Meeting Log

Subject: ASTM D22.05 Workshop on Performance of Sensors for Carbon Monoxide Detectors

Meeting Date: April 16, 1996

Place of Meeting: Omni Rosen Hotel, Orlando, Florida

Date of Entry: April 22, 1996

Source of entry: Tim Johnson, ESEE

Commission Attendees:

Tim Johnson, ESEE

Non-Commission Attendees:

Hal Levin, Hal Levin & Associates
John Saffell, Neotronics
Andy Persily, NIST
Susan Womble, EPA
Chuck Gardner, Bacharach, Inc.
Nick Bellavia, BRK/First Alert
Paul Patty, UL
Joe Peveity, Holcomb Eng.
Miles Browner, Lowe's Companies, Inc.
Noriyuki Ogasawara, FIS Inc.
Ted A. Williams, GRI
William J. Woodfin, NIOSH
Shawn Pucher, Quantum Group, Inc.
Mark Goldstein, Quantum Group, Inc.
Bill Epstein, Quantum Group
Max Carcas, AIM Safety Products
Steve deJarey, AIM Safety Products
Steve Hays, Gobbell Hays Partners
Mr. Zang, National Research Council
Richard Roth, Amway Corporation
J.D. Almeida, American Sensors, Inc.
E. Barns Burroughs, Consulting Firm
Bruce Weir, Systems Applications
Niren Nagda, Energen Consulting
Kazumi Unno, Figaro USA, Inc.
Bill Groah, Hard. Pay & Ven Assoc
Peter McGeehin, Capteur Sensors
Mr Perera IAS-U.S.
Mr. Chang, Motorola SPS
Paul Clifford, Mosaic Industries Inc.
Alex Spataru, The Adept Group, Inc.
Nobuaki Murakami, Murakami Research Services

Summary of Meeting:

The workshop was sponsored by ASTM Subcommittee D22.05 on Indoor Air. At the meeting there were presentations by a number of CO sensor manufacturers about the current performance of CO sensors. This was followed by a panel that presented information on the need for performance standardization. Finally a discussion involving all workshop attendees wrapped up the day. The discussion centered around the need for a separate CO sensor standard and about what issues a potential new sensor standard should address.

Discussion:

The first presentation was made by Paul Patty, UL. Mr Patty presented information on the UL standard for CO detectors - UL 2034.

Next came a presentation by John Saffell, Neotronics, about International Standards for CO detectors. Mainly Mr Saffell explained British Standard 7860 (BS 7860) and compared it to UL 2034. BS 7860 was published in March 1996. A copy of Mr Saffell's comparison of the standards is available from this writer.

The next panel was comprised of seven CO sensor and/or detector manufacturers. The purpose of the presentations was to present information to workshop attendees about the performance of CO sensors that utilize the main sensing technologies - biomimetic (colormetric) , Metal Oxide Semiconductor (MOS), electrochemical, and non dispersive infra red (NDIR). Several manufactuers passed out technical information that is available from this writer.

The final panel consisted of CPSC, EPA, and the Gas Research Institute (GRI). Each presented information dealing with the need for performance standardization for CO sensors.

Finally, a discussion was held by all workshop participants. The general sense of the workshop participants was that the idea of a CO sensor standard was one that was worth going forward with. Comments made include:
- CO sensor standard needs to be focused on residential applications
- Can the sensor really be separated from the detector as a whole (Jake Wong)
- A test fixture used to test the sensor would be an analog of the detector itself (Mark Goldstein)
- Manufacturers electronics/test fixtures could be used to characterize the sensor (Nick Bellavia)
- The test fixtures used by sensor manufacturers would be specific to each manufacturer. Each would build their own in order to meet ASTM standard (Andy Persily)
- Situation could occur that a specific manf. could make a test fixture with temp compensation, pass ASTM standard, but then the sensor could be used in a detector without temp compensation - potential problem (AIM)
- Related to the above point, a sensor manf. could be made to specify whether temperature compensation should be used or not
- Some ASTM standards are more accepted worldwide than UL standards (John Saffell, Peter McGeehin)
- Any standard that comes out of ASTM could go to ISO (Hal Levin)
- Participants from all over the world should be brought in right away , so that the standard need not be harmonized in the future with possible CO sensor standards adopted in other countries (Mark Goldstein)

The final consensus was that the standard should a) be complimentary to any existing

standards, i.e. UL 2034, b) Be useful for industry and society as a whole and c) result in a test methodology where sensors can be compared with other technologies, manufacturers etc in a fair manner