. Priority should be given to action which rectifies the problem at source. Consumers should be informed immediately of the risks, the measures already taken by the authorities and the time necessary for the remedial action to take effect.*** |

**Amendment 15**

**Proposal for a directive**
**Recital 7**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (7) Consumers ***should*** be ***adequately*** and appropriately informed of the quality of water intended for human consumption. | (7) Consumers ***shall*** be ***fully*** and appropriately informed of the quality of water intended for human consumption ***via easily accessible publications. Updated information regarding areas at risk from potential sources of radioactive contamination, as well as regional water quality, shall be made available to consumers at all times by local administrations***. |

**Amendment 16**
**Proposal for a directive**
**Recital 7 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(7a) It is necessary to include in this Directive water used in the food industry.*** |

**Amendment 17**

**Proposal for a directive**
**Recital 8**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (8) It is necessary to exclude from the scope of this Directive natural mineral waters and waters which are medicinal products, since special rules for those types of water have been established in Directive 2009/54/EC of the European Parliament and of the Council of 18 June 2009 on the exploitation and marketing of natural mineral waters and Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use. The monitoring of waters put into bottles or containers intended for sale, other than natural mineral waters, for the purpose of checking that the levels of radioactive substances comply with the parametric values laid down in this Directive should be done in accordance with the principles of hazard analysis and critical control points (HACCP) as required by Regulation (EC) No 852/2004. | (8) It is necessary to exclude from the scope of this Directive natural mineral waters and waters which are medicinal products, since special rules for those types of water have been established in Directive 2009/54/EC of the European Parliament and of the Council of 18 June 2009 on the exploitation and marketing of natural mineral waters and Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use. ***However the Commission should, at the latest two years after entry into force of this Directive, present a proposal to revise Directive 2009/54/EC, in order to align the control requirements for natural mineral waters to the requirements provided for in this Directive and in Directive 98/83/EC.*** The monitoring of waters put into bottles or containers intended for sale, other than natural mineral waters, for the purpose of checking that the levels of radioactive substances comply with the parametric values laid down in this Directive should be done in accordance with the principles of hazard analysis and critical control points (HACCP) as required by Regulation (EC) No 852/2004. |

*Justification*

*Consumers expect the quality requirements for mineral waters to be at least as stringent as for tap water. It is therefore appropriate to ask the Commission to adapt Directive 2009/54/EC to that effect.*

**Amendment 18**

**Proposal for a directive**
**Recital 9**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (9) Each Member State should establish monitoring programmes to check that water intended for human consumption meets the requirements of this Directive. | (9) Each Member State should establish ***robust*** monitoring programmes to check ***on a regular basis,*** that water intended for human consumption meets the requirements of this Directive. |

**Amendment 19**
**Proposal for a directive**
**Recital 10**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| (10) The methods used to analyse the quality of water intended for human consumption should be such as to ensure that the results obtained are reliable and comparable. | (10) The methods used to analyse the quality of water intended for human consumption should be such as to ensure that the results obtained are reliable and comparable. ***Such monitoring programmes should be appropriate to local needs and should meet the minimum monitoring requirements laid down in this Directive.*** |

**Amendment 20**

**Proposal for a directive**
**Recital 10 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(10a) There is a need for natural radiation levels and contamination from human activities to be managed in a differentiated manner, on the basis of distinct dosimetric criteria. Member States must ensure that nuclear activities do not lead to a contamination of drinking water.*** |

*Justification*

*Unlike natural radiation, radiation from human activities is a problem that cannot be addressed easily. If tests show that parametric values have been exceeded, it is clear that an error has been committed that must be addressed in order to prevent serious problems arising in the future.*

**Amendment 21**
**Proposal for a directive**
**Recital 11 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***(11a) In order to ensure the coherence of European Water policy, the parametric values, frequencies and methods for monitoring radioactive substances in this Directive need to be compatible with the Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration[1] and Council Directive 98/83/EC. Furthermore, the Commission should ensure that when a review of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy[3] and Directive 2006/118/EC takes place, reference to this Directive should be made to fully protect all types of water against contamination of radioactive substances.*** |

***[1] OJ L 372, 27.12.2006, p. 19.***

***[2] OJ L 327, 22.12.2000, p. 1.***

**Amendment 22**

**Proposal for a directive**
**Article 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| This Directive ***lays down*** requirements ***for the protection of*** the health of the general public ***with regard to radioactive substances in water intended for human consumption***. ***It sets out parametric values, frequencies and methods for monitoring*** radioactive substances. | This Directive ***concerns harmonised*** requirements ***in respect of the quality of water intended for human consumption, with the aim of safeguarding*** the health of the general public ***against the adverse effects of the contamination of such water by*** radioactive substances. |

*Justification*

*See justification to Amendment 2 on the change of the legal basis.*

**Amendment 23**

**Proposal for a directive**
**Article 2 – paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***In addition to the definitions referred to in paragraph 1, the following definitions shall apply:*** |
| | ***(a) 'radioactive substance' means any substance that contains one or more radionuclides, the activity or concentration of which cannot be disregarded as far as radiation protection is concerned;*** |
| | ***(b) 'total indicative dose' means the committed effective dose for one year of ingestion resulting from all the radionuclides whose presence in water supply has been detected, either of natural or of artificial origin, excluding potassium-40, radon and short-lived radon decay products;*** |
| | ***(c) 'parametric value' means the value with which water intended for human consumption shall comply. If a parametric value is exceeded, Member States shall assess the level of risk associated with the presence of radioactive substances and, based on the results of this assessment shall take immediate remedial action to ensure compliance with the requirements laid down in this Directive.*** |

