RETA Ohio General Meeting Minutes

February 7, 2013

6:00pm – 8:00pm

In Attendance:
Jeff Sutton
Darrel Young
Kris Lippencott
Chad Rader
Tim Burton

Meeting convened at 6:00pm.

Location: Sutton and Associates Conference Room

Topic: NH_3 Sensor Calibration

Speaker: Marc Zodey – Drager Instruments

Meeting Notes:

Types of Sensors

- LEL sensors – always fail blind, no indication sensor is no longer responsive to test gas.

    "Sensor chemicals decompose and no longer reacts to ammonia vapor:

- IR sensors
    - high initial cost
    - low maintenance cost due to no sensor cells to replace
- Catalytic bead
    - One sensor reads many combustible gasses
    - Long life
    - Subject to "poisoning"
    - Can fail blind, no indication sensor is no longer responsive to test gas
    - Best for relief vent sensors

- Electro chemical

The unit constantly consumes the electrolyte during normal operation. Each manufacturer builds sensor with a set amount of electrolyte – the more, the better.

- Gas specific
- Temperature compensated
- Fast response time
- Sometimes dirty filters cause slow reaction time

Drager Specific Note:

When zero-cal electro chemical cells use **zero air** due to electro chemical cells are susceptible to CO_2. Never use atmosphere to zero calibrate electrochemical cells.

Drager Specific Note:

After span the display sometimes drops to -10ppm (below zero ppm) and takes 5-15 minutes to slowly return to 0ppm, this is normal.

NH_3 is "sticky" and can stick to inside of Teflon tubing, leading to miscalibrations.

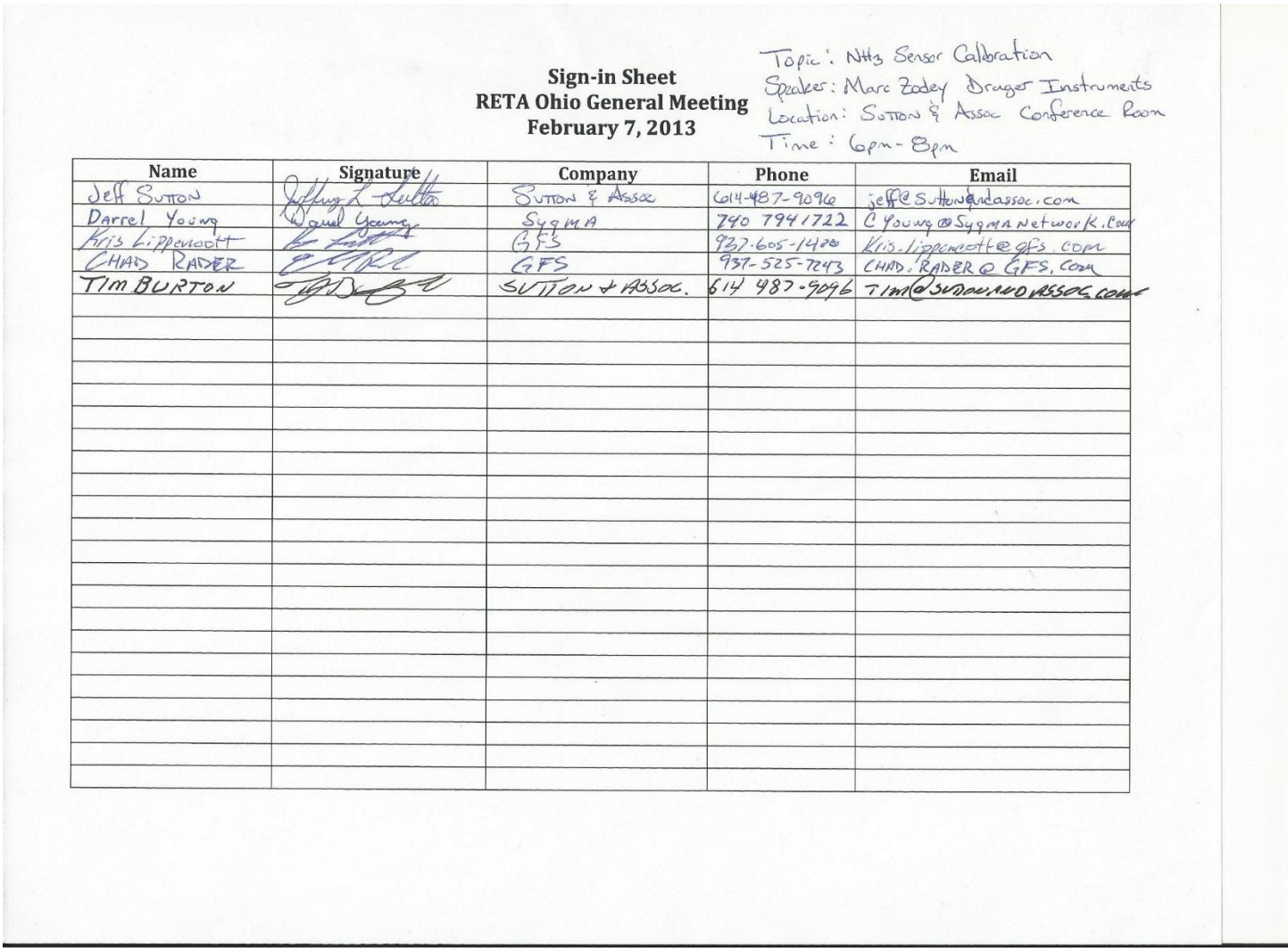
- Teflon tubing preferred
- Viton tubing acceptable

Condensation and tubing materials can absorb NH3 quickly preventing full strength span gas from reaching the sensor.

How to Calibrate Demostration

Polytron 7000 with HC NH_3 sensor cell

- Found vitality is 0 Display -10ppm
- Apply nitrogen for 100 seconds
- Apply 50ppm NH3 for 100 seconds
- Allow display to settle to 0ppm
- Left display 0ppm, 58 vitality



Sign-in Sheet
RETA Ohio General Meeting
February 7, 2013

Topic: NH3 Sensor Calibration
Speaker: Marc Zadey Drager Instruments
Location: Sutton & Assoc Conference Room
Time: 6pm - 8pm

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