

ANSI N42, N13 AND IEC STANDARDS
FOR RADIOACTIVE AIR MONITORING

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AIR MONITORING USERS GROUP MEETING
LAS VEGAS
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ANSI N42 STANDARDS

- THERE ARE TWO APPLICABLE ANSI N42 STANDARDS:
- ANSI N42.17B-1989 RADIATION PROTECTION INSTRUMENTATION: PERFORMANCE SPECIFICATIONS FOR HEALTH PHYSICS INSTRUMENTS- OCCUPATIONAL AIRBORNE RADIOACTIVITY MEASURING INSTRUMENTS; THIS STANDARD IS BADLY IN NEED OF UPDATING AND REVISION; SUGGEST A COMMITTEE SIMILAR TO THAT JUST FINISHING ANSI N323C COMING UP NEXT.



ANSI N42 STANDARDS

- ANSI N323 C-2006/7 RADIATION PROTECTION INSTRUMENTATION: TEST AND CALIBRATION-AIR SAMPLING AND MONITORING INSTRUMENTS; COCHAIRS ARE MARK HOOVER, NIOSH, AND MICHELLE JOHNSON, PNL; DRAFT SIXTEEN IS IN THE HANDS OF N42 FOR REVIEW, COMMENT AND BALLOTING; I HAVE RESOLVED THE TWENTY OR SO COMMENTS THAT HAVE COME FROM ANSI N42.RPI REPRESENTATIVES. PUBLICATION EXPECTED LATER IN 2007.



ANSI N42 STANDARDS

- ANSI N42.30-2001 RADIATION PROTECTION INSTRUMENTATION- PERFORMANCE CRITERIA FOR TRITIUM MONITORING SYSTEMS; CHAIR WAS PETER CHIARO, ORNL; THIS STANDARD WAS DEVELOPED BY THE TRITIUM FOCUS GROUP WITH MEMBERS FROM THE USA AND CANADA OVER A SEVERAL YEAR PERIOD; THIS WAS DONE IN CONJUNCTION WITH THE ACQUISITION OF A NEW GENERATION OF TRITIUM MONITORS AT SAVANNAH RIVER NL. NEEDS TO BE REVISITED SOON BY THE FIVE YEAR RULE.



ANSI N42 STANDARDS

- THE UNITED STATES WILL FINALLY DEVELOP STANDARDS FOR DETECTING AND MEASURING RADON AND RADON PROGENY. THE DESIGNATIONS FOR THESE STANDARDS WILL BE ANSI N42.50 OR LATER. THE CHAIRS ARE TOM KENDRICK OF LANL AND PHIL JENKINS, WHO HAVE CHOSEN THE WRITING COMMITTEES WITH CROSS-SECTIONS OF EXPERTS FROM THE USDOE, USEPA, SOME USERS, OTHER EXPERTS AND THE MANUFACTURERS. THE IEC STANDARDS, IEC 61577, IN FOUR PARTS, AND IEC 61578 WILL SERVE AS A MODELS AND REFERENCES. BOTH NEW STANDARDS WILL BE ADDRESSED HERE.



ANSI N13 STANDARDS

- THERE ARE TWO ANSI N13 STANDARDS OF NOTE;
- ANSI N13.1-1999 DEALING WITH SAMPLING EFFLUENTS FROM STACKS AND DUCTS; THIS WORK SHOULD SOON BE REVISITED AND UPDATED. JOHN GLISSMEYER (PNL) WAS CHAIR.
- ANSI N13.56 FOR SAMPLING TECHNOLOGY IS BEING DEVELOPED FOR WORKPLACE APPLICATIONS; JEFF WHICKER (LANL) IS CHAIR.
- JEFF IS PART OF THE PROGRAM HERE.



IEC STANDARDS

- THE MAJOR IEC STANDARD FOR AIR SAMPLING AND MONITORING IS IEC-60761-2002 IN FIVE PARTS:
- 60761-1 COVERS GENERAL REQUIREMENTS;
- 60761-2 COVERS SPECIFIC REQUIREMENTS INCLUDING MONITORING TRANSURANICS;
- 60761-3 COVERS NOBLE GAS MONITORING;
- 60761-4 COVERS MONITORING IODINES; AND
- 60761-5 COVERS MONITORING TRITIUM.