**Amendment 24**

**Proposal for a directive**
**Article 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| This Directive shall apply to water intended for human consumption with the exemptions set out in Article 3(1) of Directive 98/83/EC and laid down in accordance with Article 3(2) of that Directive. | This Directive shall apply to water intended for human consumption ***as defined in Article 2 of Directive 98/83/EC,*** with the exemptions set out in Article 3(1) of Directive 98/83/EC and laid down in accordance with Article 3(2) of that Directive. |

*Justification*

*A definition of 'water intended for human consumption' is given in Directive 98/83/EC.*

**Amendment 25**

**Proposal for a directive**
**Article 4 - paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***Without prejudice to the provisions laid down in Article 6(3)a of Directive 96/29/Euratom,*** Member States shall take all measures necessary to establish an appropriate monitoring programme to ensure that water intended for human consumption complies with the parametric values established in accordance with this Directive. | Member States shall take all measures necessary to establish an appropriate monitoring programme to ensure that water intended for human consumption complies with the parametric values established in accordance with this Directive. ***A guide of best practices shall be provided by the Commission to the Member States.*** |
| | ***Member States shall ensure that the measures taken to implement this Directive do not, under any circumstances, have the effect of allowing, either directly or indirectly, any deterioration in the present quality of water intended for human consumption or any increase in the pollution of waters used for the production of drinking water.*** |

**Amendment 26**

**Proposal for a directive**
**Article 4 – paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***New technologies shall be developed which minimise the time needed to isolate nuclear waste from the environment following a natural disaster.*** |

**Amendment 27**

**Proposal for a directive**
**Article 4 – paragraph 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Member States shall take all measures necessary to ensure that radioactive waste from filtered drinking water is disposed of according to the provisions in force. The Commission shall provide guidelines on this process to the Member States.*** |

**Amendment 28**

**Proposal for a directive**
**Article 4 – paragraph 1 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Member States shall carry out risk assessments of radioactive waste deposits that could have an impact on ground water or other sources of drinking water or that could be endangered by natural disasters.*** |

**Amendment 29**

**Proposal for a directive**
**Article 4 – paragraph 1 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***The Commission shall carry out a study on the cocktail effects of other chemical*** |

| | |
|---|---|
| | ***substances combined with radioactive substances in water intended for human consumption.Based on the results of that study the Commission shall update the relevant legislation.*** |

**Amendment 30**

**Proposal for a directive**
**Article 4 – paragraph 1 e (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***The Commission shall carry out an evaluation of the implementation of the current Water Framework Directive in the Member States.*** |

**Amendment 31**

**Proposal for a directive**
**Article 6 - paragraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Member States shall ensure regular monitoring of water intended for human consumption in accordance with Annex II in order to check that the concentrations of radioactive substances do not exceed the parametric values laid down in accordance with Article 5. | Member States shall ensure regular ***and accurate*** monitoring of water intended for human consumption in accordance with Annex II in order to check that the concentrations of radioactive substances do not exceed the parametric values laid down in accordance with Article 5. ***Monitoring shall take account of the long-term cumulative exposure of the population and shall be conducted as part of the checks referred to in Article 7 of Directive 98/83/EC on the quality of drinking water intended for human consumption. It shall include reference analyses aimed at establishing the radioactive content of the water and optimising the analysis strategy and periodic analyses in accordance with the methods set out in Annex III. The monitoring frequency for periodic analyses may be adapted through a risk-based approach, based on the results of reference analyses which shall be mandatory in all cases. In such cases,*** |

| | |
|---|---|
| | ***Member States shall communicate both the grounds for their decision and the results of the reference analyses concerned to the Commission and make them available to the public.*** |

**Amendment 32**

**Proposal for a directive**
**Article 8 – paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. Member States shall ensure that all laboratories analysing samples of water intended for human consumption have a system of analytical quality control. They shall ensure that that system is subject to ***occasional*** checks by an independent controller approved by the competent authority for that purpose. | 2. Member States shall ensure that all laboratories analysing samples of water intended for human consumption have a system of analytical quality control. They shall ensure that that system is subject to ***random*** checks***, at least once a year,*** by an independent controller approved by the competent authority for that purpose. |

**Amendment 33**

**Proposal for a directive**
**Article 8 – paragraph 2 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***2a. The financing of the monitoring measures shall be effected in accordance with Chapter IV of Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004 on official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules[1]. In the case of pollution arising from human activities, these costs shall be borne by the polluter.*** |

***[1] OJ L 165, 30.4.2004, p. 1***

*Justification*

*In line with the 'polluter pays' principle, if monitoring shows contamination to come from an artificial source, it should be the person responsible who meets the costs, rather than the water*

*operator or the public.*

**Amendment 34**

**Proposal for a directive**
**Article 9 – paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1a. Information on the risk assessment of nuclear plants and the surrounding areas, as regards radioactive substances in the water shall be made available to the public.*** |

