



Strahlenschutzkommission

Geschäftsstelle der
Strahlenschutzkommission
Postfach 12 06 29
D-53048 Bonn
<http://www.ssk.de>

**On the feasibility of the European Commission's
proposals regarding Chapter IX of the new European basic
standards on radiation protection**

Statement by the German Commission on Radiological Protection

Adopted at the 257th meeting of the German Commission on Radiological Protection on
5th/6th July 2012

The German original of this English translation was published in 2012 by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety under the title:

**Zur Umsetzbarkeit der Vorschläge der Europäischen Kommission zu Kapitel IX
der neuen europäischen Grundnormen des Strahlenschutzes**

Stellungnahme der Strahlenschutzkommission

This translation is for informational purposes only, and is not a substitute for the official statement. The original version of the statement, published on www.ssk.de, is the only definitive and official version.

CONTENTS

1 Advisory mandate 4

2 Requirements posed by Chapter IX of the proposal on Euratom basic standards 4

3 Statement 5

1 Advisory mandate

The proposal issued by the European Commission on 29.09.2011 with regard to the Council's new directive concerning the predefinition of basic safety standards for protection against the hazards presented by exposure to ionising radiation (Euratom basic standards) features regulations on environmental protection in Chapter IX which specifically refer to non-human species. In a letter dated 15.02.2012, the BMU requested the SSK produce a statement, based on current knowledge, concerning the feasibility of the European Commission's proposals as featured in Chapter IX of the new Euratom basic standards for the protection of non-human species.

The SSK has drafted a statement which makes reference to previous work, conducted in the context of a former environmental protection advisory mandate by the "Environmental Protection" working group convened by the SSK radioecology committee.

2 Requirements posed by Chapter IX of the proposal on Euratom basic standards

Chapter IX of the Euratom basic standards proposal dated 29th September 2011 not only requires of member states that they include environmental criteria in the form of radiation protection provisions for non-human species found in the environment in their radiation protection legislation, but also that these are included in the overall system of protecting human health (Article 76). This is intended to create a basis for protecting populations of endangered or representative non-human species from the adverse effects of ionising radiation. The aim is to take into account the significance of these species within different eco-systems. Where applicable, those types of human actions (activities in the sense of the new Euratom basic standards¹) requiring monitoring by a supervisory body are to be specified, so as to ensure the regulations foreseen by this legislative framework are implemented.

The population protection limits set for the disposal of radioactive waste under normal conditions are also meant to include an appropriate degree of protection for non-human species. Using a generic overview survey², member states can establish whether their current limits comply with these environmental criteria (Article 77).

In the event of accidental releases, member states must require the companies in question to introduce appropriate technical measures with the aim of preventing major environmental damage or limiting the extent of such damage (Article 78).

In the specification of environmental monitoring programmes and in the commitment to implement such programmes, it is important that representative non-human species and environmental media that could prove to be exposure routes for individual members of the population are taken into account as necessary (Article 79).

¹ see Article 2 No. 2 of the Euratom basic standards draft

² the German version uses the term "generelle Untersuchung"

3 Statement

The SSK has examined the consequences arising from the requirements specified in the Euratom basic standards, as summarised in Chapter 2 of this statement, and has come to the following conclusions and recommendations:

- (1) New radiation protection terms are introduced in Chapter IX of the Euratom basic standards (e. g. environmental criteria, environmental damage, system of human health protection, vulnerable species); within a legal context, however, such terms may be open to a range of interpretations. The SSK is of the opinion that these terms require further specification by the European Commission.

A few of the terms used in the existing German translation of the Euratom basic standards (e. g. “gefährdete Arten”, “Umweltschäden”) have already been allocated a specific meaning within the context of German environmental legislation. Care must therefore be taken to ensure the implementation of these standards within German law accurately reflects the content intended by the European Commission.

