The UK National Radon Action Plan

From Directive to Publication

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Radon in the UK

Breakdown of the average UK radiation dose in 2010 by source of exposure

- 48% radioactive radon gas from the ground
- 16% medical radiation
- 13% terrestrial gamma radiation
- 12% cosmic radiation
- 11% intakes of radionuclides excluding radon

0.2% nuclear weapons fallout
0.02% occupational radiation exposure
0.01% radioactive discharges

2.7 mSv average UK radiation dose in 2010
• Identified as issue late 1970’s
• First advice issued mid 1980’s
• Key concepts of “Action Level” and “Affected Area” in place since 1990
• Radon in building regulations
• Database of measurements (~600,000 homes)
• Risk mapping includes geology
• UKradon.org 10,000 visits/week
Radon in the UK

Public Health England

Radon levels measured by PHE in UK dwellings

- Number of Properties
- Radon concentration (Bq m\(^{-3}\))
EU Basic Safety Standards (BSS)

Protection against dangers from exposure to ionising radiation.

Most of BSS concerns man-made sources of radiation.

Replaces 1996 EC BSS and 1990 EC recommendations

Scope extended to include naturally occurring radionuclides (radon) in homes as well as workplaces
Implementing EU-BSS in UK

• Much of EU-BSS has been implemented through update or consolidation of existing legislation

• PHE has been supporting UK government departments to transpose the various requirements into UK law

• Relevant radon specific items (Articles 7, 74, 103) were included in a “Statutory Instrument” to ensure regulatory transposition of items where “Member States shall…”
Implementing EU-BSS in UK

- Ionising Radiation (Basic Safety Standards) (Miscellaneous Provisions) Regulations 2018
- SI 2018 / 482
- Regulation 10
- “The Secretary of State must establish a national plan addressing long-term health risks from any source of radon ingress…”
Developing the UK radon plan

• Core group of key national government departments and bodies prepared draft National Radon Action Plan (NRAP) Departments of Health, Local Government; Health and Safety Executive; Environment Agency; Drinking Water Inspectorate, Scotland; Wales; Northern Ireland

• Agreed overall process of development, consultation and implementation of a UK NRAP

• Gap analysis to identify elements already in place and potential areas for new action

• Input from professionals through industry day

• Prepared draft plan for public consultation

• Public consultation on gov.uk
## Gap analysis - radon general

<table>
<thead>
<tr>
<th>Item</th>
<th>UK position</th>
</tr>
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<tbody>
<tr>
<td>Art 103.1 “…establish a national action plan for radon in homes, public access buildings, workplaces…considering items in Annex XVIII”</td>
<td>UK has prepared a Plan to demonstrate that UK has a system to address radon and meets various EU-BSS radon requirements</td>
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<td>Art 103.2 “…ensure measures to prevent radon in new buildings…”</td>
<td>Each part of UK has radon included in building regulation and supporting arrangements.</td>
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<td>Art 103.3 “…identify areas where radon concentration in significant number of buildings is expected to exceed reference level…”</td>
<td>UK has already identified “radon affected areas”, where at least 1% of homes expected to exceed the Action Level</td>
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## Gap analysis - radon in homes

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<tr>
<td><strong>Art 74.1</strong> “…establish reference levels…not higher than 300 Bq m(^{-3}).”</td>
<td>UK Action Level of 200 Bq m(^{-3}) since 1990.</td>
</tr>
<tr>
<td><strong>Art 74.2</strong> “…promote action to identify dwellings… exceeding the reference level…encourage remediation…”</td>
<td>UK has UKradon website, Housing Health and Safety Rating System, PHE targeted programmes, radon in most housing conveyance</td>
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<tr>
<td><strong>Art 74.3</strong> “…provide local and national information on radon risks …importance of measuring…means of reducing radon…”</td>
<td>UK has various radon websites including: Gov.uk, Ukradon.org, Health and Safety Executive, Building Research Establishment, British Geological Survey, industry groups (Radon Council, UK Radon Association), local authorities with guidance on range of topics</td>
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Annex 18 (XVIII): items that are “to be considered” in the national plan

- Planning items
  - Assignment of responsibilities
  - Strategy for surveys to establish radon distribution
  - Approach for identifying high radon areas
  - Basis for setting national reference levels
  - Strategy for preventing radon in new buildings
  - Guidance on methods of measurement and remediation
Annex 18 (XVIII) : items that are "to be considered" in the national plan

- Implementation items
  - Strategy for reducing radon exposure in homes
  - Strategy for remedial action (reducing indoor levels)
  - Strategy for communications to increase awareness and inform local decision makers, employers etc
  - Provision of financial support for radon surveys and homes with very high radon levels
  - Consideration of interaction with other issues (eg energy saving)
The UK radon plan - elements

- Outline of UK radon exposure – sources, distribution, exposure levels
- National strategy – overall approach to addressing radon in homes and workplaces through legislation, guidance, services, support etc
- Existing arrangements and provisions for radon
  - Formal guidance (eg reference levels, risk areas)
  - Regulations and guidance
    - radon in the workplace
    - protecting new buildings
    - radon in water and building materials
  - Communicating radon
  - Developing the evidence base on radon
The UK radon plan - elements

• Forward plan…
• …maintain and develop existing arrangements
• …address gaps
  • update national survey,
  • extend measurement validation scheme to workplaces,
  • consider remediation accreditation scheme,
  • review radon exhalation from building materials
• …review and update arrangements for plan itself
Consulting on the UK radon plan

- PHE process – legal and approval procedures - on gov.uk
- “What is missing or wrong?”
- Invitation to over 600 by email
- Professional groups
  - Society for Radiological Protection;
  - HSE Community of Interest;
  - industry groups.

50 responses 20 full responses 200 specific points
NRAP next steps

• Draft NRAP published and consultation period has finished
• Analyse comments and prepare responses. Where appropriate propose changes to draft NRAP
• Review and agreement by the Core Group
• Publish summary of comments received and responses
• Prepare final version of NRAP and publish on www.gov.uk
• Maintain annual overview of actions through cross-government group and established forums (eg annual UK Radon Forum event)
• Plan for first full NRAP review in ~2023
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