**Amendment 35**

**Proposal for a directive**
**Article 9 – paragraph 1 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1b. Member States shall ensure that information regarding the presence of radioactive substances in water intended for human consumption is included in the triennial report on the quality of water, as required by Article 13(2) of Directive 98/83/EC.*** |

**Amendment 36**

**Proposal for a directive**
**Article 9 - paragraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 2. Where a failure to comply with the parametric values ***laid down in accordance with Article 5 occurs,*** the Member State shall assess ***whether the failure poses a*** risk to human health. ***In the event that there is such a risk,*** the Member State shall take ***remedial*** action to ***restore*** the quality ***of the water.*** | 2. Where ***there is*** a failure to comply with the parametric values ***defined for radon and for the total indicative dose (TID) from natural sources***, the Member State *concerned* shall ***immediately*** assess ***the level of the*** risk to human health ***and the possibilities for intervention, taking into account the local conditions. On the basis of these findings,*** that Member State shall take action ***to ensure the water supply*** |

| | |
|---|---|
| | ***complies with*** the quality ***criteria laid down in this Directive***. |
| | ***2a. Where there is a failure to comply with the parametric values defined for tritium and for the TID originating from human activities, the Member State concerned shall ensure that the investigation which is to be launched immediately establishes the nature, scale and dosimetric impact of the pollution. That investigation shall take into account all the environments liable to be affected and all exposure pathways. The Member State concerned shall ensure that the necessary corrective action is taken to ensure that the water again meets the parametric values. Solutions should be centred on tackling the pollution at source. The necessary remedial action may go as far as shutting down the facility concerned if the water quality requires such action. The Member State concerned shall ensure that the costs of remedial action are borne by the polluter.*** |

**Amendment 37**

**Proposal for a directive**
**Article 9 - paragraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 3. Where the risk to human health cannot be regarded as trivial, the Member State shall ensure that consumers are ***notified.*** | 3. ***Member States shall ensure that the results of the analyses performed pursuant to Article 8 are published, made publicly available as soon as possible and included in the reports required under Article 13 of Directive 98/83/EC.*** Where the risk to human health cannot be regarded as trivial, the Member State concerned, ***together with the responsible actor(s),*** shall ensure that consumers are ***alerted immediately and given complete information related to the risk to human health and on how to cope with the problems encountered, which shall be published and made available on the internet as soon as possible. They shall*** |

| | |
|---|---|
| | ***also ensure that alternative uncontaminated water supplies are provided without delay.*** |

**Amendment 38**

**Proposal for a directive**
**Article 9 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 9a*** |
| | ***Amendment of Directive 98/83/EC*** |
| | ***1. The 'Radioactivity' section of Part C of Annex I is deleted. .*** |
| | ***2. The last two sentences of paragraph 2, Table A of Annex II are deleted.*** |

*Justification*

*The Commission proposal, which is based on the Euratom Treaty, acknowledges that two directives are applicable simultaneously to tritium and the total indicative dose, which is inadmissible from a legal standpoint.*

**Amendment 39**

**Proposal for a directive**
**Article 9 b (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 9b*** |
| | ***Review of the Annexes*** |
| | ***1. At least every five years, the Commission shall review the Annexes in the light of scientific and technical progress and, by means of delegated acts under Article 9c, may adopt amendments to reflect that progress.*** |
| | ***2. The Commission shall make public its reasons for deciding whether or not to modify the Annexes, making reference to the scientific reports considered.*** |

*Justification*

*New scientific knowledge in the fields of health and environmental protection, along with the development of new analysis methods and greater measuring precision (e.g. limits of detection) may make it necessary to amend the Annexes. The same provisions are contained in Article 11 of Directive 98/83/EC on the quality of water intended for human consumption.*

**Amendment 40**

**Proposal for a directive**
**Article 9 c (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 9c*** |
| | ***Exercise of the delegation*** |
| | ***1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.*** |
| | ***2. The power to adopt the delegated acts referred to in Article 9 shall be conferred on the Commission for a period of five years from ….* The Commission shall draw up a report on the delegated powers, not later than nine months before the end of the five years period. The delegation of powers shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.*** |
| | ***3. The delegation of powers referred to in Article 9 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.*** |
| | ***4. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the*** |

***Council.***

***5. A delegated act adopted pursuant to Article 9 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by 2 months at the initiative of the European Parliament or the Council.***

_____

**** OJ: please insert the date of entry into force of this Directive.***

*Justification*

*Necessary change arising from the change in legal basis and insertion of Article 9b.*

**Amendment 41**
**Proposal for a directive**
**Article 9 d (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***Article 9d*** |
| | ***Information and reporting*** |
| | ***1. Member States shall take the measures necessary to ensure that adequate and up-to-date information on the quality of water intended for human consumption is available to consumers and not only when a risk to human health cannot be regarded as trivial.*** |
| | ***2. Each Member State with water systems located in areas that have potential sources of radioactive contamination - man-made or natural - shall include information on the concentrations of radioactive substances in water intended for human consumption in their triennial report on the quality of water intended for human consumption, as set out in article*** |

| | |
|---|---|
| | ***13 of Directive 98/83/EC.*** |
| | ***3. The Commission shall include in its report on the quality of water intended for human consumption in the Community, as set out in article 13 of Directive 98/83/EC, the findings of the Member States on radioactive substances in water intended for human consumption.*** |