- (2) When implementing the Euratom basic standards, it is important that the focus of “Environmental Protection” in Chapter I is on protecting living nature from the population-relevant adverse effects of ionising radiation. In Germany, the environment is understood as the entire system – within a specified geographical area – of humanity, the ecosystem and countryside, any cultural or other physical assets (environmental assets), as well as the interaction between said environmental assets. The protection of individuals from ionising radiation within the environmental media of water, earth and air, and any foodstuffs associated therewith, is already an established element of radiation protection legislation and is addressed in Chapter VIII of the Euratom basic standards.
- (3) By extending radiation protection to include the protection of non-human species, a component is being added which has already been part of environmental protection relating to chemical/toxic substances for years. The SSK therefore fundamentally supports the Euratom basic standards proposal to include environmental protection explicitly in radiation protection legislation.
- (4) With the exception of the requirement referred to in Point 10, the SSK generally regards the requirements specified in Chapter IX of the Euratom basic standards as feasible. The SSK would however like to point out that current knowledge concerning the impact of radiation on non-human species is still characterised by considerable uncertainty and that, if implementation is to be standardised at a trans-European level, a number of aspects still require specific regulation:
 - the introduction of environmental criteria (Article 76) requires the specification of suitable parameters and values associated with an appropriate level of protection. No uniform, internationally agreed concept currently exists that takes all the related issues into account. It remains unclear what the dose limit for minor radiation effects on populations of plants and animals (“trivial dose”) is, and as of what dose level significant (damaging) effects/adverse effects may be expected.
 - The practical implementation of environmental criteria requires new calculation models. At an international level, the concept of reference organisms is being developed with the aim of calculating radiation exposure. Using this approach, information about the effect of radiation exposure on living creatures can be obtained at a justifiable level of expense. This can be used to derive information concerning the impact of adverse effects on populations that could potentially affect

the functionality of eco-systems.

- With reference to the Euratom basic standards requirement concerning the specification, as necessary, of types of human action subject to monitoring by a supervisory body, and as a result of the uniform treatment of the concepts of artificial and natural radioactivity by the Euratom basic standards, it is essential that the so-called NORM³ industries are taken into account as a relevant area of human activity. In recognition of the findings of a study conducted by the Öko-Institut and the Helmholtz Zentrum⁴ the SSK sees no reason to extend the supervisory monitoring of nuclear power plants to include fauna and flora. The Commission does however consider it necessary to establish whether, and under what conditions respectively, waste from other nuclear or radiation protection-licensed facilities, and waste from mining or NORM industries, could lead to situations that would require monitoring.
- (5) In view of this apparent necessity, and for the purpose of developing specific regulations, the SSK recommends lobbying the European Commission for commensurate implementation deadlines for Chapter IX of the Euratom basic standards; also, that the European Commission issue recommendations which foresee an agreed trans-European implementation of the requirements.
 - (6) The general investigation into whether the limits currently in place for waste-related human radiation exposure provide adequate protection for non-human species, mentioned in Article 77 and which member states may choose to conduct, has already been carried out in Germany during a study by the Öko-Institut and the Helmholtz Zentrum. These findings may serve as a point of reference for the implementation of the Euratom basic standards.
 - (7) As far as the prevention or containment of environmental damage incurred by accidental release is concerned (Article 78), the SSK sees a need to clarify the necessity of additional measures, especially with reference to NORM industries. Inconsistencies already exist within German environmental law concerning the evaluation of radioactive contamination in environmental media, especially with reference to environmental damage (water legislation in particular), which in the context of implementing the new Euratom basic standards would require, where possible, legal clarification.
 - (8) From Article 79 it can be inferred that representative non-human species need to be taken into account, as necessary, when specifying environmental monitoring programmes and committing to their implementation. In the light of current scientific knowledge, the SSK considers the official monitoring of populations for radiation protection purposes unnecessary.
 - (9) As far as radioactivity in sensitive habitats of non-human species is concerned, existing monitoring programmes (e. g. REI, IMIS, REI-Bergbau) already basically fulfil the principal requirements of Article 79. When implementing the new basic standards, the data from these environmental monitoring programmes must be supplemented if necessary, in order to gather basic data on naturally occurring radionuclides, thus

³ Naturally Occurring Radioactive Materials

⁴ Öko-Institut e.V., Helmholtz Zentrum München: "Systematische Untersuchung der Exposition von Flora und Fauna bei Einhaltung der Grenzwerte der StrlSchV für den Menschen, Abschlussbericht Darmstadt/Neuherberg 11.10.2011

allowing the extent to which human activities affect radioactivity levels in the sensitive habitats of non-human species to be assessed. In this instance particular attention should be paid to aquatic habitats.

- (10) The SSK finds that the meaning of the requirement in Article 76 which stipulates that member states should include radiation protection provisions for non-human species found in the environment “in their overall system for protecting human health” is unclear. Insofar as this would involve additional requirements affecting legislation other than radiation protection/atomic law, the SSK regards such regulation as unnecessary and unfeasible. The SSK recommends the BMU lobby for the further specification or deletion of this passage from Article 76 of the safety standards.