



Storm Hardening Services

In the past, it was not deemed economical to design distribution systems to withstand major weather events such as hurricanes, linear wind storms, and ice storms. The expectation was that utilities would be prepared for timely customer restorations and repairs. Expectations are changing, and utilities are increasingly being expected to “harden” their system so that less damage occurs during storm. More broadly, utilities are being encouraged to have “resilient systems” that consider hardening along with protection, switching, vegetation management, and other factors. Quanta Technology has helped dozens of utilities address nearly every aspect of this complicated subject. Our storm hardening projects are designed to typically customized based on specific customer needs, but the following describe typical engagement areas.

Post Storm Audit. After a major storm, utilities are often the focus of media and regulatory investigations. This is complicated by the fact that system restoration and repairs have often been completed before storm damage data collection has been considered. Our experts have performed independent post storm audits for many utilities and for a variety of weather events. Often, we are able to counter many of the negative accusations while simultaneously identifying opportunities for improvement in data collection, storm response, and hardening.

System Hardening. System hardening include activities that make distribution systems less susceptible to damage during major storms. This includes issues related to trees, pole strength, pole loading, small wire, underground conversion, and many others. Our experts have helped many utilities quantify the benefits of potential hardening options so that they can be applied in a targeted and cost-effective manner. Typically this includes (1) a short-term plan to address critical issues and gain hardening experience, and (2) a long-term hardening roadmap that systematically addresses the entire system over time.

System Resiliency. System resiliency includes activities that allow a system to interrupt fewer customers during major storms and allow for quicker restoration. System resiliency includes hardening, but also includes issues such as line switching, automation, right-of-way access, restoration sequencing, inventory management, and contractor management. A the goal of a resilient system is to “bend” rather than “break” when a major storm strikes. The approach is similar to system hardening.

Storm Response. Quanta Technology can help utilities both assess actual storm response efforts and provide recommendations for cost and efficiency improvements. Typical areas of focus include forensic data collection, storm centers, communications plans, staging centers, logistical support, supplier management, contractor management, restoration, and post-restoration audit.

Storm Modeling. Storm modeling is becoming increasingly important for both storm operations and hardening efforts. When a storm is approaching, system modeling can estimate the type, amount, and locations of damage so that crews can be stocked and pre-dispatched. During hardening and resiliency efforts, storm modeling helps to identify the most cost effective ways to achieve specific hardening and resiliency goals. Quanta Technology has more experience than anyone else in the world in the area of electric utility storm modeling.

Expert Witness Support. It is not uncommon for utilities to receive a large amount of negative publicity during and after a major storm. This can result in regulatory hearings, mandated investigations, difficulties in cost recovery, and difficulties in rate cases that include hardening and resiliency spending. It has proven helpful in these situations for utilities to retain independent experts to provide written and oral testimony. Quanta Technology has multiple people who have successfully provided expert witness support for utility in the areas of storm damage and storm hardening.

Training. Quanta Technology is one of the few organizations in the world who offers a complete course in electricity infrastructure storm hardening. Hardening is also included as a standard material in our reliability courses. Typical subjects covered include: weather modeling, failure modes, hardening tactics, resiliency tactics, vegetation management, extreme wind ratings, failure rate models, cost-to-benefit analysis, and developing a hardening roadmap.

About Quanta Technology. Quanta Technology provides expert-based management and technical consulting for utilities, heavy industry, and related entities. It is a wholly-owned subsidiary of Quanta Services (NYSE: PWR). Quanta Services, employs about 18,000 people and is both the largest utility union contractor and utility non-union contractor in North America.

For more information contact:

James Blackman
Director of Business Development
919-334-3044
jblackman@quanta-technology.com