



GLOBAL NEIGHBORS USES SECOMEA TO KEEP ELECTRICITY FLOWING AT HOSPITAL



GLOBAL NEIGHBORS USES SECOMEA'S SITEMANAGER TO KEEP ELECTRICITY FLOWING AT HOSPITAL

Technological expertise is hard to come by in some of the world's most isolated regions. But a shortfall in local skills is easily overcome if you have the technology to operate remotely.

In Myanmar's Karen State, a newly built teaching hospital operates day and night under the watchful care of experts located 11,000 km away in Canada. This far-reaching engineering support comes from the team at Global Neighbors, the Canadian charity that built the hospital. Global Neighbors uses Secomea's SiteManager to remotely monitor the hospital's power needs and keep the electricity flowing. When the hospital's array of

solar panels is unable to keep up with demand, Global Neighbors feeds in extra power from an onsite diesel generator.

THE CHALLENGE:

INFRASTRUCTURE CHALLENGES IN REMOTE LOCATIONS

Global Neighbors is a humanitarian organization that works with the Karen people, a south-east Asian ethnic group who live in eastern Myanmar and, to a lesser extent, in western Thailand. Over the past 12 years Global Neighbors has built orphanages, schools, safe houses, and medical facilities including the 24-bed Taw Nor Teaching Hospital (TNTH).

TNTH, located 15 km from the town of Kawkaeik, is Karen State's first modern teaching hospital. It opened in 2016 and now trains medical personnel to care for people throughout the state.

Global Neighbors' previous projects have all been in urban areas. TNTH, however, is much more remote. It's their first infrastructure project that's beyond the reach of Myanmar's electricity grid.

GLOBAL NEIGHBORS CALL IN THE EXPERTS

Global Neighbours turned to the solar power experts, Wind & Sun, who recommended an array of Sunny Island solar panels. But even the most efficient installation of solar panels and batteries doesn't guarantee enough electricity to run a hospital 24 hours a day, especially for power-draining activities such as X-ray photography.

The power plant design includes the use of a diesel generator as a backup to the solar panels and battery storage. Balancing the generation from

two power sources as the site loads begin to increase introduces a need for monitoring and adjustments that the TNTH medical team is not yet equipped to handle. One of the project objectives is to train local technicians to maintain all the hospital equipment and the Secomea SiteManager enables Global Neighbors to see actual conditions and then to advise local technicians via telephone or social media connection. Glenn Lett, Global Neighbors' Professional Engineer, had did a quick internet search which led to the discovery of the Secomea remote-access solution.

THE SOLUTION: SITEMANAGER TAKES CARE OF EVERYTHING

Secomea put Glenn in touch with [Davis Controls](#), a Secomea distributor based in Toronto, Canada. With the support of Davis Controls, Global Neighbors used a local team to install a SiteManager at the hospital and to configure it to manage the two power sources and associated batteries for round-the-clock operation.

Installation and operation of the SiteManager were straightforward. Glenn's few questions were easily answered over the phone by Davis Controls. Using the Secomea LinkManager program on his PC in Canada, he now connects – via the Secomea GateManager M2M cloud server and a 3G link in Myanmar – to the SiteManager installation at TNTH. Through the SiteManager he monitors, controls and, if necessary, reprograms the installation for 24/7 power supply. The communication rate is very fast. Here is a typical LinkManager summary of the data transmission time between Saskatchewan, Canada and the Kawkareik, Myanmar hospital power plant: "Round-trip time: Min: 460.0 ms, Avg: 475.1 ms, Max: 483.6 ms.

MAXIMIZING FREE ENERGY FROM THE SUN

Glenn set out to power the hospital with as much free solar energy as the panels can generate.

“The system has been programmed to run the generator when the batteries drop to 65% charge between 15:00 and 21:00,” he says. “If the solar panels can’t keep up, we call in the diesel generator to top up the batteries for the night. At other times of the day, we let the batteries discharge to 40% capacity before starting the generator.

“The solar power generation has been working very well and the monitoring provided by Secomea has worked perfectly! We have our SiteManager wired into our solar storage batteries via a DC-DC converter, so even if the AC ever goes off we still have communication. I am very pleased with the installation and functionality!,,

– Glenn Lett, Global Neighbors’ Professional Engineer.

THE RESULT:

SUNSHINE AND SMILES

“So far the system has performed flawlessly and the solar panels and batteries have supplied all construction and work loads. The hospital has several Myanmar staff (doctor, nurses, EMT, midwives, maintenance) now stationed and living on the site and they began treating patients in early

March of 2017. Additional staff are being recruited to assist with the implementation of hospital administration and setting up the medical training courses.”

In the months since Glenn first spoke to Secomea about the TNTH installation, the system has proven to be reliable and robust.

“The solar power generation has been working very well,” says Glenn, “and the monitoring provided by Secomea has worked perfectly! We have our SiteManager wired into our solar storage batteries via a DC-DC converter, so even if the AC ever goes off we still have communication. I am very pleased with the installation and functionality!”

Global Neighbors Canada Inc
Neighbors Helping Neighbors