



How to get the best from your UPS system

Environment

Your UPS is designed to provide power protection and emergency power back-up for your critical load. It is as important as the equipment relied upon for day to day operations and must be serviced and maintained regularly for maximum effectiveness and efficiency.

Its environment is of paramount importance with the UPS system ideally being installed in a well-ventilated, air-cooled environment.

Excess heat and poor ventilation causes premature degradation to the batteries and capacitors and relies upon increased performance from the cooling fans. A properly ventilated, air cooled environment helps reduce dust build up and will go a long way in ensuring the longevity of your UPS system in addition to minimising its TCO (total cost of ownership) by mitigating battery, capacitor and fan replacements and other costs associated with a poorly performing system.

Batteries

Batteries are the most expensive consumable item in your UPS system and unfortunately, the most likely to fail.

UPS batteries are stored energy and only have a limited design life. Many variables contribute towards their actual life span - if they fail, it can cause downtime and potentially, loss of revenue.

So why do they fail?

The primary factors for battery failure is heat and age. They perform best at temperatures of between 20 - 23°C (68 - 73°F). The life of the battery will be greatly reduced in areas of excessive heat so it is paramount that your UPS is kept in a well ventilated, temperature controlled environment as mentioned previously.

An automated battery check can be set to run once a month to ensure the batteries are healthy and that they deliver the required autonomy (runtime) when called upon. Should there be a fault with a single cell, (battery), or string, (multiple batteries), your UPS will alert you to this and corrective measures (possible replacement) can then be taken.

A comprehensive battery check is just one procedure performed during the annual servicing of your UPS system included in our maintenance contracts.

This, along with a healthcheck on all internal UPS components mitigates the chances of sub-standard operation and even failure and flags up any required remedial actions before they become detrimental.

Capacitors

The capacitors in your UPS system are components that adjust fluctuations in electrical voltage. Smaller capacitors smooth out the power supplied to the UPS processor while larger ones regulate the power flow to your critical load (protected equipment).

Much like batteries, capacitors are a consumable item that require replacing over time and are subject to the same environmental conditions. Capacitors may bulge or leak towards the end of their life cycle and whilst this is easy to identify, not all failed capacitors exhibit a visual identifier.

Should a capacitor fail, the other capacitors are forced to then take up the workload which in turn shortens their natural life.

As in the battery healthcheck, the capacitors are also checked during an annual preventative maintenance service.

A pro-active replacement service for both batteries and capacitors should be considered towards the end of their anticipated life span as best practice, waiting until these vital consumables fail can cause severe disruption and commercial detriment to the UPS equipment and ultimately, your organisation.

For further details on the comprehensive maintenance contracts offered by NSSE, click [here](#).