GREEN TECH THE SERIES COLUMN FOR SEPTEMBER 7, 2012
HEADLINE: HOW & WHY OF PHANTOM LOADS

I have seen far too many “Green” ideas that are just riding the wave of environmental change and that are not all they are cracked up to be, but during a second year inspection of a new home, recently, I saw a feature that I heartily endorse. It’s called the “Green Plug” system and was installed to control power to electrical appliances, home entertainment and home office equipment, such as your computer. Regular readers will know that I have been writing about an issue called “Standby Power”, “Vampire Power”, “Leaking Electricity” or, the most common term, “Phantom Loads” for some time. Readers have wondered if some of the claims that we were wasting as much as 15% of our electrical power were really true.

There is actually some considerable truth to this issue. As we hunt for wasted electricity, the problem of Phantom Loads has surfaced as a major problem. What is a Phantom Load? Simply put it’s the wasted electricity that is used for the ‘instant on’ feature of your TV, the power that your charger is using even when its not powering up your cell phone or flashlight and items like your cordless phone or computer. A recent US study, brought to light some interesting facts. In 1998, it was estimated that the phantom load use was equal to 5% of all the power used in the US. By 2008, this had doubled to 10% or about 3 billion dollars of wasted power, annually. In 2001, the US government recognized this issue and mandated that any office equipment purchased must have less than 1 watt in standby reserve. In Canada, we recognize similar problems with wasted electricity and, unfortunately, the percentage of wasted power is nearly identical to our southern neighbours. Canadian appliances, in a standby mode, are eating up power at the rate of 6.3 billion….yes billion, KWH annually. If we could save 80% of this, it equates into the residential consumption for the province of New Brunswick.

How do we fix this issue while still having some of the “creature comforts” we now enjoy? The first step is to look really hard at the kind of home office and entertainment equipment we have. Most of these products are now Energy Star rated for electrical consumption. I had long thought that computers were amongst the largest “power hogs” in standby, recently I was shown how the new large flat screen TV’s are overtaking the computer for wasted power. If you check, you will find some of the Energy Star entertainment rated products use nearly 50% less standby energy. Computers are widely known for wasting energy. What is not as recognized is one feature called the screen saver, which eats up nearly as much electricity as if you had the computer running; much better to put it to sleep.

The list of home conveniences that are quietly drawing tiny amounts of power include your DVD player, game console, cable or satellite box or audio system. Some of the game box consoles consume up to 185 watts of standby power. That’s like leaving two incandescent lights on 24 hours a day.

When a new home is wired, it is a good idea to install designated circuits, located in the areas of a home where computers and entertainment equipment will be located. These plugs are wired to a wall switch and, in the Green Plug System, both the switch and the plugs are painted green. This means that, when you go to bed or leave the office, you turn this switch off and it turns off the major part of your “Phantom Load.” This manual system requires that the homeowner remember to shut it off each night. While in a new home this is easily done, how can you refit this system in an existing home? There is a product that has been popular in commercial installations for well over 10 years and is now rapidly gaining popularity in the residential market. It’s called an Occupancy Sensor and within the past few years the price of these sensors has dropped dramatically. The improvement in the quality of these installations makes them a worthwhile option for a renovation wiring job.

What is an Occupancy Sensor? In basic terms, it is a motion activated control that can be inserted where you have a wall switch. They are designed to operate lighting and wall plugs. If a person enters the room the lights and possibly the plugs would become activated. The earlier units were infrared and had limitations. People found them shutting off while they were in the room, for instance. The new units are ultrasonic and are much better. I saw one of these installed in a bathroom with a veined glass shower door. The ultrasonic unit worked great, while an Infrared unit would have lost the sensory ability with a person in the shower and shut the lights off.

The other option is low voltage timed controls that can be retrofitted to a wall switch. This allows you to preset the time for the plugs to come on and off. I have seen a number of novel ideas in homes where they recognize the “Phantom Load” issue. In one home that I was in, the owner had his electrician wire the top plug to the light switch and the bottom plug remained live. This was popular some time ago when ceiling lights were out of style. In this case, all the plugs in the room were done this way and their home electronics were plugged into the top plug, with a table lamp plugged into the bottom plug to remind them to turn this switch off. The part he liked was that they could use the bottom plug for a reading light at any time without turning everything on in the room. It also meant that they were able to organize the room as they wanted for various pieces of home entertainment equipment.

How do we start on a small budget? Buy a good quality power bar with a built-in switch and move all your entertainment equipment to this device, then remember to turn it off every night. When you look at the rising cost of electricity, phantom power is an increasingly important home energy saver. Reducing the “Phantom Load” in every home must become the next energy conservation move.

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