**Amendment 42**

**Proposal for a directive**
**Article 10 – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| 1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by [***one year*** after the date referred to in Article 11- specific date to be inserted by the Publications Office] at the latest. They shall forthwith communicate to the Commission the text of those provisions. | 1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by**…*** at the latest. They shall forthwith communicate to the Commission the text of those provisions. |
| | _____ |
| | **** OJ: please insert the date of two years*** after the date referred to in Article 11**.** |

**Amendment 43**

**Proposal for a directive**
**Annex I**

*Text proposed by the Commission*

| Parameter | Parametric value | Unit | Notes |
|---|---|---|---|
| ***Radon*** | ***100*** | Bq/l | |
| Tritium | ***100*** | Bq/l | |
| Total indicative dose | 0,10 | msv/year | (Note 1) |
| *Note 1: Excluding tritium, potassium-40, radon and short-lived radon decay products* | | | |

*Amendment*

| Parameter | Parametric value | Unit | Notes |
|---|---|---|---|
| ***222 Rn*** | ***20*** | Bq/l | |
| Tritium | ***20*** | Bq/l | |
| Total indicative dose ***(from natural sources)*** | 0,10 | mSv/year | (Note 1) |
| Total indicative dose ***(from human activity sources)*** | ***0,01*** | mSv/year | |
| *Note 1: Excluding tritium, potassium-40, radon and short-lived radon decay products* | | | |

*(If this compromise is adopted, the parametric values contained in this compromise shall be applied to all other adopted amendments concerned)*

**Amendment 44**

**Proposal for a directive**
**Annex II - paragraph 1**

| Text proposed by the Commission | *Amendment* |
|---|---|
| 1. General principles and monitoring frequencies | 1. General principles and monitoring frequencies |
| A Member State is ***not*** required to monitor drinking water for tritium ***or radioactivity to establish*** total indicative dose ***where it is satisfied on the basis of other monitoring that the levels of both tritium and of the calculated total indicative dose are well*** | A Member State is required to monitor drinking water for tritium ***and radon with a view to establishing the*** total indicative dose ***for natural radioactivity and radioactivity attributable to human*** |

| | |
|---|---|
| ***below the parametric value. Monitoring drinking water for radon is not required where a Member State is satisfied on the basis of other monitoring that the levels of radon are well below the parametric value. In these cases, it shall communicate the grounds for its decision to the Commission, including the results of the other monitoring carried out.*** | ***activities***. |
| | ***Monitoring shall include reference analyses and periodic analyses.*** |
| | ***The reference analyses must be conducted as part of the examination of the application for authorisation to distribute drinking water. In the case of already-operating distribution networks, Member States shall set the deadlines within which the analyses must be conducted, on the basis of the volumes of water distributed and the level of potential risk, both for natural radioactivity and the radiological impact of human activities. The reference analyses must enable all the relevant natural and artificial radionuclides to be investigated and quantified.*** |
| | ***In the case of natural radiation, the activity of at least the following 9 radionuclides must be quantified: uranium 238, uranium 234, radium 226, radon 222, lead 210, polonium 210, radium 228 (if necessary via its immediate descendant direct, actinium 228), actinium 227 (if necessary via its immediate descendant thorium 227).*** |
| | ***In the case of the impact of human activities, potential sources of contamination must be investigated, and a list drawn up of the radionuclides to be checked on the basis of that research. Besides the specific checks arising from the investigations, all reference analyses must include measurement of tritium, carbon 14, strontium 90 and plutonium isotope levels, as well as a gamma spectrometry test to assess the activity levels of the main artificial radionuclides emitting gamma rays (including cobalt 60,*** |

| | |
|---|---|
| | ***iodine 131, caesium 134, caesium 137 and americium 241).*** |
| | ***The result of the reference analyses should be used to establish the analysis strategy to be implemented during monitoring periods. Subject to the outcome of the reference analyses, as a result of which the system may be reinforced, the periodic checks shall be conducted at the audit frequency indicated in paragraph 4.*** |

*Justification*

*The Commission's proposal to limit checks to cases in which sources of radioactivity are present in the catchment area is inappropriate. Even in cases where no 'source' is present, unexpected contamination may arise – e.g. from hospitals, at disposal sites, etc. It is therefore essential to require that a general analysis be performed, covering all the major radionuclides, before any new catchment area is exploited, and for all drinking water sources already in use. Based on the findings of that general analysis, standard analyses can then be performed.*

**Amendment 45**

**Proposal for a directive**
**Annexe II - paragraphs 2 and 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***2. Radon and Tritium*** | ***deleted*** |
| ***Monitoring of drinking water for radon or tritium shall be carried out where a source of radon or tritium is present within the catchment and it cannot be shown on the basis of other surveillance programmes or investigations that the level of radon or tritium is well below its parametric indicator value 100 Bq/l. Where monitoring for radon or tritium is required, it shall be carried out at the audit frequency.*** | |
| ***3. Total Indicative Dose*** | |
| ***Monitoring of drinking water for Total Indicative Dose (TID) shall be carried out where a source of artificial or enhanced natural radioactivity is present within the catchment and it cannot be shown on basis of other surveillance programmes or*** | |

