

***Safety features of Gas Panel Heater***

**Occupational Health & Safety**

**Submitted to :**

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## **Description of situation**

In buildings where air conditioning systems are not installed, room heaters may be required for thermal comfort. Room heaters must be safe to use, taking into account the characteristics of the area to be heated and the activities conducted in the area. Heaters must be maintained and shall be removed from service if not in good working order. Heaters with open flames or exposed elements capable of igniting fires are considered unsafe and shall not be used. Heaters discussed in this report are gas heaters. Existing heaters of these types shall be progressively replaced with safer types. Floor model bar radiators shall not be used in any situation. Heaters shall not be used in flammable atmospheres or near highly flammable materials where there is a Likelihood of ignition.

## **List of Hazards**

- Gas and air make an explosive mixture – so there is risk of explosion.
- If the pilot light does not ignite the burner at once, turn off and check that the pilot light is alight.
- Leaking gas igniting and exploding causes fire.
- Fires and burns caused by contact with or close proximity to the flame, heating element, or hot surface area.

## **Lists of the users/people in danger**

The function of heater is to increase the temperature in cold weather. Therefore the heater can be used anywhere, in homes, in offices etc. type of heater which is considered in the problem is panel gas heater. Therefore the following people may be considered in danger because of this panel gas heater.

1. As this heater is mainly used in homes so the probable users may be the members of the family who are living over there and the people who visit the home. When we considering the members of the family then our main attention would be on the

small kids who are small enough to understand the meaning of heater. Other people included in this category may be the old ones who are unable to start it properly.

2. In places like offices, people included may be the manager or office members or may be the people who come to that office for general purpose.
3. Panel gas heater is also used in restaurants. In this case the people in danger may be the chef, kitchen hand staff or the customers who don't know the safety precautions.

### **Photographs**



### **Working of the guard**

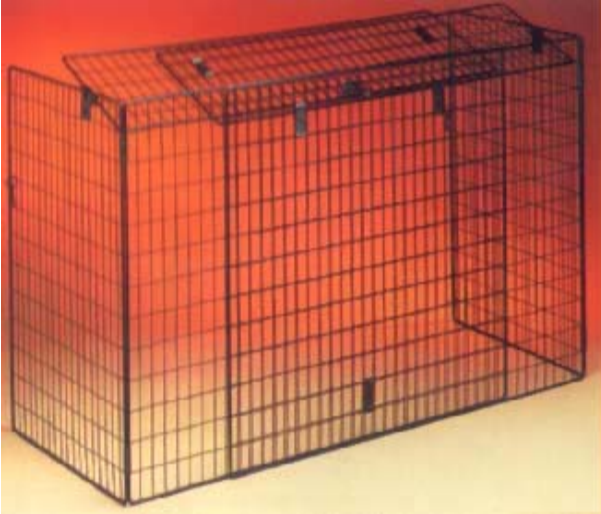
- 1 The guard is mounted on the front of the heating filament and it guards the heating element and is designed to make the heater fire and injury safe.
- 2 The guard works by avoiding the direct contact of any person with the heater coil.
- 3 The guard also avoids clothing and other material to come in contact with the heater coil.

## **Failure of Guards**

1. When we starts the heater both the ignition and gas becomes on, sometimes the ignition is not properly done but the gas becomes on. When we again start the heater it starts and blows up the gas with a small blast, which can burn someone who is operating.
2. Considering the first point if some one comes while the operator operating the heater and ignites a lighter for cigarette. It will blow up the gas in air.
3. The grill which is used as a guard for the panel gas heater is to close to the heat and it becomes hot when the heater is in use. If a person can touch the grill by mistake, the person gets severe burns on skin.
4. The children can touch the grill very easily, because the heater is placed in the range of children (touching the ground). Children can put his hands inside the grill, because the grill has a sufficient space for the entrée of a child's hand. Children can easily put the flammable things (paper, pen etc.) inside the heater that can catch fire.
5. In some of the old heaters, grills for guarding can be easily taken off the panel of the heater. And it can lead to the straight contact with fire.

## **Better control**

Extending the guard width can help to avoid the children or any person making physical contact with the heater coil.



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- Another way to improve the control is to make a solid guard in front of the coil and using ducts for the hot air and thus the injury and fire hazards can be eliminated.
- Placing the heater on a level, hard and non-flammable surface, at least three feet from bedding, drapes, furniture and other flammable materials also helps to avoid hazards which were mentioned earlier.
- The enclosure around a fireplace helps to prevent sparks or embers from igniting flammable materials.

### **References:**

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- 2 *Heaterguards*. Retrieved August20, 2006, from:  
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