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## Running back-up generator earns WA

**IT SOUNDS STRANGE, BUT THE PEEL HEALTH CAMPUS HOSPITAL IN WA IS BEING PAID THOUSANDS TO RUN ITS BACK-UP GENERATORS TO CREATE ENERGY CAPACITIES WHICH ARE MARKETED BACK TO GRID OPERATORS AT TIMES OF PEAK LOAD, WRITES DAVID HUTCHINS.**

**THE** Peel Health Campus, the major hospital and healthcare provider in Mandurah, Western Australia, is saving \$12,000 to \$15,000 a year after entering a deal to sell surplus electricity back to the grid.

The scheme is transparent to staff and patients, does not impact or degrade any of the hospital's service offerings, and actually transforms a cost within the facility's planning contingencies into a source for profit.

Audacious in its simplicity, the scheme involves the Peel Health Campus running off its back-up generators, and working with EnerNOC, a US-based energy demand response specialist who offers this "increased capacity" to energy suppliers wanting to increase grid capacity during peak loads.

Peel Health Campus manager, building engineering, Kevin Williams, says running the hospital's generators for limited extended sessions also provides an effective means of testing the integrity of the generator as part of the hospital's ongoing maintenance program.

"The reasons for entering into this partnership with EnerNOC are purely financial.

"When EnerNOC approached us with its demand share concept, we were familiar with that type of strategy, as we had completed a similar initiative with Western Power a few years ago.

"We were satisfied that the EnerNOC proposal was similar and offered realistic advantages. We basically consume 3.2 gigawatts per annum and we are a single story facility without lifts. We use gas for heating and water and catering.

"Being a hospital, it can be very difficult to save or reduce our energy costs because we can't really shed load. Running our generator for the periods agreed with EnerNOC reduces our load by approx 300kw and we ensure our load is adequately managed. The running costs of the generator are more than compensated by what we are paid through the EnerNOC arrangement," Williams says.

He says annually the savings will equate to carving about three to four per cent of the Peel Health Campus energy bill.

"We were hoping to save up to \$15,000 per annum, but that would be the upper limit, with the savings more likely being around \$12,000. I hope to gain approval to reinvest these savings in additional energy saving techniques and technologies, such as installing timers and specialist metering to attract additional savings and benefits.

"It's more about being an economist rather than an environmentalist," he says. "As much as I would like to save the world, like most operators in health the imperative is to do things that save money. If there is an environmental saving as well, then that is a bonus."



ABOVE: Kevin Williams saving money.  
MAIN IMAGE: The Peel Health Campus.



# Hospital \$1,000s

“BEING A HOSPITAL, IT CAN BE VERY DIFFICULT TO SAVE OR REDUCE OUR ENERGY COSTS BECAUSE WE CAN'T REALLY SHED LOAD. RUNNING OUR GENERATOR FOR THE PERIODS AGREED WITH ENERNOC REDUCES OUR LOAD BY APPROX 300KW AND WE ENSURE OUR LOAD IS ADEQUATELY MANAGED. THE RUNNING COSTS OF THE GENERATOR ARE MORE THAN COMPENSATED BY WHAT WE ARE PAID THROUGH THE ENERNOC ARRANGEMENT.”

Williams admits it's ironic that, while the EnerNOC deal means the hospital can trim its energy bill, the conventional mains power becomes the hospital's back-up contingency when running the generator.

“The number of times we will be required to run our generator between tests will be few and far between, so this arrangement ensures the equipment can perform optimally. If for any reason it experiences a problem, we can automatically switch back to mains power without any loss of service.

“I would advise facility managers or engineers in other healthcare facilities to consider similar demand response opportunities. If it doesn't impact on the integrity of their operations and the quality of their services, and saves them money, then it's a sound proposition,” he says.

EnerNOC's regional manager for Western Australia, Pablo Campillos, says the arrangement is more sophisticated than his company simply acting as middlemen.

“Demand response is a wholly separate service offering that requires a service provider to enable capabilities, deploy technology, and manage financial/market non-delivery risks. So an energy retailer has no distinct advantage over another group like us.

“In fact, suppliers have a particular disincentive to provide Demand Response because their business is entirely geared towards consumption.

“Retailers have no incentive to reduce a customer's load; rather the reverse. The vast bulk of research literature covering deregulated electricity markets indicate that very few suppliers worldwide have been able to move successfully into energy services.

“Mainly because ‘their heart is just not into it’. Unless a supplier overhauls their own culture and thinking and uses energy services to manage their own wholesale market costs and risks, then their provision of such services is half-hearted and only ever a tiny ‘value-add’ proposition for their customers and they usually use a third-party to do it,” Campillos says.

He says EnerNOC secures “capacity credits” directly from market operators (including users), and delivers that capacity when called on by the grid operator wishing to reduce loads off the grid.

“The energy provided, called ‘capacity’ when in reserve, is not surplus, but an interruption to the customer's normal consumption pattern. EnerNOC builds and manages ‘capacity portfolios’, not unlike some suppliers who build energy portfolios.

“We secure Demand Response capabilities that have different characteristics, such as availability, capacities, response times etc. and we ‘pancake’ these to offer ‘capacity blocks’ to deliver firm offerings to market and grid operators.

“So rather than run to a customer with a generator to buy a big block of energy

(baseload) to service load, and keeping that in reserve in case it's needed, like a supplier, we run to many ‘distributed generators/load curtailers’ and buy much smaller blocks of capacity to offer our market many different options,” Campillos says.

Demand Response is a relatively mature energy management paradigm, which emerged in the early 1990s as many energy utilities struggled to maintain supplies through peak load periods such as temperature extremes. Excess demand caused blackouts with utilities calling on customers to switch to back-up generators to reduce grid loads and enable ongoing operations.

Since then, numerous commercial organisations have developed significant businesses out of Demand Response.

EnerNOC is a \$US300 million a year company, listed on NASDAQ, with about 85-90 percent of its revenues coming from Demand Response.

It supplies Demand Response solutions to companies around the world, including hospitals and aged care services.

Williams says the fee Peel Health Campus earns over the period of the arrangement is an effective means of realising strong savings off its energy bill. EnerNOC claims its possible Peel will realise even greater savings over the \$15000 currently projected. **HA**