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Summary of the Commission Services' public consultation regarding natural radiation sources in new Euratom BSS

Note to EAN_{NORM}

Consultation and response

A consultation document with the Commission Services' considerations regarding natural radiation sources in the new Euratom Basic Safety Standards Directive (BSS)¹ was launched on the European Commission's website in February 2009. The end date was set to 20 April 2009 although comments kept coming until the end of April. Those have been included as well.

In total forty-seven contributions were received, mostly from industry/industrial organisations or governmental organisations/authorities (around 15 each). A substantial amount of contributions came from individuals (10) and from radiation protection associations or group of experts (5). The contributions from industry were distributed over the following industrial sectors:

- Steel producers
- Zirconium chemicals producers
- Producers of abrasive products
- Building materials industry
- Tiles and bricks industry
- Radon measurement and remediation companies

With regard to the geographical distribution, comments were received from the following countries: Germany(13), UK(5), Spain(4), Italy(4), Belgium(3), Ireland(3), the Netherlands(2), Sweden(2) and Finland, Greece, Poland, Austria, Norway, Switzerland, Australia (one each)².

¹ The present BSS is the Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of health of workers and the general public against dangers arising from ionizing radiation.

² The sum does not equal forty-seven since some contributions cannot be associated to a specific country.

A compilation of the comments received was sent to the WP Recast and WP Natural Sources (sub-groups of the Article 31 Group of Experts) for further discussion. It should be noted that the text of the draft BSS has constantly evolved since the Art 31 GoE meeting in November 2008 when the consultation document was approved. Some of the problems raised in the comments were already addressed and solved by the time of the consultation and several issues have been taken care of in the further drafting process during 2009. In February 2010 the Art 31 GoE finalised the draft Euratom BSS and adopted an Opinion on the draft. The Opinion of the Art 31 GoE reflects the broad range of views within the Group of Experts on some issues.

Outcome: In general

The consultation was well received and a large part of the contributors express their appreciation for being invited to comment on ideas this early in the process of revising the Directive. In general the contributions endorsed the goal of the Commission to harmonise, clarify and strengthen the requirements related to natural sources.

The contributors believe the Commission has chosen the right approach when introducing the so-called graded approach to regulatory control but would like to have more information on the regime of notification, registration and licensing. There is also a high demand for guidance and clarification about the rationale for certain issues and about how to implement the requirements in practice. The Commission is planning to further elaborate on principal issues and their implementation in a guidance document which should be published in connection with the adoption of the new Directive. Furthermore there is a demand for clear definitions, e.g. on buildings, dwellings, reuse, recycling, disposal, waste, constructions, natural radiation source and inert material. This has been taken care of and the draft BSS now contain the relevant definitions.

Outcome: Specific topics

The forty-seven contributions contained a number of comments, some detailed, some addressing broader issues. The main concerns are listed below along with comments in italics about how these concerns have been or will be dealt with. Please note that the summary is very brief and does not contain the full reasoning behind neither the comments and concerns nor the outcome shown in italics.

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Positive list

- Some additional industries are suggested.

Two of them have been added:

Geothermal energy production, since it has similar radiation protection issues as other types of fluid extraction, e.g. oil and gas extraction.

Mining of ores other than uranium ore. Although exposure to radon is normally the main pathway of exposure in underground workplaces, some mines have problems with high concentrations of Radon-226 in fissure water.

- The positive list is a good thing but after assessment Member States should have the possibility to remove certain industries

This is not explicitly mentioned in the draft BSS, instead it states that all industries on the list needs to be taken into account when Member States make the initial identification of industries which cannot be disregarded from a radiation protection point of view.

Materials of concern

- Need for clarification about pathways when assessing doses
This is an area where the Commission is considering issuing further guidance although earlier Commission guidance such as RP 122 part II is still relevant for identifying pathways.

Mandatory requirement for notification if the industry is recycling residues into building material

- Does not fit with graded approach
- Will be difficult to implement and to control
- Would it not be enough if the building material complies with what is required in the Directive for building materials (index, reference level, etc)?

The mandatory requirement is kept in the draft BSS since recycling of residues into building materials is one of the pathways that may lead to doses to the public exceeding 1 mSv/y and it is therefore necessary to have some form of regulatory control of the industries recycling residues into building materials. The draft BSS contain an annex with of building materials of concern, including a list of the types of residues. The annex indicates which industries would be affected by this requirement.