***investigations that the level of TID is well below its parametric indicator value 0.1 mSv/year. Where monitoring for artificial radionuclide levels is required, it shall be carried out at the audit frequency indicated in the table. Where monitoring for natural radionuclide levels is required, Member States shall define the frequency of the monitoring having regard to all relevant information available on temporal variations of natural radionuclide levels in different types of waters. Depending on the expected variations, monitoring frequency may vary from a single check measurement to the audit frequency. Where only a single check for natural radioactivity is required, a re-check shall be required at least where any change occurs in relation to the supply likely to influence the concentrations of radionuclides in the drinking water.***

***Where methods for removing radionuclides from drinking water have been applied in order to ensure that a parametric value is not exceeded, monitoring shall be carried out at the audit frequency.***

***Where results of other surveillance programmes or investigations than those required as provided in the first paragraph of this point are used to ensure compliance with this Directive, the Member State shall communicate the grounds for its decision to the Commission, including the relevant results of these monitoring programmes or investigations.***

*Justification*

*See amendment to Annex II - paragraph 1.*

**Amendment 46**

**Proposal for a directive**
**Annexe II - paragraph 4 - table - note 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Note 2: The volumes are calculated as averages taken over a calendar year. A Member State may use the number of inhabitants in a supply zone instead of the volume of water to determine the minimum frequency, assuming a water consumption of 200 l/day/capita. | Note 2: The volumes are calculated as averages taken over a calendar year. A Member State may use the number of inhabitants in a supply zone instead of the volume of water to determine the minimum frequency, assuming a water consumption of 200 l/day/capita ***provided that the water in question is not sold or distributed outside the zone concerned***. |

**Amendment 47**

**Proposal for a directive**
**Annex III – paragraph 1 – subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1. Natural radioactivity*** |
| ***1.*** Screening for compliance with total indicative dose (TID) | ***1.1.*** Screening for compliance with total indicative dose (TID) ***for natural radioactivity*** |
| Member States may use screening methods ***for gross alpha activity and gross beta activity to monitor for the parametric indicator value for TID, excluding tritium, potassium–40, radon and short-lived radon decay products***. | Member States may use screening methods ***to identify water with a potentially excess TID that requires further analysis***. ***Member States must demonstrate that the method selected does not produce false negatives (water considered to comply with the TID when its consumption results in dose levels higher than the parametric value of 0.1 mSv/year). The monitoring strategy shall take into account the outcome of the general radioactivity analyses of the water.*** |

**Amendment 48**

**Proposal for a directive**
**Annex III – paragraph 1 – subparagraph 2**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***If the gross alpha and the gross beta activity are less than 0.1 Bq/l and 1.0 Bq/l respectively, the Member State may assume that the TID is less than the parametric indicator value of 0.1 mSv/year and no radiological investigation is needed unless it is known from other sources of information that specific radionuclides are present in the water supply and are liable to cause a TID in excess of 0.1 mSv/year***. | ***Member States which wish to make use of screening techniques that are based on measuring total alpha and total beta activity must pay attention to possible metrological limits (e.g. failure to take into account low energy beta rays), to select correctly the guideline value below which water is considered compliant, in particular for total beta activity, and take account of the cumulated impact of beta and alpha activity***. |

**Amendment 49**

**Proposal for a directive**
**Annex III – paragraph 1 – subparagraph 4**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***In replacement of gross alpha and gross beta activity screening discussed above, Member States may decide to use other reliable screening methods for radionuclides to indicate the presence of radioactivity in drinking water. If one of the activity concentrations exceeds 20% of its reference concentration or the tritium concentration exceeds its parametric value of 100 Bq/l, an analysis of additional radionuclides shall be required. The radionuclides to be measured shall be defined by Member States taking into account all relevant information about likely sources of radioactivity.*** | ***1.1.1. Selection of the guideline value*** |
| | ***With regard to total beta activity and residual total beta activity (following deduction of the potassium-40 component), the use of a guideline value of 1 Bq/l is not necessarily a guarantee of compliance with the parametric value of 0.1 mSv/year. Member States must verify the activity concentration of lead-210 and radium-228, which are two radionuclide beta emitters of high radio-toxicity. For an adult consumer, the TID of 0.1*** |

| | |
|---|---|
| | ***mSv/year is reached when the activity concentration in water reaches 0.2 Bq/l (cumulative activity of radium-228 and lead-210) – i.e. one fifth of the guideline value of 1 Bq/l; for the critical group of infants aged less than 1 year old, assuming a consumption of 55 cl of water per day, TID is reached when radium-228 activity nears 0.02 Bq/l or lead-210 activity approaches 0.06 Bq/l.*** |
| | ***With regard to total alpha activity, Member States must verify the polonium-210 component, as the use of a guideline value of 0.1 Bq/l is not necessarily a guarantee of compliance with the parametric value of 0.01 mSv/year. For the critical group of infants aged less than 1 year old, assuming a consumption of 55 cl of water per day, the TID is exceeded when activity concentration of polonium-210 reaches 0.02 Bq/l, i.e. one fifth of the guideline value of 0.1 Bq/l.*** |

