



Radiological Protection Institute of Ireland

An Institiúid Éireannach um Chosaint Raideolaíoch

ERPAN Surveys

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ERPAN Meeting , 7th June 2010

ERPAN Network

- ERPAN aims to promote communication between national regulatory authorities including the exchange of information, requirements and experiences on the process of authorisation and inspection methods ... to promote the ALARA principle
- 19 regulatory authorities
- 17 countries



Lead lined doors (Feb 10)

- Query: doors do not meet basic (RPA) guidelines
- Problems encountered:
 - no over lap or lead in the keyholes
 - lead removed for fire ratings
- Q: Is there any standard for lead lined doors anywhere in Europe?



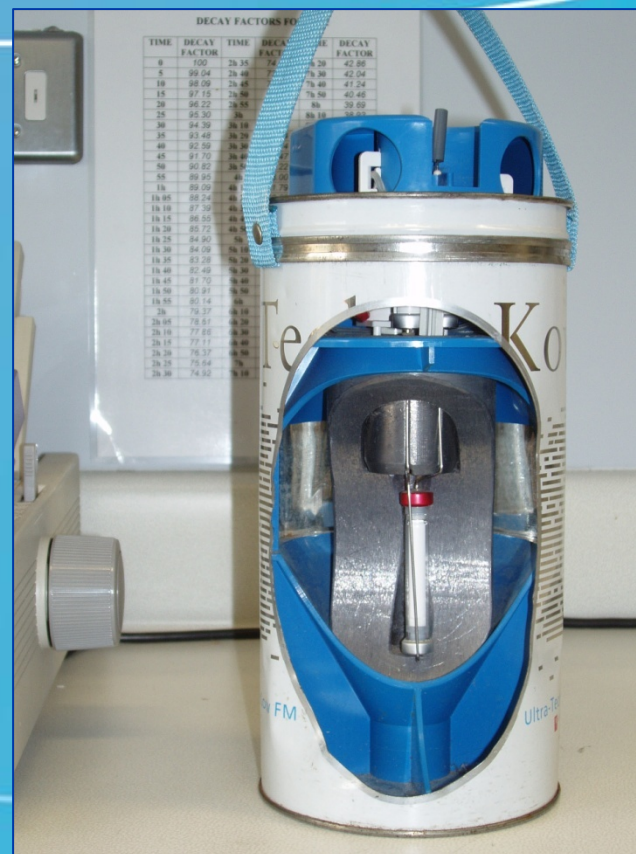
Lead lined doors

- Responses from 8 members
- No common European standard
- Sweden: SEN 860212 (Hinged protection doors for medical X-ray installations)
September 1973



Disposal of Tc-99m cores (Jan 10)

- Historical problem
- Lead shielding recycled
- Approx 7600 cores held in hospitals - fission product (40%), neutron activation (60%)
- No national waste storage facility



Disposal of Tc-99m cores

- Responses from 9 members
- Spent generators are returned to supplier/manufacturer
- Spain: where generators are stripped, cores can go to ENRESA
- Slovenia: decay storage to clearance levels, lead & labels removed and cores sent to landfill. 1/7 nuclear medicine facility returning to supplier



Dose Constraints

- Protection of workers
- Protection of the environment
- Protection of the patient
- Protection of comforters & carers



Dose Constraints

- “A restriction on the **prospective** doses to individuals which may result from a defined source, for use at the **planning stage** in radiation protection whenever optimization is involved”

BSS 96/29



Dose Constraints

- “A **prospective** and source-related restriction on the individual dose from a source, which provides a basic level of protection for the most highly exposed individuals from a source, and serves as an **upper bound** on the dose in optimisation of protection for that source. For occupational exposures, the dose constraint is a value of **individual dose** used to limit the range of options considered in the process of optimisation”

ICRP Publ.103



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Dose Constraints

- “A constraint set as a **prospective** upper bound of **individual dose** used to define the range of options considered in the process of optimisation related to a given radiation source”

BSS RECAST (draft)



Article 6 (BSS RECAST)

- For occupational exposures, the dose constraint shall be an upper bound on the individual dose to define the range of protection options considered in the process of optimisation, to be established as an **operational tool** in cooperation between the **employer** and the **undertaking** under supervision of the **competent authorities**
- In general, dose constraints shall be established in terms of individual effective dose over a year or any other appropriate shorter time period



NEA (CRPPH)

- Expert Group on Occupational Exposure (EGOE)
- Case study 1: Occupational radiation protection principles and criteria for designing new nuclear power plants
- Case study 2: ICRP implementations – focus on “dose constraints”
- ERPAN requested to survey European non-nuclear sector



Initial Survey (May 09)

- Is the concept of dose constraint used in your country?
- If so, what is it called (e.g. individual dose constraint, individual dose restriction, dose objective etc)?
- Does it have any legal basis?
- Who/what is it aimed at (e.g. workers, public, environment etc)?
- What values are used?
- At what stage is it used (e.g. design phase, operational phase etc)?
- Any other information that might be of use



Initial Survey

- 10 members replied
- “Dose constraint” recognised term - 7/10
- Appears in legislation - 7/10
- Aimed at workers (6/10), public (7/10), patients (4/10), environment (3/10)
- No set values (7/10)
- Used at planning stages (5/10)



Follow-up survey (Apr 10)

- Which countries use them?
- Who sets them?
- Who are they aimed at?
- Source/site or task related?
- When are they used?
- Are they enforced? How?
- Are they misused?
- Consequences (higher collective doses, costs)?
- Dose targets/investigation levels??
- Do they work?



Follow-up Survey

- More focussed – occupational exposure
- 5 responses/promises to date
-rest of the responses are being put together???????????

