

**U.S. Consumer Product Safety Commission
LOG OF MEETING**

SUBJECT: International Conference & Workshop Current Practices In Emergency Response: Carbon Monoxide Poisoning

DATE OF MEETING: September 26, 2018

LOG ENTRY SOURCE: Arthur Lee, ESEF

DATE OF LOG ENTRY: October 1, 2018

LOCATION: SBM Fire Department #3, 11920 Ulysses Street, Blaine, MN, USA

CPSC ATTENDEE(S): Arthur Lee, Directorate for Engineering Sciences (ES)

NON-CPSC ATTENDEE(S): Open to the public

SUMMARY OF MEETING:

Attended conference/workshop (see attached program). Staff presented on the topic, *National Smoke Alarm and CO Alarm Survey*. See attached presentation.

No follow-up schedules or needed.

International Conference & Workshop

Current Practices In Emergency Response: Carbon Monoxide Poisoning

SBM Fire Department #3, 11920 Ulysses Street, Blaine, MN, USA
26th – 27th SEPTEMBER 2018

Day 1

26th September 2018

08.00 – 08.30	Coffee and Registration
08.30 – 09.30	Overview of the Day Welcome (10 mins) <ul style="list-style-type: none"> Welcome and facilities 'drill' – Charlie Smith, SBM Fire Chief, MN (5 mins) Mayor's Welcome – Tom Ryan, Mayor of Blaine, MN (5 mins) Setting the scene (50 mins) <ul style="list-style-type: none"> A Dedication to Sam – WCCO TV (10 mins) The Value of Prevention – Jim Crawford, Vision 20/20 (20 mins) Introduction to GST & ICORN – Adrian McConnell, Gas Safety Trust, UK (10 mins) CO 101 – Isabella Myers, ICORN, UK (10 mins)
09.30 – 10.50	Session 1: Legislation, Regulations and Standards Chair: Srikanth Mangalam Panel Chair: Leigh Greenham <ul style="list-style-type: none"> CO Legislation in Minnesota: An Overview – Jim Smith, State Fire Marshall's Office, MN (15 mins) Environmental Tracking at State level – Kathy Raleigh, MN Dept Health, MN (15 min) Carbon Monoxide and Nitrogen Dioxide in Ice and Motor Sports Arenas – Dan Tranter, MDH (15 mins) New Codes for CO Detectors – Dr Lee, CPSC, US (15 min)
	Role of Standards Panel Discussion / Q&A Session (20 mins)
10.50 – 11.10	Coffee

11.10 – 12.55	Session 2: Carbon Monoxide Good Practice Chair: Isabella Myers Panel Chair: Srikanth Mangalam <ul style="list-style-type: none"> Carbon Monoxide National Monitoring Study Report Launch – Andy Shaw, LJMU, UK (20 mins) Sharing recent UK research into CO incidents aboard small boats – Leigh Greenham, CoGDEM, UK (20 mins) Case study: Merseyside FRS approach to CO Prevention – Mark Jones, Merseyside Fire and Rescue Service, UK (15 mins) Home Safety Visits in SBM FD – Becky Booker (MN) (15 mins) Community Engagement and CO– Simon Chapman, retired Merseyside Fire and Rescue Service, UK (15 mins)
	Carbon Monoxide Good Practice Panel Discussion / Q&A Session (20 mins)
12.55 – 13.45	Lunch
13.45 – 15.25	Session 3: Emergency Medicine and Treatments Chair: Dr Simon Clarke Panel Chair: Isabella Myers <ul style="list-style-type: none"> Kirk Hughes, Poison Control Center, MN (20 mins) Dr Simon Clarke, UK (15 mins) Dr Ardis Olson, Vermont/NH CO Alliance, NH (15 mins) Dr Christopher Logue, Hennepin County Medical Center/Hyperbaric Chamber, MN (15 mins) Neuropsychological Impact of Chronic Low-level Carbon monoxide Exposure in Older Adults – Beth Cheshire, University of Lancaster, UK (15 mins)
	Emergency Medicine and Treatment Panel Discussion / Q&A Session (20 mins)
15.25 – 15.45	Coffee
15.45 – 17.10	Session 4: Emergency Services Chair: Becky Booker Panel Chair: Charlie Smith, SBM Fire Chief <ul style="list-style-type: none"> Police Response to CO – Brian Podany, Chief Blaine Police, MN (20 mins) Fire Response to CO – Chief Charlie Smith, SBD FD, MN (15 mins) Joseph Thomas, Maine State Fire Marshall, ME (15 mins) Dr Andrew Stevens, Allina EMS, MN (15 mins)
	Emergency Services Panel discussion / Q&A Session (20 mins)
17.10 – 17.30	Summing up the Day, Information for Day 2 and Close – Isabella Myers

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Day 2 27th September 2018

08.15 – 08.30	Coffee
08.30 – 08.50	Introduction to the Workshops (20 mins)
08.50 – 09.30	Workshop 1 – Preventing CO poisoning (40 mins) Chair: Isabella Myers Scribe: Maddison Zikmund
09.30 – 10.00	Industry Presentations <ul style="list-style-type: none"> • GasTag (10 mins) • Blackline Safety (10 mins) • CenterPoint Energy (10 mins)
10.00 – 10.10	Tools, Technology & Innovation – Leigh Greenham, UK (10 mins)
10.10 – 10.25	Coffee
10.25 – 11.05	Workshop 2 – Poisoning, Treatment & Pathways (40 mins) Chair: Isabella Myers Scribe: Maddison Zikmund
11.05 – 11.20	Coffee
11.20 – 12.00	Workshop 3 – Behaviours (40 mins) Chair: Isabella Myers Scribe: Maddison Zikmund
12.00 – 12.20	Feedback from Workshops and Discussion (20 mins)
12.20 – 12.30	Summing Up & Closing Remarks, Srikanth Mangalam, CAN (10 mins)
12.30 – 13.30	Lunch and Networking – Conference Close
14.00	Tour of Hyperbaric Chamber (Transportation provided)