**Amendment 50**

**Proposal for a directive**
**Annex III - paragraph 1 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***1.1.2. Factoring-in of cumulative alpha and beta components*** |
| | ***The TID derives from the doses generated by all the radionuclides present in water, be these of the alpha or beta type. The overall results of the total alpha and total beta activity rate checks must therefore be taken into account when assessing whether the TID has been exceeded.*** |
| | ***Member States shall ensure that the following formula is complied with:*** |
| | ***Total alpha activity/total alpha guideline value + total beta activity/total beta guideline value < 1*** |

**Amendment 51**

**Proposal for a directive**
**Annex III, paragraph 2, subparagraph 1**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| ***2***. Calculation of the Total Indicative Dose (TID) | ***1.2.*** Calculation of the Total Indicative Dose (TID) |
| The TID is the committed effective dose for one year of intake resulting from all the radionuclides whose presence in a water supply has been detected, ***both of natural and artificial origin,*** excluding tritium, potassium–40, radon and short-lived radon decay products. The TID shall be calculated from the radionuclide ***concentrations*** and the dose coefficients ***for adults*** laid down in Annex III, Table A of Directive 96/29/Euratom or more recent information recognised by the competent authorities in the Member State. Where the following formula is satisfied, Member States may assume that the TID is less than the parametric indicator value of 0.1 mSv/year and no further investigation shall be required: | The TID is the committed effective dose for one year of intake resulting from all the ***natural*** radionuclides whose presence in a water supply has been detected, excluding tritium, potassium–40, radon and short-lived radon decay products. The TID shall be calculated from the ***volumetric radionuclide activity rates*** and the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom or more recent information recognised by the competent authorities in the Member State. ***The calculation shall be performed for the population group most exposed to risk, on the basis of standard consumption rates established by the Commission. For natural radionuclides, the critical group shall be children under the age of one.*** Where the following formula is satisfied, Member States may assume that the TID is less than the parametric indicator value of 0.1 mSv/year and no further investigation shall be required: |

**Amendment 52**

**Proposal for a directive**
**Annex III, paragraph 2, subparagraph 3**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| Where the formula is not satisfied, ***the parametric value shall only be regarded as having been exceeded if the radionuclides are persistently present at similar activity concentrations for a full year***. Member States shall define the extent of resampling necessary to ensure ***that the measured values are representative for an average activity concentration for a full*** | When this formula is not satisfied, ***additional analyses must be conducted in order to ensure that the result obtained is a representative one***. ***The checks must be conducted to deadlines that can be shortened to reflect the degree to which the parametric value has been exceeded.*** Member States shall define the extent of resampling necessary***, and the deadlines to*** |

| | |
|---|---|
| ***year***. | ***meet,*** to ensure ***that the parametric value defined for the TID has in fact been exceeded***. |

**Amendment 53**

**Proposal for a directive**
**Annex III, paragraph 2, table**

| *Text proposed by the Commission* |
|---|
| Reference concentrations for radioactivity in drinking water[1] |

| ***Origin*** | Nuclide | Reference concentration | |
|---|---|---|---|
| ***Natural*** | U-238[2] | ***3,0 Bq/l*** | |
| | U-234[2] | ***2,8 Bq/l*** | |
| | Ra-226 | ***0,5 Bq/l*** | |
| | Ra-228 | ***0,2 Bq/l*** | |
| | Pb-210 | ***0,2 Bq/l*** | |
| | Po-210 | ***0,1 Bq/l*** | |
| ***Artificial*** | ***C-14*** | ***240 Bq/l*** | |
| | ***Sr-90*** | ***4,9 Bq/l*** | |
| | ***Pu-239/Pu-240*** | ***0,6 Bq/l*** | |
| | ***Am-241*** | ***0,7 Bq/l*** | |
| | ***Co-60*** | ***40 Bq/l*** | |
| | ***Cs-134*** | ***7,2 Bq/l*** | |
| | ***Cs-137*** | ***11 Bq/l*** | |
| | ***I-131*** | ***6,2 Bq/l*** | |

*1 This table includes the most common natural **and artificial** radionuclides. Reference concentrations for other radionuclides can be calculated using the dose coefficients **for adults** laid down in Annex III, Table A of Directive 96/29/Euratom, or more recent information recognised by the competent authorities in the Member State**, and by assuming an intake of 730 litres per year**.*

*2. One milligram (mg) of natural uranium contains 12.3 Bq of U-238 and 12.3 Bq of U-23 4. This table allows only for the radiological properties of uranium, not for its chemical toxicity.*

| *Amendment* |
|---|
| Reference concentrations for radioactivity ***of natural origin*** in drinking water[1] |

| | Nuclide | Reference concentration | ***Critical age*** |
|---|---|---|---|
| | U-238[2] | ***1,47 Bq/l*** | ***< 1 year*** |
| | U-234[2] | ***1,35 Bq/l*** | ***< 1 year*** |
| | Ra-226 | ***0,11 Bq/l*** | ***< 1 year*** |
| | Ra-228 | ***0,02 Bq/l*** | ***< 1 year*** |
| | Pb-210 | ***0,06 Bq/l*** | ***< 1 year*** |
| | Po-210 | ***0,02 Bq/l*** | ***< 1 year*** |

