

CO Incidents to Rise

- Higher efficiency homes/Better sealed
- Confusion over CO symptoms – Flu and now COVID
- Growth of keyless ignition vehicles
- Changing demographics (rise of seniors and Hispanic population)
- Growth of short term rentals (AirBnB, VRBO)
- Laws/codes still fall short
- Fighting to get top-of-mind with fire service
- Ongoing confusion over smoke/CO alarms, placement, etc.

Residential CO Alarms

- Residential CO alarm technology has not evolved
 - Digital displays
 - 10-year sealed batteries
 - Easier-to-understand alarms – better communicators
 - Can they alert at a lower level?
 - Rise of counterfeit smoke and CO alarms

Podcast of Interest

- Podcast with Cheryl Burt
- ksalarms.com
- Look under “Media Resources”

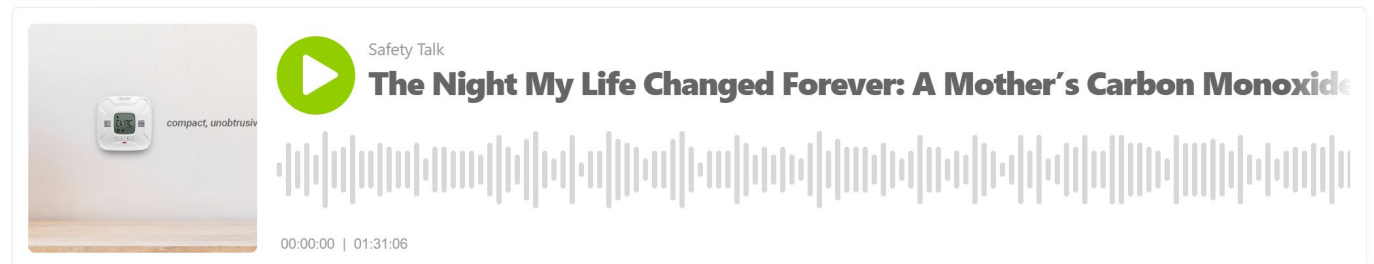
Media Resources

This section is provided as a resource for journalists and content creators who are educating people on carbon monoxide and related topics. Within these pages, you'll find the latest documents, videos and images to assist you in planning your next compelling story.

Resources:

- [Product Fact Sheets](#)
- [Product 360 Animation](#)
- [Product Photos](#)
- [Video B-Roll](#)

Podcast:



The image shows a podcast player interface. On the left is a square thumbnail image of a white carbon monoxide detector mounted on a wall, with the text "compact, unobtrusive" below it. To the right of the thumbnail is a green play button icon. Further right, the text "Safety Talk" is displayed above the main title "The Night My Life Changed Forever: A Mother's Carbon Monoxide". Below the title is a grey audio waveform. At the bottom left of the player, the time "00:00:00 | 01:31:06" is shown.

CO in NC

Charlie Johnson, Chief Fire Code Consultant

*NC Department of Insurance – Office of the State Fire
Marshal*

Where did it all start?

- Best Western Plus - Boone, NC
- Now Quality Inn & Suites
- 840 East King Street
- **Room 225**



**Daryl and Shirley
Jenkins (April 16, 2013)**



**Jeannie and Jeffrey
Williams (June 7, 2013)**

What happened?

- Propane pool heater was replaced in 2011
- Replacement was done by hotel maintenance personnel
- No permits were issued and no inspections were made



What happened?

- Natural gas lines were extended in Boone
- Hotel manager contracted company to convert several appliances, including the pool heater
- Permit issued March 12, 2012
- Inspections made March 22, 2012

The culprit

⚠️ WARNING

Do not store any chemicals, cleaners, or other corrosive material near combustion air openings or in the room. Avoid locating dryer vents in the vicinity of combustion air openings. Failure to prevent corrosive materials from mixing with combustion air can result in reduced heater life and unsafe heater operation.

3.2.3 Inspection and Replacement of Existing Vent System with New Components

If the Lite2 is being installed to replace an existing pool heater, it is recommended that a new appropriate venting system be installed with the new heater. However, if an existing venting system must be used, be sure to carefully inspect the venting system to ensure that it is in good condition and continues to be appropriate for the Lite2 heater. Replace any parts that are not in good and serviceable condition with new parts before completing the pool heater installation.

The culprit

- The pool heater was located in the pool equipment room with pool chemicals and subject to high humidity
- This combination created a corrosive atmosphere for exhaust vents that compromised the integrity of the system.



The culprit

“Fire investigators say the pool heater exhaust was being pulled back into the room from a wall mounted vent for the room’s HVAC unit. They also said the ventilation system had several deficiencies as well as corrosion.”

The power vent terminal was four (4) feet from the openings of Room 225.



Were these deaths preventable?



- Policies.....Executive & Legislative
- Programs.....State Laws/Statutes
- Procedures.....Agency Rules
- People.....Licensed Professionals

Were these deaths preventable?



