

## CO-Gas Safety Unintentional Carbon Monoxide Poisoning Case Study

### **NORMAN & YVONNE REDSTONE, Survived in 2019**



*David Redstone at his parents' home*

**Ages:** 85 & 78

**Fuel:** Mains gas

**Appliance & Location:** Back boiler in their home

**Notes by CO-Gas Safety:** This case study is written by David Redstone, whose parents were alerted to excessive CO in their home by an alarm given by CO-Gas Safety. The position of this type of boiler, behind another fixed gas appliance, means that they very often do not receive full servicing and maintenance as often as is required. Chimneys and flues servicing these boilers are often not swept regularly, nor the boilers themselves given a thorough inspection or clean.

#### **How I met Stephanie Trotter**

I am a Premier Manager at Barclays bank, and met Stephanie in Ryde in May 2018 to discuss normal banking issues. I was interested in what Stephanie told me about carbon monoxide poisoning. She gave me the CO-Gas Safety press pack 2018 and a free CO alarm to EN 50291 from Honeywell but I never thought we might need it.

#### **My parents' heating system**

I already had a CO alarm to EN 50291 in my home, so I installed the one she had given me at my parents' house in March 2019. My parents own their own detached home in Binstead on the Isle of Wight. They have a gas back boiler, which is about 30 years old. In front of this boiler is a gas fire in a large 1930s fireplace, as can be seen in the photo above. My parents also have a gas hob and an electric oven.

The flues from the fire and boiler go up the chimney used by the old open fire. They have always had their gas boiler regularly serviced and as far as know this was by a Gas Safe registered engineer. I think they had it last serviced in March 2018. However, I cannot recall when the fire had last been taken out of the fireplace in order that the boiler could be really cleaned properly.

#### **CO alarm sounded**

Earlier this year in April 2019, the alarm went off. Luckily, thanks to the press pack and talking to Stephanie, we all coped really well. My parents called me, and I called my own registered gas engineer, who visited them and took the fire out and cleaned out the boiler.

We subsequently discovered that the back boiler had developed a fault because the ignition coil had failed and the boiler needed a good clean. The boiler is now fixed and working as it should do but the episode does go to show the importance of CO alarms. We did think of putting in a new boiler, but my registered gas engineer told me that now it had been cleaned out, it was working fine.

Thinking about it, perhaps these back boilers are less likely to be properly and fully serviced because of having to take the fire out first. They are not installed now as much as they were, and I think that's a good thing. With regard to servicing, I have now taken over organising that for my parents and I will make sure I send my registered gas engineer.

### **Grateful to the CO alarm, Honeywell and CO-Gas Safety**

We are very grateful to Stephanie for giving us a CO alarm to EN 50291, for the work Stephanie does and for highlighting the importance of this topic. I feel sick at the thought of the possible consequences if she hadn't given me the CO alarm or if I hadn't installed it at my parents' home.

We also want to thank Honeywell for sending the free CO alarms to Stephanie.

### **CO symptoms and my suggestions**

While talking to Stephanie about this near miss, Stephanie asked if my parents had experienced any CO symptoms. I told her that thankfully they hadn't although they did know what the symptoms were. Stephanie was glad for them. Stephanie explained that CO alarms to EN 50291 are designed not to alarm until there is 30 parts per million of CO present in the surrounding environment for two hours, yet the World Health Organisation guidelines are much lower, at about 4.5 ppm for 24 hours and longer. Stephanie explained that although it was very rare, the charity had come across one or two people who said they had suffered symptoms, despite having an operating CO alarm to EN 50291. I then suggested that perhaps CO alarm levels should be changed to alarm after say 2 hours at 20 or 10 PPM of CO. Obviously research would have to be undertaken to make sure there weren't so many alarms sounding that people no longer used CO alarms (as happened with smoke alarms when they first came out) and to find out if there were any unexpected consequences. However, I hope that the levels could be reduced and I also hope that one day smart phones would have a built in CO alarm.

**I think that all houses should have CO alarms to EN 50291. They really do save lives.**

