

6 June 2013

CLP Stages Typhoon Drill and Builds Temporary Pylon for Emergency Power Restoration

CLP Power Hong Kong Limited (“CLP Power”) conducted a major emergency drill today ahead of Hong Kong’s upcoming typhoon season as part of the company’s contingency measures against the massive power failures caused by storms around the world in recent years. The drill simulated the collapse of a transmission tower during a typhoon and the construction of a temporary pylon to restore power, a process that would see electricity restored 10 times faster than by repairing the damaged pylon.

More than 40% of CLP Power’s power network is carried through overhead lines while there are more than 700 400kV transmission towers that form the backbone of its supply system. Overhead lines are exposed and susceptible to the influence of weather and the external environment. If a pylon is destroyed by strong winds or collapses because of a landslide, it can take several months for it to be restored to working order. Although a ring circuit design allows for an alternative pylon or supply point to maintain electricity supplies in the event of such an emergency, the resilience of the grid would be weakened and it would be vulnerable to outages as a result of continuing bad weather or lightning strikes.

With incidents of super-typhoons increasing globally, CLP Power is carrying out reinforcement work and has identified 151 high-risk pylons and 74 slopes for attention. To further enhance its emergency response capability, CLP Power is also introducing an Emergency Restoration System. The new system allows for the rapid construction of temporary pylons, shortening the time it takes for power to be restored when an existing pylon is damaged from several months to just two weeks.

Mr Chow Tang Fai, CLP Power Director - Power Systems, said: “A reliable electricity supply is essential to Hong Kong’s social and economic well-being. CLP Power is committed to continually improving supply reliability. We are looking for new equipment and technologies to sharpen our emergency preparedness. Because transmission towers play a vital role in our power grid, we are introducing the Emergency Restoration System to better prepare ourselves for extreme conditions.

“By putting this plan to work, a temporary pylon can be built in just one to two weeks. The time needed to restore the operation of overhead lines can then be significantly shortened from several months to a little over 10 days.”

Building a temporary pylon demands expertise in a number of key specialised areas. It starts with a site survey conducted by geotechnical engineers to determine a suitable site for the pylon. Next, structural engineers calculate the strength required for the tower structure based on the terrain and the position of the damaged pylon. Electrical engineers then come in to arrange for the connection of the overhead lines and monitor the entire process. Highly qualified and experienced overhead line technicians are also critical to the process.

“As a customer-centric company, CLP Power is extremely well-prepared for emergencies. A total of around 100 employees and contract workers can be quickly mobilised for emergency restoration where necessary,” Mr Chow stressed.

As well as working on pylons, CLP has also implemented a number of other measures to counter the potential impact of super-typhoons since 2004. These include the installation of smart switchgear on 11kV and low-voltage overhead lines that supply electricity directly to 160,000 customers, the installation of flood alert systems in substations, and the creation of a typhoon response protocol and coordinating system. These measures, together with regular drills, are aimed at constantly improving CLP’s ability to respond to emergencies, ensuring a safe and reliable electricity supply for Hong Kong.

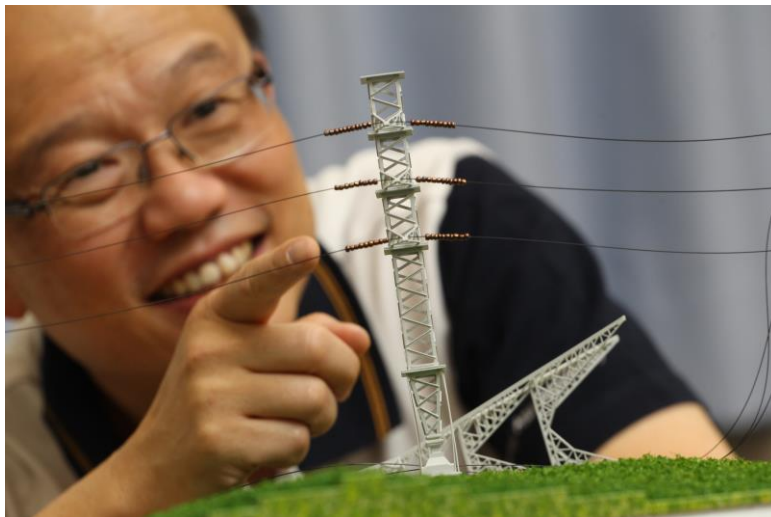
About CLP Power Hong Kong Limited

CLP Power Hong Kong Limited (“CLP Power”) is a Hong Kong utility subsidiary wholly owned by CLP Holdings Limited, a company listed on the Hong Kong Stock Exchange and one of the largest investor-owned power businesses in Asia. CLP Power operates a vertically-integrated electricity supply business in Hong Kong, and provides a highly reliable supply of electricity, as well as outstanding customer service, to 5.8 million people.

Photos:



Mr Chow Tang Fai, CLP Power Director - Power Systems, introduces the key elements of the Emergency Restoration System. Against the backdrop are the temporary pylon (left) constructed in the emergency drill and the conventional pylon (middle).



Mr Chow Tang Fai, CLP Power Director - Power Systems, explains how the application of temporary pylon can shorten the time it takes to restore the operation of overhead lines when a conventional pylon collapses.



The linesmen are connecting conductors on the 70-foot high temporary pylon. The construction of a temporary tower takes a little over 10 days, which is 10 times faster than repairing a damaged pylon.



Mr. Ho Po Keung, CLP Power Senior Tradesman (Special) - Overhead Line, shows the various safety gears required for pylon climbing. It includes a “Full Body Harness”, a “Double Hooks Lanyards”, and a “Fall Arrest System”

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