- *Policies may be flawed*
- *Programs may be under funded*
- *Procedures can be tedious*
- *People can be motivated by money*

One example.....



hcp HCPress.com NEWS | EVENTS | GUIDE | AE
FRONT PAGE | SPORTS | CRIME | LETTERS | BUSINESS | OBITS | WEATHER | POLITICS | MORI

Local Medical Examiner Involved in Best Western Autopsies Resigns, DHHS Sec. Wos Releases Statement

PUBLISHED TUESDAY, JUNE 18, 2013 AT 1:13 PM

[f](#) [t](#) [p](#) [e](#) [+](#)

By Jesse Wood

June 18, 2013. Last Friday, Dr. Brent Hall, the local medical examiner who performed autopsies on the three individuals who recently died in Room 225 of the Best Western hotel in Boone, submitted his resignation to the N.C. Office of the Chief Medical Examiner, according to Ricky Diaz, a spokesman for the N.C. Department of Health and Human Services.

“Staff didn’t expedite the results of the Jenkins’ autopsies in late April and early May because the probable cause of death was listed as an overdose. He also added that most carbon monoxide deaths occur in house fires, vehicle fires and suicides.”

Policy Change Prompted



-
- Session Law 2013-413 (House Bill 74) August 2013
 - Session Law 2014-120 (Senate Bill 734) September 2014
 - **NCGS 143-138 (b2)(2)**
 - For lodging establishments, including tourist homes that provide accommodations for seven or more continuous days (extended-stay establishments), and bed and breakfast inns and bed and breakfast homes as defined in G.S. 130A-247, carbon monoxide alarms shall be installed in every dwelling unit or sleeping unit having a combustion heater, appliance, or fireplace and in every dwelling unit or sleeping unit that shares a common wall, floor, or ceiling with a room having a combustion heater, appliance, or fireplace.

Policy Change Prompted



- The Session Law also directed the Building Code Council to modify the NC Fire Code to regulate new and existing lodging establishments
 - Section 106 inspection schedule requires an annual inspection of all existing lodging establishments for compliance with GS 143-138 (b2)(2)
 - Section 915 is applicable to new construction – I-1,I-2,I-4,R and E classrooms
 - NC amendment approved to add Group A-2 after several incidents

Lessons learned

- Increase awareness of Carbon Monoxide poisoning
- Ensure appropriate licensing of contractors
- Importance of permit and inspection process
- Understand implications of propane to natural gas conversions
- Increase awareness when natural gas lines are introduced to an area
- Modify policies, rules and codes to ensure public safety

The PAST is where you
learned the lesson
The FUTURE is where you
apply the lesson.

Don't GIVE UP
in the middle!

***"Those Who Cannot
Remember The Past
Are Condemned To
Repeat It"***

George Santayana



Louisiana

State Fire Marshal Chief Dan Wallis

Deputy Chief Erin St. Pierre

CO in LA



-
- CO has not traditionally been a topic of conversation or concern for Louisiana
 - Changed in 2020 by unprecedented hurricane season
 - Public awareness priority with wide-ranging, positive impacts

CO in LA



-
- January 1, 2023: ALL one or two-family dwellings, *at the time of sale or lease*, has to have at least one working, sealed battery carbon monoxide alarm present
 - In addition, any time a whole home, standby generator is installed, a working, sealed battery carbon monoxide alarm has to be present in numerous, specific locations
 - Successful buy-in due to good working relationships with the housing and real estate communities in not only developing the law, but getting the word out about the new law, resulting in a high rate of voluntary compliance
 - Taking advantage of our continuous good relationship with statewide media to educate the public as well

GENERATOR SAFETY

--PORTABLE GENERATOR--

--HOME STANDBY GENERATOR--

- Do not place generators inside of any structure including garages, carports and sheds (not even if the door is open fully or partially)
 - Instead, place the generator at least 20 feet away from your home, down-wind away from open doors, windows and vents (porches are too close). Be mindful of the distance to your neighbor's home too!!
 - Before refueling, turn the generator off and allow it to cool for 15-20 minutes
 - Never try to power the house wiring by plugging the generator into a wall outlet; Use a heavy-duty, outdoor extension cord to plug appliances into generators
 - Do not use in rain or wet conditions
 - Have a fire extinguisher nearby
 - Turn off the generator and open doors and windows to ventilate your home
 - Look for any air entry points into the home near your unit and ensure that those are properly closed and sealed off, such as windows or doors, air intakes, nearby dryer vents, or crawl spaces
 - Check for anything around the unit that might be blocking airflow and remove the blockage
- Have a CO monitor!
 - Give the generator a break once or twice a day to allow for any exhaust build up around your home to clear
 - Open windows and doors during those breaks to allow for any CO build up inside of your home to clear
 - Ensure your generator is being properly maintained including the oil change frequency requirements
 - Refer to your owner's manual or contact your dealer or unit's manufacturer if you have concerns or questions regarding proper installation or maintenance

HAVE A C.O. ALARM!

If your CO monitor alarms



Common Symptoms of Carbon Monoxide Poisoning

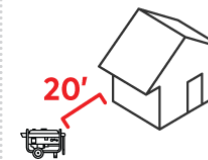
- Headache
- Dizziness
- Weakness
- Upset stomach
- Vomiting
- Chest pain
- Confusion

CO symptoms are often described as "flu-like."
People who are sleeping or impaired can die from CO poisoning before they have symptoms.

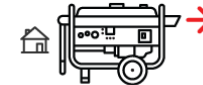
If you experience any of these symptoms,
exit the building IMMEDIATELY and call 911



Never run it in an enclosed space



Always run it at least 20 feet from your home



Always direct exhaust away from your home

GENERATORS

- DO NOT place inside of ANY structure
- DO NOT place near open doors and/or windows
- DO NOT refuel when hot

IMPROPER GENERATOR USE CAN BE DEADLY!

