Authority for Nuclear Safety and Radiation Protection

Consumer products or commodities containing natural occurring radionuclides (NORM)

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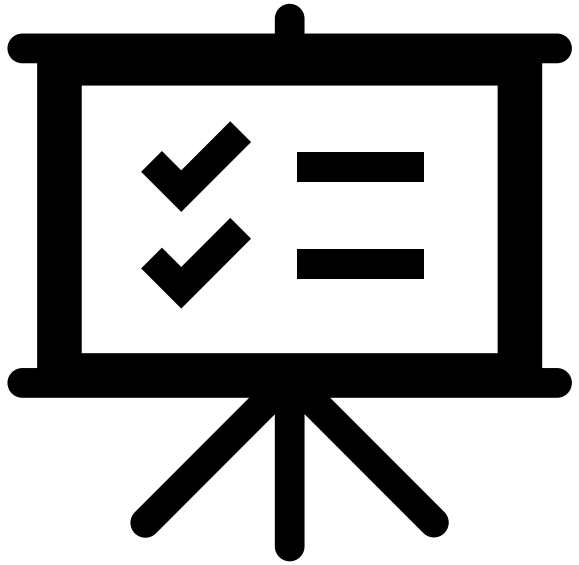

Definitions

- **Consumer product**: a device or manufactured item into which one or more radionuclides have **deliberately** been incorporated or produced by activation, or which generates ionising radiation, and which can be sold or made available to members of the public **without special surveillance or regulatory control after sale (EU-BSS/IAEA)**;

- **Commodities** are all materials put on the market with exception of consumer products.
  - no EU-BSS/IAEA definition!
  - Food, drinking water, building materials, fertilizer, feed, ... Each with specific regulations

- "**Frivolous**" or unjustified/unauthorized products. Manufactured items into which radionuclides (often NORM) have deliberately been incorporated. No justification but sold freely in the market.
  - "wellness/therapy products" based on "negative ion technology"
  - historical products: radionuclides incorporated before health effects of radiation were fully understood (static eliminators, glass lenses)

Complication: What is justified. what is edible: country/culture specific?

Some examples – consumer products

Gas lantern mantles (Th)

Smoke detector (Am-241, Ra-226)

Welding electrodes (Th)

More examples

- Frivolous products:
  - Negative ions technology (pendants, bracelets)
  - RA wallpaper
  - Matresses

- Non-food Commodity
  - Oil and gas equipment (PIG)
  - Fertilizer

Common feature of all 3 product categories:
limited amount of NORM in the final product.

Regulation?

- Consumer product: planned exposure situation.
  Production: authorisation might be required, but not after sale (exempted)

- Non-food commodities with NORM: existing exposure situation: EU/BBS Annex 17. But: when they are of concern from a radiation protection point of view and legal responsibility can be assigned: treat as planned exposure situation.

- "Frivolous" or unjustified/unauthorized products: not allowed but available.

In all cases: exemption values are important in decision-making.

Discussion – based on the three presentations

A. Commodities: find a common definition, also for communication with public

B. What is justified: overview of justified products?

C. How about a study on feasibility and usefulness of an exchange platform collecting information on events that caused RP issues?

D. Consumer products are exempted to put on the market. Base: Exemption values for bulk for NORM but limited amount for artificial.
Develop clearance and exemption values for limited amounts of NORM.

E. Exemption/clearance activity concentration levels for liquid waste and discharges

F. Action to obtain insights on the implementation of national positive lists?

G. Should Cs-137 in biomass combustion ash be regulated as a planned or existing exposure situation?

H. Is an exemption criteria of 10 μSv/a practical for an artificial nuclide which is present in the environment for 100+ years? Should reference levels be used?

I. What can be done at the European level to make sure that near-trivial doses are not preventing the increase of bioenergy use, the beneficial use of biomass ash when possible, and disposal when necessary