**Delta Builds Taipower's Largest Energy Storage System for**

**Xia Xing Power Station on Kinmen Island**

*Assists in Taiwan's Energy Transformation and Upgrade to a Smart Grid*

*Taipei City, Taiwan. – May 14, 2020 —* Delta, a global leader in power and thermal solutions, today announced that it has provided an energy storage solution to the Xia Xing Power Station under the Tashan Power Plant of Taiwan Power Company (Taipower) on Kinmen Island. Delta’s solution includes a 1MWh lithium-ion battery energy storage system (BESS), a 2MW capacity power conditioning system (PCS), energy management system (EMS), and environment management systems. The total solution is designed, manufactured, and built by Delta, which specializes in one-stop integrated services. Featuring high efficiency and safety, this system is Taipower's largest energy storage system. Delta’s solution can help stabilize the grid by quickly supplying backup power within 200ms after an unplanned generator outage takes place, provide a 30-minute buffer time to the power plant, and regulate the fluctuations caused by renewable energy on the grid. Kinmen is Taiwan’s first island to demonstrate a smart grid power system. The successful experience of this system will guide the construction of smart grids on Taiwan’s main island in the future.

Ping-Li Chung, president of Taipower, said, “Delta has actively invested in the smart grid field in recent years. It built an energy storage system as an experimental site for us at the Shulin branch of the Taiwan Power Research Institute in 2017. Energy storage systems play an important role in Taipower’s plans for building Kinmen into a smart grid demonstration island. We expect this 2MW/1MWh energy storage system will fully demonstrate its capabilities for helping to stabilize the grid.”

Ping Cheng, CEO of Delta said, “It’s an honor to participate in establishing Taipower’s largest energy storage system for the smart grid demonstration island Kinmen. Energy systems for the utility segment require rigorous planning and solid technology. Under the expert guidance of Taipower, Delta was able to leverage its strengths to make a contribution to Taiwan's energy transformation. Energy transformation is a crucial issue for the development of smart cities. In addition to energy infrastructure solutions such as renewable energy, energy storage systems, energy IoT, and EV charging solutions, Delta is also devoted to developing building automation solutions, which manage power consumption information and energy-saving applications from end consumers. Our aim is to provide comprehensive green solutions for smart cities.”

For the Kinmen Island project, Delta integrated its Building Automation Solutions, Energy Infrastructure and Industrial Solutions, and Energy Storage Solutions to complete this 2MW/1MWh energy storage system, which is currently the largest energy storage system of Taipower. The high-power lithium-ion batteries used in the BESS were made at Delta’s plant in Taiwan, and provide two to four times the discharge power over capacity (2C-4C) to supply a large amount of power instantly. Integrated with a megawatt-level bi-directional PCS and a self-developed EMS, the system can be operated in dual mode. Ordinarily, it runs under the F-P (Frequency-Watt) mode to help regulate frequency, but when any emergency occurs, it will automatically switch to the RoCoF (Rate of Change of Frequency) mode and within 200ms it will supply 2MW of power to secure a 30-minute buffer time for the grid. This rapid response time is twice as fast as the 400ms required by Taipower.

In addition to automatic voltage and frequency regulation, this system also features functions such as real and reactive power compensation and virtual synchronous generator (VSG) control. Since it was put into operation this January, the system has successfully helped stabilize the grid during the trial run of new generator sets No. 9 and No. 10 at the Tashan Power Plant, absorbing the excess reactive power generated after Kinmen's cables went underground, and maintaining the stability of the system's voltage. Moreover, to optimize the environment equipment operation of the system container, Delta introduced its IoT building automation solutions to monitor and control air conditioning, lighting, fire protection, and water accumulation detection equipment on a centralized management platform. The building automation solutions also included setting up smart LED street lights with IP cameras in the surroundings. If any abnormal intrusions are detected on site, the system immediately notifies power plant management personnel to respond.

The instantaneous loads of traditional generators and the difficulty of controlling renewable energy may cause large frequency fluctuations on the grid, which can challenge the stability of the power supply. Considering the large load variability and the rapid increase in the proportion of renewable energy in recent years in Kinmen, it is particularly important to build an energy storage system that can adjust the frequency in ordinary times and respond quickly in emergencies. Delta has completed energy storage systems for dozens of sites globally, including factories, energy-saving parks, microgrids, solar power plants, EV charging stations, and commercial buildings. Delta’s energy storage system solutions have all succeeded in optimizing grid efficiency and coordinating the energy supply, while contributing to the transformation of global energy.

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**About Delta**

Delta, founded in 1971, is a global provider of switching power supplies and thermal management products with a thriving portfolio of smart energy-saving systems and solutions in the fields of industrial automation, building automation, telecom power, data center infrastructure, EV charging, renewable energy, energy storage and display, to nurture the development of smart manufacturing and sustainable cities. As a world-class corporate citizen guided by its mission statement, “To provide innovative, clean and energy-efficient solutions for a better tomorrow,” Delta leverages its core competence in high-efficiency power electronics and its CSR-embedded business model to address key environmental issues, such as climate change. Delta serves customers through its sales offices, R&D centers and manufacturing facilities spread over close to 200 locations across 5 continents.

Throughout its history, Delta has received various global awards and recognition for its business achievements, innovative technologies and dedication to CSR. Since 2011, Delta has been listed on the DJSI World Index of Dow Jones Sustainability™ Indices for 9 consecutive years. Delta also ranked a Climate Change Leadership Level by CDP for the 3rd year in 2019.

For detailed information about Delta, please visit: [www.deltaww.com](http://www.deltaww.com)

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