

**International Radiation Protection Association
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IRPA 12

Concluding Plenary Session III

OTHER APPLICATIONS AND PRACTICES

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TOPICS

- RP in Transport of Radioactive Materials
- Industrial, Research Applications and Security Screening
- Radon and the Public
- RP in Flights and Space

Related Refresher Courses

- RC-15 Radon Monitoring and Control of Radon Exposure.
- RC-19 Safe Transport of Radioactive Materials, Security in the transport of Radioactive Materials.
- RC-20 Protection in Industrial Applications of Radioactive Sources. Prevention of Accidents in Gammagraphy.

TRANSPORT

- 17 papers presented
- Mainly dealing with:
 - Design, risk assessment and manufacturing of packages
 - Transport of spent fuel
 - Dose assessment in medical isotopes deliveries
 - Package activity content verification by measurement
 - RPP and Management System for regulatory activities
 - Denails and delays

Industrial, Research Applications and Security Screening

- 31 papers
- Wide range of applications
 - Sampling and measurements
 - Operational protection
 - Detection systems
 - Improving imaging
 - Licensing issues
 - Security screening

Radon and the Public

- 47 papers were presented
- Measurement and dose assessment in,
 - Air, soil and water
 - Dwellings
 - Caves and spas
- Measurement technics
- Regulatory aspects, reference levels

RADON

- WHO International Radon Project
- To reduce the population disease burden due to radon in homes.
 - Involved participation of more than 30 countries
 - Awareness, risk communication
 - Measurement, cost and effectiveness of control, and remediation
 - Proposed reference level $< 400 \text{ Bq/m}^3$

RADON, cont

- Works related to Rn remediation programme in Northampton, UK:
 - Remediation cost related to action level value
 - Factors affecting cost effectiveness and health benefits of remediation programs
 - Suitability of short term measurements
 - Seasonal correction factors
 - Remediation of a two story dwelling
 - Impact of smoking cessation programmes in reducing Rn induced lung cancer

RP in Flights and Space

9 papers presented

- Dose measurements to crews in commercial airlines
- Study of biological indicators for assessing risk in air crews
- Programme for calculating dose for given flight routes for personal use.
- Presentation from the International Federation of Airline Pilots, IFALPA, considering protection of health from radiation.
 - Optimization measures
 - Concern on new composite material being employed in aircraft manufacture



RP in Flights and Space, cont

- Space dosimetry and radiation science
- Operational RP for astronauts
- Protection in prolonged space mission
- On board measurement in the International Space Station with Pille TLD dosimeter

CONCLUSIONS

- Transport:
 - TS-R-1 Globally accepted, evidence that risk from transport operations are small, but
 - Increasing denials from carriers is a main issue of concern.
 - Need to revert the situation in part caused by fears and may even be by the low economic significance to the carrier

CONCLUSIONS

- Radon and the Public:
 - Much progress in measurement and assessment of Rn
 - Strengthen actions for awareness and risk communication.
 - Efficiency of remedial actions seem to be very low yet.

CONCLUSIONS

- Industrial, Research Applications and Security Screening
 - Screening for security reasons that may involve exposure of persons is an encreasing activity that seems to be in many cases ahead of regulatory response for adequate protection

CONCLUSIONS

- Space missions
 - Radiation environment in space and biological consequences compared to current exposure of workers may require to implement a specific RP framework

THANK YOU