Exemption values

- Why not use RP 122, part II values (e.g. 0.5 kBq/kg instead of 1 kBq/kg)?
For the sake of harmonisation with international standards the values in the IAEA report RS-G-1.7 have been incorporated, in the same way as for artificial radionuclides. Some of the Article 31 Experts also prefer the RP 122 values and this is reflected in the Opinion.
- Some contributors mention the need for allowing lower values when drinking water may be affected.
This has been introduced in the draft BSS: without explicitly allowing lower levels, the competent authority may impose restrictions wherever drinking water or other pathways of exposure may be affected.

Graded approach

- How to assess doses to workers? Should conventional health and safety equipment be taken into account?
It has been taken care of by referring to "normal working conditions", which implies that compulsory health and safety requirements relevant to the workplace should be taken into account.
- Why notification already when doses to workers are likely to exceed 1 mSv/y?
Some of the German contributors mention that they have good regulatory experience of setting the level for notification at 6 mSv/y.
Why ask for anything more than notification? Licensing or registration requirements would only lead to an unnecessary administrative burden.

The draft BSS now deal with NORM industries in the same regulatory framework as for other practices. The graded approach applies to all practices and the choice of registration or licensing is based on different criteria, e.g. dose assessment to workers and members of the public. However, for doses to workers in the range 1-6 mSv/y the requirements for occupational exposure to NORM are less demanding.

Mixing

- Mixing NORM with other material should be encouraged. Significant amounts of NORM are recycled and end up mixed with other materials, e.g. in cement and concrete. The term "inert" may also not be appropriate.

The term "inert material" is no longer used and the text is modified.

Radon

- There is a clear demand for technical guidance, especially with regard to measurement techniques, and for standards and harmonisation on a European level for this.

According to the website of the International Organization of Standardization (ISO), one of its subcommittees, TC85/SC2, is in the process of developing several ISO standards for Radon-222. With regard to building materials, CEN/TC 351 is presently investigating the possibility of setting a CEN standard for measuring radioactivity concentration (gamma radiation) in building materials.

- There are worries that the action plan will only address radon in dwellings and public buildings. Radon in workplaces needs equal attention.

The draft BSS are clear about the fact that the national action plan must also address radon in workplaces.

- Some contributors question a threshold for recording doses to workers in NORM industries and question the choice of the value of 400 Bq/m³.

This threshold has been removed.

- Modify so that within radon-prone areas all workplaces with a high occupancy are requested to be measured.

This is reflected in the requirements on the content of the national action plan.

- Modify so MS have the possibility to choose a higher reference level for workplaces with a very low occupancy.

It should be noted that a reference level is not a limit. For such workplaces, where radiation protection measures are optimised, the radon concentrations may very well exceed the reference level.

- Include criteria on level of rooms or workplaces in addition to requirements for measurements in radon-prone areas (upper floors excluded?)

The requirements for measurements at workplaces have been slightly modified. For buildings with public access or dwellings setting specific requirements on types of rooms or workplaces would require a high level of detail. It would be more suitable to discuss such a complex issue in a guidance report.

Building materials

- Clarification needed about whether materials used for infrastructure projects are considered building materials.
The draft BSS contain a definition of building materials.
- Some contributors worry about the proposed requirements causing stigmatization of certain groups of materials, whereas others are concerned that the flexibility, for instance when setting up the list of building materials which need to be considered, would lead to problems in shipping and trading products within EU.
These are valid concerns. However, in order to make informed decisions when constructing buildings, so as to not exceed the appropriate levels of exposure to workers or members of the public and to fulfil Annex 1 of the Council Directive related to construction products (89/106/EEC)³, the building industry should be made aware of the radioactivity content of the materials a Member State has deemed to be of concern. The flexibility for Member States to establish a reference level for building materials has been removed.
- Some contributors question why the value for exemption proposed by RP 112 (0.3 mSv/y) is replaced by 1 mSv/y.
Based on the prevailing activity concentrations in building material produced in the European Union the Art 31 GoE decided that a level of 1 mSv/y would be more appropriate in a Directive, also in order to avoid problems in trade within the EU.
- Harmonisation or guidance on how to measure radionuclide concentrations and calculate the index would be beneficial, as well as on the concept of "superficial material".
Some information can be found in earlier Commission guidance, such as RP 96 and RP 112, but this is an area where the Commission considers issuing further guidance.

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³ Council Directive 98/106/EEC, Annex 1, states that "...the construction work must be designed and built in such a way that it will not be a threat to the hygiene or health of the occupants or neighbours, in particular as a result of ... the presence of dangerous particles or gases in the air [or] the emission of dangerous radiation..."