

January 24, 2024

Alexander Hoehn-Saric, Chair  
U.S. Consumer Safety Product Commission  
4330 East-West Highway  
Bethesda, MD 20814

**RE: Docket No. CPSC-2019-0020 - “Safety Standard for Residential Gas Furnaces and Boilers”**

Dear Chair Hoehn-Saric,

Thank you for the opportunity to comment on the proposed safety standard for residential gas furnaces and boilers. We the undersigned health, consumer, community and environmental justice organizations support the proposed standards and strongly encourage the Consumer Product Safety Commission (CPSC) to strengthen them further.

The new standard limits the maximum amount of carbon monoxide (CO) allowed to be produced and leaked by residential gas furnaces and boilers. CO is a highly toxic gas, produced by devices that burn carbon-based fuels such as methane gas.

CO is only detectable with an electronic sensor – it cannot be seen, smelled, or heard. CO in the air rapidly enters all parts of the body, including blood, brain, heart, and muscles. As CO has a 200 times stronger bind to hemoglobin than oxygen in the bloodstream, CO not only starves the body and all of its systems of oxygen, it also causes cellular damage to all vital organs.

Because CO is undetectable by humans and poisoning is extremely difficult to medically diagnose due to the vagueness of symptoms and narrow diagnostic window, it has been dubbed the “silent killer.” Health effects of poisoning are determined by several factors including the amount and duration of exposure, previous exposure, age, body size, pre-existing conditions, and oxygen metabolism rate. Symptoms are varied even among family members and range from mild symptoms such as fatigue, dizziness, headache, confusion, and nausea to more severe symptoms such as disorientation, unconsciousness, long-term neurological disabilities, coma, cardiorespiratory failure, and death.

CO poisoning can be acute or chronic. Acute poisoning occurs by breathing large amounts of CO over a short period of time. Chronic poisoning occurs by breathing small amounts of CO over an extended period of time. Victims of chronic CO poisoning will often face long-term health issues, often unexplained or misdiagnosed. One of the most common long-term health issues associated with chronic CO poisoning is neurological damage and associated cognitive impairment that is often mistaken for Parkinson’s disease, multiple sclerosis, or dementia.

Most CO alarms sold in the US are designed in accordance with the [voluntary standard UL 2034](#). These alarms, if maintained and working properly, only require a warning prior to CO

levels becoming so high that it may cause a loss of one's ability to react to the immediate danger. These levels are significantly higher than the World Health Organization's health guidelines which recommend a CO exposure limit of 3.5 ppm (4 mg/m<sup>3</sup>) sustained for 24 hours. Additionally, any displays on the alarms are required to display 0 ppm until CO concentrations reach 30 ppm. In a [CPSC survey](#) from 2020, 85% of respondents believed that their alarm would alert them if carbon monoxide were present. Carbon monoxide alarms do not warn consumers when there is low-level but injurious carbon monoxide exposure, and consumers are mostly unaware. Due to this, protective measures for carbon monoxide at injury-causing levels are still needed.

Environmental justice communities face disproportionate exposure to CO. Low-income renters often [live in older buildings with smaller units and inadequate ventilation](#) which can contribute to elevated pollutant concentrations inside the household. Large multifamily buildings that utilize gas boilers in the lower levels or basement for building-wide heating can expose tenants living near the boiler to higher CO concentrations inside their apartments. Further, communities of color are [more likely](#) to suffer from preexisting medical conditions that increase susceptibility to the health impacts of CO exposure.

For these reasons, it is crucial that the CPSC ensures residential furnaces and boilers sold in the US are as safe as possible by implementing a rule that not only prevents death, but also injury. Thus, we urge the CPSC to strengthen the proposed safety standard for residential gas furnaces and boilers. To strengthen the proposed standard we recommend incorporating the following safeguards:

- Shutdown/Modulation Thresholds: Lower shutdown/modulation threshold to account for established U.S. health guidance from the Centers for Disease Control and Prevention (CDC), which states that an elevated level of [2% COHb](#) for non-smokers "strongly supports a diagnosis of CO poisoning."
- Tamper Resistance: Add requirements to prevent tampering with or deactivating of the CO shut-off device.
- Restart: Extend the time period before restart is allowed during a sensor failure event to at least 30 minutes, as the current time is not protective enough if a CO incident occurs.

Thank you again for the opportunity to comment on the proposed safety standard for residential furnaces and boilers. After finalizing this standard, we encourage the CPSC to consider similar safety standards for all residential natural gas, methane, liquefied petroleum, and propane gas-burning appliances.

Sincerely,

Arizona PIRG  
CALPIRG  
Climate + Energy Project

Climate Code Blue  
CMI Awareness  
CO Safe Schools

Community Energy Project  
ConnPIRG  
Consumer Federation of America  
CoPIRG  
Earthjustice  
Florida PIRG  
Fort Wayne Urban League  
Georgia PIRG  
Greater Boston Physicians for Social  
Responsibility  
Illinois PIRG  
Indiana Environmental Clean Energy J40,  
Inc.  
Interfaith EarthKeepers  
Iowa PIRG  
Jenkins Foundation  
League of Women Voters of Fort Wayne  
Area (LWVFW)  
Maryland PIRG  
MASSPIRG  
Michigan Poison & Drug Information Center  
MoPIRG  
National Carbon Monoxide Awareness  
Association  
National Center for Healthy Housing  
NCPIRG  
New Hampshire PIRG  
New Jersey PIRG  
New Mexico PIRG  
Northeast CO Alliance  
Ohio PIRG  
OSPIRG  
PennPIRG  
PIRGIM  
Public Health Law Center  
Respiratory Health Association  
Rhode Island PIRG  
Safe Kids Greater South Haven  
Sierra Club  
Southwest Energy Efficiency Project  
TexPIRG  
The Lauren Project  
The Museum Detroit  
The Voices Of The Disadvantaged

Third Act Oregon  
U.S. PIRG  
WashPIRG  
WisPIRG  
350 Bay Area  
350 Eugene  
350 Eugene  
350 Salem OR  
350 Deschutes