



ASK AN FM

Question: Have a mystery, after I turn a heater off a room gets colder than it was before I turned the heater on. Our office has one office that has no air conditioning or heating vents and gets very cold in the winter, so we plugged in an electric space heater to warm it up. The space heater works well but every time it turns off the office actually gets colder than it was or would be if we'd not turned it on in the first place. How can that be? what's going on and what can we do to fix it? It's not a real big office, and might have been a huge file or storage room at one time.

Answer: *I believe the space heater is setting up an air circulation pattern that sucks the colder air near the bottom of the doorway into the room, heats it up so it rises, and then discharges it at the top of the doorway. When the heater is on the hot air it produces rises quickly and is replaced by the colder air. The hot air tends to heat up the ceiling area and that area stays warm even after the space heater is turned off for a while, continuing to suck in cold air as a result. Twenty minutes after the space heater is turned off all the hot air in the office has been replaced by cooler air from outside that office.*

Question: I want to get a new office keyed, any advice?

Answer: *First, regardless of which system you choose, it would be nice if all the key information and proprietary hardware belonged to your company.*

The key plan which shows where all the locks are and describes their hierarchy in the key plan, what key opens what

The key codes for each key should also be something your company has a copy of even if it's created by a key program the vendor has

If you are using proprietary hardware, like unique key-ways, your company should possess them and the rights to them.

That simple step can stop you from having to re-key the entire facility if your chosen lock and key shop goes out of business. This simple step will also stop your company from being held hostage in the event that your current vendor's responsiveness becomes unacceptable or if their price rises beyond a fair market price. You always have more leverage when a vendor knows it would be easy for you to leave, Lock and key vendors don't normally offer to give you the design, but usually will if that is a condition of purchase. If they won't it would make me worry.

Bid at least 3 vendors and don't forget to ask about prices for future re-keying prices so you know what you're in for in the future. To expedite the process provide the vendor with a floor plan of your new office showing all the doors and a complete list of who needs access to what.

Keep in mind the more different keys fit a lock, the less secure it becomes. If you anticipate a lot of changes in the future, you might want to consider fewer master keys that open many doors, and more individually keyed doors with their own keys. It's a lot easier to hand someone a key to another office or storage room, than it is to re-key those rooms to accept their existing key. If someone loses a key, especially to the front door or a master key, you will have a lot of re-keying to do, as opposed to what you would need to do if they were keyed separately.

Keys should belong to the company and you should have tracking and sign out system to keep track of who has which keys and what access. Signed paperwork should require employees to return all keys and access cards on termination.

Lastly, if security is a large concern, you might consider using card access systems for the most commonly accessed doors, and secure areas. They are easy to change, and don't require re-keying if someone loses a card or leaves the company and doesn't return the card.

Question: How long should a UPS be able to last?

Answer:*That question has many answers depending on what the ups supports, how critical it is to avoid shutdowns, and what if any other back up power is also available, like a generator.*

Most utility outages have very short duration's but they are often followed closely by more brief outages and power quality issues that can harm sensitive equipment. Long outages are much less frequent and can last for hours, and even days.

Most companies want to be covered for short interruptions and power problems that often follow close behind an outage, but are not willing to pay for generation equipment so they can withstand

a long interruption that might only occur once a year. In order to be safe most companies want battery powered systems that are designed to last 15 to 20 minutes, so they always have enough time to see if utility power stabilizes during the first 5 minutes of an outage. If an outage causes problems for more than 5 minutes they usually shut down their equipment and don't restart until they are sure utility power is stable again.

In most places 15 minutes of reserve capacity is enough to avoid 90% of the utility interruptions. If you want to survive the longer outages you really need a generator because it's unlikely you can continue occupying your office if all the AC is off. If you have a server room, it probably can't run more than about 15 minutes without the AC.

Companies that have generators can get away with less UPS reserve time, and some even use flywheel UPS equipment that can only provide about 20 to 30 seconds of backup power. 10 seconds is enough for most generators to start and take over, they usually switch over when they ramp up to 80% of their capacity.