*1 This table includes the most common natural and artificial radionuclides. Reference concentrations for other radionuclides can be calculated using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom, or more recent information recognised by the competent authorities in the Member State .* ***The calculation must be performed for the age group most exposed to risk in order to ensure compliance with the total indicative dose of 0,1 mSv, regardless of the age of the consumer. The Commission shall define the water consumption rates for the various age brackets.***

*2. One milligram (mg) of natural uranium contains 12.3 Bq of U-238 and 12.3 Bq of U-234. This table allows only for the radiological properties of uranium, not for its chemical toxicity.*

*Justification*

*The reference concentrations proposed by the Commission have been calculated using the dose coefficients for adults. However, calculations show that for other age-groups (esp. infants and children), these reference concentrations would lead to exceeding the total indicative dose. e.g. for Radium-228: up to 12 times exceeded. For practical reasons, it does not make sense to have different reference calculations for different age groups. In order to be consistent within the proposal, and to assure a level of protection corresponding to 0.1 mSv TID for all age groups, the most vulnerable group of population must be taken as basis for the calculations. As no harmonised levels of consumption for the different age groups have been established on EU level, the values provided here have been calculated on the basis of the French CIBLEX recommendations. For the sake of transparency, the values have not been rounded off.*

**Amendment 54**

**Proposal for a directive**
**Annex III – paragraph 2 a (new)**

| *Text proposed by the Commission* | *Amendment* |
|---|---|
| | ***2a. Radiological significance of human activity*** |
| | ***The radionuclides to be measured shall be defined by Member States on the basis of all the information gathered about potential sources of anthropogenic radiation.*** |
| | ***2a.1. Tritium monitoring*** |
| | ***A specific analysis shall be conducted to quantify the level of tritium as part of the reference analysis, and when a periodic check on this parameter is required. An activity concentration in excess of 10 Bq/l is indicative of an anomaly whose origin must be investigated and which may indicate the presence of other artificial radionuclides. The threshold parametric value beyond which the source of the contamination must be investigated and*** |

***the public informed is 20 Bq/l. The reference concentration corresponding to the parametric value 0.01 mSv/year is 680 Bq/l (500 Bq/l if the fœtus is taken into account).***

***2a.2. Calculation of the TID for human activity sources***

***The TID is the committed effective dose for one year of intake resulting from all the anthropogenic radionuclides whose presence in a drinking-water supply has been detected, including tritium.***

***The TID shall be calculated from the radionuclide activity concentration and the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom or more recent information recognised by the competent authorities in the Member State. The calculation shall be performed for the population group most exposed to risk, known as the critical group, on the basis of standard consumption rates established by the Commission.***

***Member States may use reference concentrations corresponding to the parametric value 0.01 mSv/year being attained. In this case, where the following formula is satisfied, Member States may assume that the parametric value has not been exceeded and that no further investigation is required:***

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

***where***

***Ci(obs) = observed concentration of radionuclide i***

***Ci(ref) = reference concentration of radionuclide i***

***n = number of radionuclides detected.***

***Where this formula is not satisfied, additional analyses must be conducted immediately in order to ensure that the result obtained is a valid one and to establish the source of the pollution.***

**Amendment 55**

on behalf of the Verts/ALE Group
**Proposal for a directive**
**Annex III – paragraph 2 b (new) – table**

| *Text proposed by the Commission* |
|---|
| |
| *Amendment* |
| ***Reference concentrations for radioactivity of anthropogenic origin in drinking water[1]*** |

| | ***Nuclide*** | ***Reference: concentration*** | ***Critical age*** |
|---|---|---|---|
| | ***H3*** | ***680 Bq/l/500 Bq/l*** | ***2-7 years old/foetus*** |
| | ***C-14*** | ***21 Bq/l*** | ***2-7 years old*** |
| | ***Sr-90*** | ***0.22 Bq/l*** | ***< 1 year old*** |
| | ***Pu-239/Pu-240*** | ***0.012 Bq/l*** | ***< 1 year old*** |
| | ***Am-241*** | ***0.013 Bq/l*** | ***< 1 year old*** |
| | ***Co-60*** | ***0.9 Bq/l*** | ***< 1 year old*** |
| | ***Cs-134*** | ***0.7 Bq/l*** | ***Adult*** |
| | ***Cs-137*** | ***1.1 Bq/l*** | ***Adult*** |
| | ***I-131*** | ***0.19 Bq/l*** | ***1-2 years old*** |

***[1] This table includes the most common artificial radionuclides. Reference concentrations for other radionuclides can be calculated using the dose coefficients laid down in Annex III, Table A of Directive 96/29/Euratom, or more recent information recognised by the competent authorities in the Member State concerned. The calculation must be performed for the age group most exposed to risk in order to ensure compliance with the total indicative dose of 0.01 mSv, regardless of the age of the persons consuming the water. The Commission shall define the water consumption rates for the various age brackets.***

*Justification*

*There is a need to distinguish between radioactivity from natural sources and radioactivity from the normal operation of nuclear facilities (artificial radiation and/or radiation from human activities). The distinction between natural impact and the impact of human activities is, moreover, in line with the distinctions drawn by the ICRP and contained in Directive 96/29.*