IEC STANDARDS

- IEC 60761-2002 IS REALLY A REVISION OF AN EARLIER STANDARD PUBLISHED IN THE 1980S & 1990S; THIS REVISION IS TRIBUTE TO THE EFFORTS OF SOME 12 EXPERTS FROM SEVEN COUNTRIES FROM 1996 TO PUBLICATION IN 2002; THE RADIOIODINE MONITORING WAS THE MOST DIFFICULT BECAUSE OF THE MULTIPLE NATURE OF RADIOIODINE. WG B-5 DID THIS WORK. US REPRESENTATIVES WERE MARK HOOVER, CHUAN FU WU AND MYSELF.
- UNFORTUNATELY THIS COMPREHENSIVE STANDARD ONLY COVERS MONITORING EFFLUENTS.



IEC STANDARDS

- REALIZING THE LIMITATIONS OF 60761 A NEW STRATEGY WAS DEVELOPED IN 2001:
- IEC-62302 FDIS COVERING THE MONITORING OF NOBLE GASES IN THE WORKPLACE, EFFLUENTS AND IN THE ENVIRONMENT WAS INITIATED IN 2002. M COX IS CHAIR AND WE EXPECT TO PUBLISH THIS WORK IN 2007. INCLUDES MONITORING UNDER EMERGENCY CONDITIONS.
- IEC-62303 COVERING THE MONITORING OF TRITIUM IN THE WORKPLACE, EFFLUENTS AND IN THE ENVIRONMENT WAS ALSO INITIATED IN 2002; THE NEW CHAIR IS ALFRED KLETT (DE). I ADVISE. WE ALSO EXPECT TO PUBLISH IN 2007.



IEC STANDARDS

- THERE ARE NEEDS FOR TWO MORE STANDARDS IN THE 62XYZ SERIES FOR MONITORING FIRST PARTICULATES IN THE WORKPLACE, EFFLUENTS, IN THE ENVIRONMENT AND UNDER EMERGENCY CONDITIONS, AND ALSO RADIOIODINES UNDER ALL POSSIBLE CONDITIONS. TOM VOSS IS CHAIRING THE PARTICULATE STANDARD. ANY VOLUNTEERS FOR THE IODINE STANDARD?
- THESE ARE VERY IMPORTANT STANDARDS BECAUSE THEY COVER THE RANGE OF PARTICULATES FROM MIXED FISSION PRODUCTS, MIXED ACTIVATION PRODUCTS AND TRANSURANICS, AND THE RADIOIODINES IN ALL POSSIBLE LOCATIONS AND CONDITIONS.



IEC STANDARDS

- IEC 60951 COVERING REACTOR EMERGENCY MONITORING (1988-1992)
- THIS IMPORTANT STANDARD IS CURRENTLY BEING REVISED FOR REACTOR ACCIDENT AND POST ACCIDENT MONITORING CHAIRED BY GARY JOHNSON OF LLNL.
- THE STANDARD WAS PUBLISHED IN FIVE PARTS.
- THE ANSI ANALOG TO IEC 60951 IS ANSI N320 ON THIS PROGRAM.



IEC STANDARDS

- IEC 60951 PART 1 (1988) RADIATION MONITORING EQUIPMENT FOR ACCIDENT AND POST ACCIDENT CONDITIONS- GENERAL REQUIREMENTS.
IEC 60951 PART 2 (1988) RAD MON EQUIPMENT FOR CONTINUOUSLY MONITORING NOBLE GASES IN GASEOUS EFFLUENTS.
IEC 60951 PART 3 (1989) RAD MON EQUIPMENT FOR HIGH RANGE GAMMA MONITORING.
IEC 60951 PART 4 (1991) RAD MON EQUIPMENT FOR PROCESS STEAM MONITORING.
IEC 60951 PART 5 (1992) RAD MON EQUIPMENT FOR RADIOACTIVITY IN AIR.