National Smoke Alarm and CO Alarm Survey

ARTHUR LEE

U.S. CONSUMER PRODUCT SAFETY
COMMISSION, BETHESDA, MD

*The views expressed in this presentation are those of the CPSC
staff and have not been reviewed or approved by, and may not
necessarily reflect the views of, the Commission.*

Overall Project Details



- Project launched in FY 2016
- Anticipate 1,150 homes to be surveyed
- Funding sponsors CPSC, USFA, NFPA, NEMA, NAHB and NIST
- Contractor EurekaFacts (Rockville, MD)
- Main survey late 2018 into early 2019
- Initial findings late 2019
- Report in 2020



Project Objective

National Survey to get snapshot of consumer use, functionality, and perception of smoke and CO alarms

- Provide accurate information to industry and building code developers about current state of alarm coverage to determine changes needed.
- Provide life safety educators/advocates with information for messaging/prevention programs.

I will focus today's presentation on the CO survey elements of the survey.



Background

No current national information on CO alarm use in the United States.

The year 1992 is the only prior national in-home survey conducted by CPSC (Smoke Detector Operability Survey Report on Findings (revised) October 1994). Only smoke alarms use and functionality were surveyed.

Why In-Home Surveys?

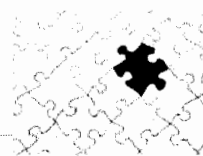


The recent studies of smoke alarm or CO-alarm presence have generally relied on self-reports (via telephone or Internet) or have been part of programs targeting high-risk populations.

Phone surveys can have a higher degree of error because survey respondents may provide the interviewer with what they believe is the most socially appropriate response or guess at an answer.

Home visits by trained data collectors with inspection and testing provide much better quality data.

New Information to Be Collected



Location of each CO alarm in the home

Rooms in homes being used as sleeping areas that do not have CO alarms

Occupancy information and its relationship to the presence and operational aspects of smoke and CO alarms

- Type of CO alarms
- Age of CO alarms
- Functionality of the CO alarms
- Cause for failed CO alarms

Occupants in the Home



- How many people live or stay in your household?
- Ages of each individual?
- Level of education?
- Ethnicity, including Hispanic or Latino origin or descent?
- Deaf or hard of hearing?
- Physical, mental, or other health condition?
- Smoke cigarettes, cigars, or pipes?
- Annual income?
- Homes with no CO Alarms
 - How necessary do you feel it is to have an alarm installed in your home?
 - Reasons you don't have an alarm installed in your home?

Experiences with CO alarms



- Knowledge of effects of levels of carbon monoxide (CO)?
- Familiarity with CO alarms and reasons to own a CO alarm?
- Frequency of testing and reasons for not testing?
- Knowledge of working and not working CO alarms in the home?
- Reason for disconnected or unpowered alarms?
- Knowledge about installing, maintaining, and replacing CO alarm?
- CO alarm sounding in the past 12 months?
- How did you react to the CO alarm sounding?

Documenting the CO Alarms



CO alarms in the type of room and floor

Photograph each alarm

Identify CO alarm characteristics

- Sensor type
- Age of the CO alarm (manufacture date)
- Power source
- Interconnected
- Connected to central panel or security system
- Strobe and/or tactile
- Status of battery (dead, missing, none)

Functionality of the CO Alarm



Testing the CO Alarms

- Test button for CO alarms.
- Replace or restore power to the alarm and repeat test.
- Collect failed alarms.
- Replace and/or install new CO alarms.

Cognitive Screening and Testing

The cognitive screening and testing evaluated specific questions and terminology in the survey.

Screening identified questions that were unclear.

Objective is to reduce errors in the main survey.

Test group

- 18 participants
- ½ with alarms and ½ without alarms



CO Alarm vs CO Detector

Understandability (Alarm vs. Detector)

- 1/3 found detector was easier to understand
- 2/3 thought it was the same

Familiarity (Alarm vs. Detector)

- 1/2 detector
- 1/2 same

Both groups had some familiarity with CO alarms/detectors

The group without alarms had less understanding of the function or didn't know what a CO alarm looked like.

Attached Garage and Fuel-Burning Appliances

All understood term "attached garage"

Difficulty in understanding term "fuel-burning appliances"

- Half were confused
- Not sure if propane burning appliances were included
- Some didn't include kitchen appliances as fuel-burning appliances
- Some didn't consider appliances using oil as fuel-burning appliances.
- Some thought electric water heaters were fuel-burning appliances

Familiarity with CO

Most understood that CO is "odorless and colorless" – "Silent or Invisible Killer"

Half unsure what CO is

- "Smoke that you cannot see but smell."

Testing CO Alarms (participants with alarms)

- Almost all were unsure how to answer the question.
- Most did not know how to test.

Next Steps

Approval by OMB (required before conducting the full study)

Plan logistics for the in-home surveys

Conduct main survey (planned for late 2018 through early 2019)

Issue report (late in 2019)

15

Thank You! & Questions?

ARTHUR LEE

U.S. CONSUMER PRODUCT SAFETY COMMISSION, BETHESDA, MD

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15