**Amendment 56**

**Proposal for a directive**
**Annex III, point 3, table**

*Text proposed by the Commission*

| ***Parameters*** | Limit of detection (Note 1) | Notes | |
|---|---|---|---|
| Radon | 10 Bq/l | Note 2, 3 | |
| Tritium | 10 Bq/l | Note 2, 3 | |
| ***Gross*** alpha<br>***Gross*** beta | 0,04 Bq/l<br>0,4 Bq/l | Note 2, 4<br>Note 2, 4 | |
| U-238 | 0,02 Bq/l | Note 2,***6*** | |
| U-234 | 0,02 Bq/l | Note 2,***6*** | |
| Ra-226 | 0,04 Bq/l | Note 2 | |
| Ra-228 | ***0,08*** Bq/l | Note 2***,5*** | |
| Pb-210 | 0,02 Bq/l | Note 2 | |
| Po-210 | 0,01 Bq/l | Note 2 | |
| C-14 | 20 Bq/l | Note 2 | |
| Sr-90 | ***0,4*** Bq/l | Note 2 | |
| Pu-239/Pu-240 | ***0,04*** Bq/l | Note 2 | |
| Am-241 | ***0,06*** Bq/l | Note 2 | |
| Co-60 | ***0,5*** Bq/l | Note 2 | |
| Cs-134 | ***0,5*** Bq/l | Note 2 | |
| Cs-137 | ***0,5*** Bq/l | Note 2 | |
| I-131 | ***0,5*** Bq/l | Note 2 | |

*Note 1: the limit of detection shall be calculated according to ISO 11929-7, Determination of the detection limit and decision thresholds for ionizing radiation measurements-Part 7: Fundamentals and general applications, with probabilities of errors of 1st and 2nd kind of 0.05 each*

*Note 2: measurement uncertainties shall be calculated and reported as complete standard uncertainties, or as expanded standard uncertainties with an expansion factor of 1.96, according to the ISO Guide for the Expression of Uncertainty in Measurement (ISO, Geneva 1993, corrected reprint Geneva, 1995)*

*Note 3: the limit of detection for radon and for tritium is **10%** of its parametric value of **100** Bq/l*

*Note 4: the limit of detection for **gross** alpha and **gross** beta **activities** are 40% of the screening values of 0.1 and 1.0 Bq/l respectively*

***Note 5: This Limit of Detection applies only to routine screening; for a new water source for which it is plausible that Ra-228 exceeds 20% of the reference concentration, the limit of detection for the first check shall be 0.02 Bq/l for Ra-228 nuclide specific measurements. This shall also apply where a subsequent re-check is required.***

*Note 6:* The low value of the specified detection limit for U is due to taking into account the chemotoxicity of uranium.

*Amendment*

| ***Nuclide*** | Limit of detection (Note 1) | Notes | |
|---|---|---|---|
| Radon | 10 Bq/l | Note 2,3 | |
| Tritium | 10 Bq/l | Note 2,3 | |
| ***Total*** alpha | 0,04 Bq/l | Note 2,4 | |
| ***Total*** beta | 0,4 Bq/l | Note 2,4 | |
| U-238 | 0,02 Bq/l | Note 2,***5*** | |

| | | | |
|---|---|---|---|
| U-234 | 0,02 Bq/l | Note 2,***5*** | |
| Ra-226 | 0,04 Bq/l | Note 2 | |
| Ra-228 | ***0,01*** Bq/l | Note 2 | |
| Pb-210 | 0,02 Bq/l | Note 2 | |
| Po-210 | 0,01 Bq/l | Note 2 | |
| C-14 | 20 Bq/l | Note 2 | |
| Sr-90 | ***0,1*** Bq/l | Note 2 | |
| Pu-239/Pu-240 | ***0,01*** Bq/l | Note 2 | |
| Am-241 | ***0,01*** Bq/l | Note 2 | |
| Co-60 | ***0,1*** Bq/l | Note 2 | |
| Cs-134 | ***0,1*** Bq/l | Note 2 | |
| Cs-137 | ***0,1*** Bq/l | Note 2 | |
| I-131 | ***0,1*** Bq/l | Note 2 | |

*Note 1: the limit of detection shall be calculated according to ISO 11929-7, Determination of the detection limit and decision thresholds for ionizing radiation measurements-Part 7: Fundamentals and general applications, with probabilities of errors of 1st and 2nd kind of 0.05 each*

*Note 2: measurement uncertainties shall be calculated and reported as complete standard uncertainties, or as expanded standard uncertainties with an expansion factor of 1.96, according to the ISO Guide for the Expression of Uncertainty in Measurement (ISO, Geneva 1993, corrected reprint Geneva, 1995)*

*Note 3: the limit of detection for radon and for tritium is **50%** of its parametric value of **20** Bq/l*

*Note 4: the limit of detection for **total** alpha activity and **total** beta **activity** are 40% of the screening values of 0.1 and 1.0 Bq/l respectively*

***These values can only be used after having established there is no significant contribution from very high toxicity radionuclides (lead 210, radium 228 or polonium 210).***

Note 5: The low value of the specified detection limit for U is due to taking into account the chemotoxicity of uranium.

*Justification*

*Change consonant with the adjustment of the reference concentrations. The limits of detection proposed are quite realistic.*