

# CARBON MONOXIDE: THE SILENT KILLER

- **Why is this a concern of ours?**
  - Because carbon monoxide is present in every building we have that is heated with a fossil fuel. i.e., natural gas, oil, etc.
- **What is carbon monoxide (CO) and how is it produced?**
  - Carbon monoxide (CO) is a colorless, odorless, poisonous gas, produced by the incomplete burning of fossil fuels (natural gas, oil, wood, etc.). It is also lighter than air (CO) Mol. Wt. 28.0 compared to air (N<sub>2</sub>O<sub>2</sub>) Mol. Wt. 28.84.
- **What CO level is dangerous to your health?**
  - The negative health effects of CO depend on the concentration of the gas and the duration of exposure. The concentration of CO is measured in parts per million (ppm). The effect of exposure levels of approximately 1 to 70 ppm are uncertain, but most people will not suffer any symptoms. As CO levels increase above 150 to 200 ppm, disorientation, unconsciousness, and death are possible depending on the length of exposure.
- **What are the symptoms of CO poisoning?**
  - The initial symptoms of CO poisoning are similar to the flu without the fever. They include:
    - Headache
    - Fatigue
    - Shortness of breath
    - Nausea
    - Dizziness
  - Many people with CO poisoning mistake their symptoms for the flu which can display an appropriate response and even result in death.
- **What should you do if you are experiencing symptoms of CO poisoning?**
  - Get fresh air immediately. Open windows and doors and evacuate the building.
  - Call the fire department and report your symptoms and suspicions.
- **What should the parish do to try and prevent CO poisoning?**

- Install an approved CO detector in any room that has a fossil fuel burning device (i.e., boilers, furnaces, hot water heaters, kitchen, etc.). The detector must be mounted at eye level or higher.
- Install additional CO detectors in other areas throughout the building (i.e., corridors near boiler room, classrooms near chimney, etc.).
- **Have your boiler or furnace inspected annually.**
  - Improperly vented burners will leave signs of soot around the burners.
  - Be certain that combustion air is available for heating units. Air intake louvers should be free and clear. Automatic combustion louvers mounted on an outside wall that are programmed to open when the furnace/boiler burner is energized are strongly recommended.
- **Have your chimney inspected for both draw and condition.**
- **How does the parish implement a program of inspections?**
  - The Archdiocese already has a maintenance program in place with sample contractors for the purpose of boiler and furnace inspections and annual maintenance. Be sure your parish has taken the steps necessary to have an outside professional inspect and service your equipment.
  - Enroll in the Archdiocesan program for chimney inspections. We have contacted several companies capable of implementing an inspection program. The program will include the following: Inspecting the furnace, boiler, breeching and chimney for size, height & diameter to determine if sufficient draft is available to safely exhaust combustion gases. Combustion gas temperature will be taken to confirm that the stack gas is a minimum of 400°F. Temperatures less than 400°F result in corrosive condensation that significantly reduces the useful life of a masonry chimney. Sample of combustion gases will be taken and analyzed for component content & quantity. Predicated on the gas analysis, the furnace/boiler burner will be adjusted to assure efficient operation. Breeching and ductwork will be visually inspected to confirm structural integrity. The exterior & interior, if possible, of the chimney will be visually inspected. Where the chimney diameter precludes a visual inspection, a video camera will be employed to assess the interior condition of the chimney. Chimney interior photos will be taken at 10 foot intervals. A report containing inspection findings, combustion gas analysis, photos & recommendations will be prepared & presented to the parish for review & implementation.