



Case Study: AEGON upgrades infrastructure with DPA

End-customer:

- AEGON

Business Partner

- Uninterruptible Power Supplies Limited

Industry:

- Financial Services

Scope:

- Design and installation of a new electrical power infrastructure including UPS power protection

Product:

- Conceptpower DPA (2 x 750 kVA (N+1))

When AEGON decided to create a primary European hub at its Edinburgh facility, the company invested over six million pounds upgrading the site's infrastructure and turned to Uninterruptible Power Supplies Limited (UPS), Newave's business partner in the UK, to look after its power protection requirements.

AEGON is one of the world's largest life insurance and pension companies, employing over 29,000 people, across 20 countries and servicing over 40 million customers around the globe. Its Edinburgh facility, which was selected to become the primary European hub and a vital link in the company's disaster recovery plan, recently underwent a £6.5million infrastructure upgrade (the largest in the facility's history). The extensive work included the design and installation of a new totally electrical power infrastructure – including a UPS power protection solution for its mission-critical data centre.

For a company the size of AEGON, dealing with the day-to-day demands of facilities management is never an easy task. Add a multi million pound upgrade to that pressure and you can appreciate why James Ferguson, facilities manager at AEGON's Scotland site, describes what he faced as “a tsunami of challenges”.

This pressure was somewhat eased by the fact that consulting and building services engineering practice, RSP Consulting Engineers LLP, was awarded the design and supervision based on their unrivalled experience and track record in the data centre arena. Newave's modular UPS, Conceptpower DPA, was also chosen as the power protection option which perfectly matched AEGON's requirements following an extensive UPS system review.

The project had to be completed quickly, but it had to be handled with care, as it was a live working environment. Downtime was not an option, as Ferguson explains: “It's about consistency of purpose, breaking everything down into constituent parts and delegating up and down. Success is about allowing the contractors and suppliers the freedom to do what they do best but within the constraints of working in a live data centre and the day-to-day running of the business.”

Inadequate Existing Power Protection

Existing back-up power protection on site came from a 14-year-old static traditional UPS, with a single back-up generator. In view of the fact that the





company's 32,500 square metre site is critical to business continuity, with synchronous operation between Edinburgh and North America, the existing system was wholly inadequate. Operating and energy efficiencies were poor, it was inflexible, had insufficient resilience and could not be easily expanded.

The Relevance of Modular UPS based on Decentralised Parallel Architecture (DPA)

Alan Chudziak, consulting engineer with RSP, who designed the electrical power infrastructure and UPS back-up protection system (alongside overseeing the AEGON project from planning to 'go-live' and hand-over), takes up the story:

"We've installed various types of UPS back-up systems including Newave's modular UPS technology in data centres, comms and SER rooms previously. Newave systems, distributed by Uninterruptible Power Supplies Ltd. in the UK, are particularly suitable for such environments because of their scalability and maintainability. In comparison with traditional static UPS, modular designs are smaller and lighter. They also allow you to install higher capacity in a much smaller footprint. They are easy to site; in this case via an existing 2,500kg capacity service lift. We'd considered installing four 400kVA traditional UPS units in an N+1 design, but it would have entailed costly, disruptive and time-consuming building works to crane them into position within the roof level plant room."



ConceptPower DPA has improved availability measures at AEGON by providing the required capacity (currently 750kVA/600kW) in 30 by 50kVA UPS modules. Housed in cabinets and operated in a parallel N+1 configuration, the modules are 'hot-swappable'. The floor space required by each cabinet is 0.58 square metres and a cabinet weighs just 490kgs. An equivalently-sized static UPS would require 5-6 square metres of floor space and weigh 8000kgs.

Mike Elms, UK sales manager at Uninterruptible Power Supplies, explains how Conceptpower DPA

eases the stress for clients and UPS engineers: "Picture the scenario: at an installation with traditional static UPS, it's 3am and the facilities manager is woken by a telephone call to say one of the UPS has gone down. He calls the engineer to attend site. Isolating the unit, removing covers, fault diagnosis, testing all takes time - all the while his boss and the facilities manager are breathing down his neck. It's very stressful. Couple that with the tiredness of the hour – and it's easy to understand how mistakes can be made.



“A modular system removes this potentially dangerous situation. Should a module fail at AEGON, the engineer would be onsite a mere 10-15 minutes swapping out the faulty module for a fully functioning unit. The faulty one can later be examined and repaired at leisure in Newave’s partner workshop, which is a risk free environment.”

Right-sizing Power Protection for AEGON

Another key feature of modular UPS is termed *Right Sizing*. In traditional static installations, UPS units are often oversized so they are not required to regularly run beyond their design limits. This carries a cost implication. The new system has been designed to more accurately match total load requirements. This also reduces the battery count and increases efficiency because each module operates at a much higher load than a traditional static UPS (usually running at only 25% load).

A reliable power supply is the lifeblood of any organization. Few can revert to manual operation in the event of a mains power failure. In AEGON’s case, with Newave’s ConceptPower DPA at its heart, critical power supplies can be sustained.

Thinking about the future

The upgrade is part of AEGON’s 10-15 year commercial plan to modernize and expand European markets. It’s a phased scheme (this being phase one). Over the next two to three years there will be another data hall installed in the facility. As AEGON grows, its need for electrical capacity will increase. Newave’s technology allows it to take incremental steps by increasing UPS capacity as required (in this instance, by adding more 50kVA modules). If this had been a traditional static UPS, in a four by 400kVA configuration, the only option would have been to install another UPS unit in parallel, which would have been a large, singular load step that would, in the short to medium term, have created wasted capacity.

About Newave

Newave Energy is a leading manufacturer of uninterruptible power supply solutions that enable customers to protect their critical applications from operational losses and ensure business continuity. Innovation, quality, serviceability and environmental friendliness are key characteristics of our power protection solutions. Newave Energy has introduced modularity and transformer-less UPS-technology several years ago and these are the most important architectural trends in the UPS market today. Our mission is to help our customers from various industries to protect their critical applications efficiently and to lower environmental impact in a sustainable way. The company operates its own sales and service offices in eight countries and a worldwide network of business partners. Newave Energy continues its focus on development and manufacturing of leading power protection technology while worldwide we provide comprehensive services such as technical consultancy, maintenance and service packages. The company was established in 1993 and is headquartered in Quartino (Switzerland).

Contact

Newave Energy
Via Luserte Sud 9
CH – 6572 Quartino
Switzerland

Phone +41 91 850 29 29
Internet www.newaveups.com

