

Taking your power back in the midst of SA's energy crisis

South Africa's energy crisis won't be resolved anytime soon, and wringing our hands or resigning ourselves to the inevitable downtime associated with load shedding won't help this country get on with the business of doing business or running our homes and getting on with our lives.

Our problem is unreliable power and we need to take independent action to mitigate the effects of that reality. In other words we need to take back our power, says Inus Dreckmeyr, CEO at Netshield South Africa. Here, Dreckmeyr discusses this problem and his company's solution for SOHO, SME and home users.

Of course I realise that while talk is cheap, the cost of taking responsibility for ensuring a continuous supply of power to your business or home isn't. Frankly, it can be prohibitively expensive for many small businesses and certainly for the average home.

That's why we introduced the Netshield Inverter/Charger (NIC) with SOHO, SME and home users in mind. NIC is affordable, comes in six sizes and is a scalable, flexible power sourcing solution that keeps your critical electrical services functioning during power outages. In plain English, it allows you to continue performing those electricity-dependent functions that are absolutely necessary to keep your business or home running.

What those critical electrical services are, depends on your needs. For some businesses, that may be an entire computer network, sophisticated telephony, and sufficient lighting for personnel to work in, for others just a basic phone system, internet-connectivity and one or two computers. In a home environment it may come down to keeping a few lights, the refrigerator, security system, and the TV running.

Go with the flow, or control the flow?

Before we look at the NIC solution, let's touch on why a solution is needed at all. Why not just plan around the published load-shedding schedule and make do?

There are many quantifiable reasons that this is a bad idea, but there's another less tangible but no less important reason and it's this: I believe that resigning yourself to anything, particularly in business, is the beginning of a slippery slope. It starts with handing control of one situation (your electrical power in this instance) to an outside force and before you know it, it's a downhill trend - a habit of accepting the status quo, of not pushing for better or to be better. Ultimately this will influence your entire business culture, or life if we're talking about your home environment. So my number one reason to take back your power is that you retain control of the fundamentals.

Next, there's IT infrastructure. Many computer and other system components rely on a consistent voltage. Frequent, abrupt power outages strain those components and will cause them to fail, costing you money and more downtime.

Finally, there are only so many meetings, so much filing, so many family game nights or rearranging of closets that you can do with your daily load shedding, before it becomes redundant, unproductive and begins costing your business customers and money, or your family quality of life.

Of course there are hundreds more valid reasons why you need at least enough consistent power to run the basics of your business or home. If they're important to you, they're important, full stop.

How NIC(e) and simple is it to have power?

NIC is a simple, but elegant solution to keeping your critical electrical services running, whose genius lies in the automatic and flexible manner in which it sources the power needed to charge the batteries that allow it to do so.

Being an Inverter/Charger simply means that NIC both stores (charges) electricity in the battery bank it is hooked up to, and converts that direct current (DC) to alternating current (AC) before supplying that power as an alternative to your usual line power from the grid.

NIC doesn't produce the power itself, it merely uses the power it receives to charge the batteries and inverts that power.

Most of us are conditioned to think of the electrical grid as our one and only source of power, though to be fair this is changing. Given the unreliability of our national grid, the average South African has accumulated more knowledge about electrical power than would be necessary to anyone other than an electrician in most other countries – but I digress. NIC reminds us that the grid is not the only potential source of power, and that we have options.

Three sources, three modes, limitless possibilities

NIC charges its batteries from either one or all of three possible places; primarily from Photo Voltaic solar arrays (solar panels), secondary the power utility feed (the grid, while it's available) or a back-up diesel generator

NIC has three primary application modes. One is “High Power Deep Cycle Line Interactive UPS mode.” What this means is that NIC uses power from the functioning grid to keep the battery bank charged. When the power goes down, it automatically comes online and within 12 milliseconds the inverter begins supplying the required electrical load (from the charged battery bank) to the critical electrical services. How much power can be supplied and for how long, is scaled according to the size of the connected battery bank and the actual load being drawn from that bank.

“Grid Assisted Inverter Mode” is where additional renewable energy resources like solar panels supplement grid power. In this mode, the entire electrical load is permanently run from the inverter, which is powered by the battery bank and the

renewable energy resource. When the renewable energy resource is sufficient to supply the power needed, the load is periodically switched to the grid to recharge the batteries for later use, when there might be insufficient solar or wind power to generate the required electricity.

Finally, there's the "Generator Assisted Inverter Mode" which is a fully off-grid solution that is ideal when there is no connection to the national grid. In this instance, the batteries are charged by one or more renewable energy sources and the load is permanently run through the inverter. A back-up generator completes this power solution. When the power required is greater than what is available, NIC automatically starts the generator and transfers the full load to it, using any additional generator power to recharge the batteries. This entire process is automatic and seamless.

"With (great) power, comes great responsibility"

So NIC has all these wonderful features and functions, and comes in a variety of different sizes and moreover allows for a scalable battery bank, so you can add as many batteries as are required to supply all your critical electrical services for a pre-determined and reasonable period of time.

As a business owner, this solution presents you with the freedom to reduce your reliability on an unreliable electrical grid, take back your power, secure a competitive advantage over less forward-thinking competitors and mitigate the risks associated with downtime due to power outages. As a homeowner, it improves your family's quality of life, diminishes the security risks associated with blackouts and security system downtime, and offers the reassurance of continuity in routine.

Having made the decision to take back your power in this manner, all that's required is that you use this power responsibly and not take it for granted. I strongly advise that even with a NIC unit in place, you always be conservative and use as little of your backup energy as possible, to allow for

instances where the grid might be unavailable for extended periods of time or cloudy skies or lack of wind will impact your ability to draw on renewable energy resources.