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Washington Division

Washington TRU Solutions

Robert B. Hayes, Ph.D., CHP, PE
Principal Engineer
WIPP Site, MS 486-05, PO Box 2078
Carlsbad, NM 88221
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DRAFT Standard N42.50 - Performance Specifications for Instrumentation Systems Designed to Measure Radon Progeny in Air, Revision 6

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- 1 SCOPE
- 2 OVERVIEW
- 3 NORMATIVE REFERENCES
- 4 DEFINITIONS & ACRONYMS
- 5 UNITS & CONVERSIONS
- 6 CLASSIFICATION OF INSTRUMENT SYSTEMS

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- 7 PERFORMANCE AND TESTING
- 7.1 Attached and Unattached fraction
- 7.2 Radiation Response to Radon Progeny
- 7.3 Sampling System Design
- 7.4 Electronic Criteria
- 7.5 Interfering Responses
- 7.6 Mechanical Criteria
- 7.7 Environmental Criteria
- 7.8 Calibration and Maintenance

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- 8 CLASS SPECIFIC PERFORMANCE & TESTING CRITERIA
- 8.1 Grab Sampling Instruments
- 8.2 Continuously Sampling Instruments
- 8.3 Integrating Sampling Instruments
- 9 DOCUMENTATION
- 9.1 Type test report
- 9.2 Certificate
- 9.3 Manuals and Procedures
- 9.4 Records

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- 10 BIBLIOGRAPHY
- 11 ANNEXES
- 11.1 Radon and Radon Progeny Equilibrium
- 11.2 Aerosol Sampling Considerations
- 11.3 Filter Selection
- 11.4 Radon Decay Chain
- 11.5 Life Cycle Approach to Instrument Tests and Test Requirements
- 11.6 Radiation Response – Radon Progeny as Interfering Radionuclides

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- Minimum requirement to think about difficult points and document results of evaluation.
- Most testing is straightforward
- Algorithm issues are addressed in Annex where a survey of issues which could be problematic are described.
- Effects from radon progeny as an interferent are addressed.
- No requirements are given on characterizing or using specified AMAD values for a progeny distribution in testing are given outside of stating they should follow typical operational conditions and allow the user to define this in a technical basis document.
- Latest changes were no more than word smithing and editorial

Conclusion

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- Standard should probably be submitted for external review in its present format.

- Standard working group actively involved in the majority of this final version include;

  Tom Kendrick, Robert Hayes, Morgan Cox, Tom Voss, David Baltz and special thanks to Phillip Jenkins