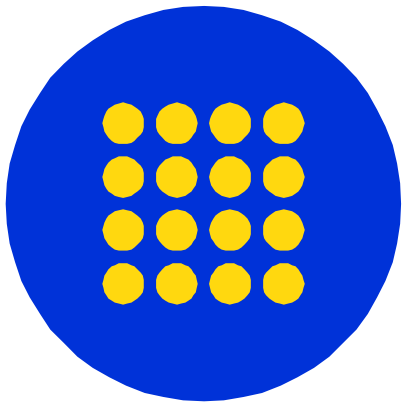

BNFL

National Good Practice Guide: Airborne Radioactive Particulate in the Workplace

Max Pottinger
BNFL Instruments

History to Date

- Meeting Feb 2003
  - Scope the document
  - Broad Test Categories
- First WG Draft May 2003
  - Attempt to add test details
  - Some appendix details
  - Comment by July 2003
- Meeting Sep 2003
  - Review of WG Comments
  - Significant changes made
  - Discussion ongoing

Revised Timescale

- Issue 2nd WD Feb 2004
- WG Meeting March 2004
  - Discuss remaining issues in WG
- Issue 3rd WD Sep 2004
- WG Meeting Sep 2004
  - Final Meeting before consultation Draft
  - Consultation draft Nov 2004
- Final Publication 2005

Types of Equipment

- Airborne Particulate Monitors
  - Normally some alpha spectrometry
- Airborne Particulate samplers
  - Dust samplers
- Laboratory Counting Equipment

Typical Tests

- Flow Rate (Accuracy) Calibration
- Flow Rate Leakage
- Detection Efficiency
  - Take account of source construction
- Energy Response
- Linearity - Activity
- Gamma compensation
- High Activity Source
- Alarm checks

Source Construction

- Anisotropy
  - Non-uniform emissions from surface
- Source Size
  - Source smaller than detector
  - Holes for air flow
- Source/detector Geometry
  - distance and area effects
- Self Absorption
  - Depends on Monitor or Lan counter
  - Sub-Group to Review