

Article

PCS100 AVC

Protecting blockbuster movie animation and digital effects

New award winning supercomputer centre of New Zealand digital effects company Weta Digital - the makers of Avatar and other blockbuster movies is now protected from the potentially devastating effects of unpredictable power grid disturbances by a uniquely compact and energy efficient technology



The project

Inaugurated in 2008 Weta Digital's high density data center recently won the very prestigious international award for engineering excellence for a design that consumes only 60 percent the energy and is one-fourth the size of comparable installations.

The two ABB active voltage conditioners (PCS100 AVC) – which protect the entire site from the potentially destructive effects of voltage sags and power surges - were singled out for a special mention in the award motivation for contributing direct energy savings of four percent.

Weta Digital is one of the most successful visual effects companies in the film industry. Its long and impressive merit list includes the world's latest must see movie, Avatar, which to date has grossed \$1.6 billion (January 18) and is set to become the top grossing film of all time.

About 60 percent of Avatar is computer-generated. This requires vast computer processing and data storage resources, which in turn require large volumes of electricity to power both the servers and the cooling systems that prevent the center's 4,000 blade servers and 40,000 processors from overheating.

Weta Digital selected the ABB solution on the strong advice of their lead engineering consultant, Richard Snow of Intellex. Comparing the PCS100 AVCs systems to the alternative of installing large numbers of uninterruptible power supply (UPS) units, Snow said: "With a system efficiency approaching 99 percent, very significant energy savings were achieved [with the AVCs] over

the alternative of UPS, where the best we could expect was efficiencies in the mid-90s percentage range. Our chosen approach means that Weta can achieve some quite significant energy savings."

Not only are the PCS100 AVCs more efficient, they require only a fraction of the floor space of a UPS solution. They are not subject to the same intensive maintenance requirements and have a considerably longer service life than the five or so years of UPS batteries.

The PCS100 AVC is an inverter based system that protects sensitive industrial and commercial loads from voltage disturbance. An ABB power quality innovation, it provides fast, accurate voltage sag and surge correction as well as continuous voltage regulation and load voltage compensation.

Source : [ABB insider magazine](#)

www.abb.com/powerquality

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