

## **PYROGEN SUCCESSFULLY EXTINGUISH FIRE IN A COMMUNICATIONS ROOM AT A RENOWNED SHOPPING COMPLEX IN KL, MALAYSIA**

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### **1. Introduction:**

A fire incident occurred in a telecommunications room at the basement car park area in a seven storey shopping complex with 450 retail outlets offering some of the world's most renowned brand names located at the heart of KL city. The area is popular with tourists and is usually packed with both foreign visitors and locals looking for branded goods especially with the year-end sales and bargains.

The complex telecommunications room was protected with Pyrogen Total Flooding System (TFS) which extinguished the fire and averted a catastrophe in the morning of December 3, 2008. The shoppers during this incident were not even aware of the fire as the fire was rapidly extinguished. The fire was started by an air-conditioning blower unit within the crowded telecommunications room which was shared by all major cellular and wireless telecommunications providers in Malaysia.

In addition to the blower unit, some interconnecting cables were damaged during the fire. No other equipment within the room was found to be damaged. The mains power supply into the room was interrupted but the telecommunications systems were still operational as the power was switched to the backup battery bank located inside the room.

### **2. Chronology of Incident**

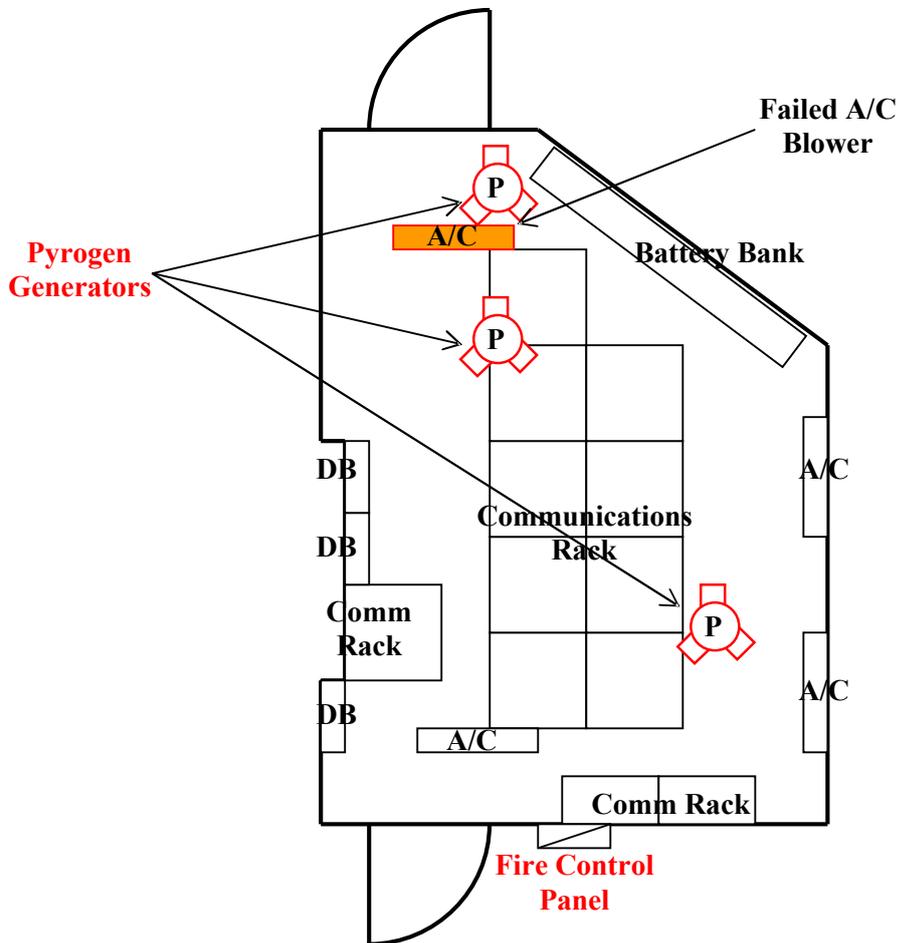
At noon on the 3 December 2008, the shopping complex management informed the telecommunications provider of a possible fire in the room. The technician arrived at the scene half an hour later and visually confirmed that there was no fire before both the technician and the shopping complex personnel proceeded to ventilate the room.

The technician observed that the air-conditioning blower unit had been burnt thus triggering the fire control system which activated three Pyrogen generators inside the room; extinguishing the fire. After which, the fire alarm panel was silenced and reset as at that time it was still in alarm condition.

Pyrogen personnel were dispatched immediately upon receiving news of the incident to assist in investigations. On arrival, the investigations team noticed large amounts of soot deposited on the floor and equipment. The mains power had tripped and the equipment inside the room was running on backup power from the battery bank. It was confirmed that all three Pyrogen generators installed had been activated and the root cause of the fire was an air-conditioning blower unit directly opposite the main door into the room. The AC cables had shorted, causing the mains to trip out.

It was also observed that directly below the blower were scorched marks caused by hot molten plastics and metals from the blower unit.

### 3. Pyrogen TFS Installed in the Telecommunications Room



**Layout Plan of Communications Room**

The system installed for this room is a conventional double-knock configuration which uses smoke and heat detectors connected to a Pyrogen Fire Alarm and Discharge Panel. “Evacuate” flashing lights are installed on the inside of the room to provide visual indication of the location of exit points and on the outside of the doors are installed “Green and Red” flashing lights to indicate if the system has been activated or not.

Audible notification of alarm is provided by means of an electro-mechanical bell and an electric buzzer at the Fire Control Panel. The system is set-up to provide a mandatory 30 seconds delay after both the smoke and heat detectors are activated to evacuate the room before the system energises the Pyrogen generators to discharge.

4. Pictures taken after ventilating the room



Debris on the floor directly below A/C Blower Unit



Completely mangled A/C Blower Unit



Discharged Pyrogen Generator which is ceiling mounted



Communications Equipment powered and working normally



Discharged Pyrogen Generator at the back of the room



Cable tray at ceiling level



Discharged Pyrogen Generator  
in front of failed A/C unit



View from the front door of the room

Pyrogen Alarm and Discharge Control  
Panel with bell and manual keyswitch  
and signage



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