



Distribution Reliability Services

Distribution reliability is one of the most important issues for electric utilities due to its high impact on cost, its high impact on customer satisfaction, and its high regulatory scrutiny. Since the issues relating to distribution reliability span nearly every department and budget, many utilities find it difficult to address this subject in a holistic manner. Quanta Technology has many of the world's top experts in distribution reliability, and has helped dozens of utilities address nearly every aspect of the subject. Distribution reliability projects are typically customized based on specific customer needs, but the following describe typical engagement areas.

Predictive Modeling. Predictive modeling allows the benefits of potential reliability improvement projects to be quantified and optimized. We have more knowledge of reliability modeling than anyone else in the world, and are experts in the reliability modules of all of the major software applications (e.g., SynerGEE, Cymdist, WindMil). Our experts can model systems, perform studies, validate software modules, help with deployment, train users, and enhance software so that models properly reflect actual system reliability characteristics.

Reliability Improvement Planning. Many utilities are interested in finding the most cost-effective way to improve the reliability of a feeder, an area, and operating division, or their entire system. Whatever the scope, we have a systematic and rigorous approach to ensure that reliability improvement targets are achieved for the lowest possible cost. Our experts have been helping utilities with reliability improvement plans for more than a decade, and have a track record showing that actual reliability improvements typically exceed predictions due to our conservative assumptions.

Data and Metrics. Proper reliability management must be based on appropriate metrics and representative data. We have extensive experience in the correct application of both traditional (e.g., SAIFI, SAIDI) and custom indices for both regulatory and managerial functions. We are also experts in the entire reliability data process from event capture to outage management systems to reliability index calculations. Related expertise in this area includes benchmarking, root cause analysis, and data mining.

Project Prioritization. Most utilities today have identified projects that exceed available budgets. We have helped many utilities prioritizing reliability projects in a compelling manner including capacity versus reliability projects, capital versus expense projects, transmission versus substations versus distribution, and projects that span regions, programs, and budgets.

Reliability Roadmap. A roadmap is typically required to make dramatic and coordinated changes to reliability. The goal of a roadmap is to assess the current state, define the desired future state, and lay out a plan, metrics, and milestones so that the desired state can be pursued with a high chance of success. A roadmap will typically include a cost-versus-reliability assessment, long-term reliability improvement targets, short term goals, and low hanging fruit. Reliability roadmaps are often used to justify increased reliability spending.

Rate Case Support. After a long period of rate freezes, many utilities are recognizing the need for increased infrastructure investment and are filing new rate cases. Typically, proposed budgets includes large increases in reliability spending and aging equipment replacement. Since these budgets deviate from historical spending pattern, they receive intense scrutiny and often times are dramatically reduced or eliminated completely. We have helped many utilities successfully defend large reliability improvement budget by offering independent testimony on need, best practices, and spending efficiency.

Training. Our instructors have taught distribution reliability to hundreds of utility engineers and managers around the world. Training courses can be tailored to the specific needs of each utility, but commonly include one or more of the following topics: data and indices, systems and processes, root causes of poor reliability, reliability modeling, major events, aging infrastructure, reliability improvement, reliability planning, and cost-to-benefit analysis.

About Quanta Technology. Quanta Technology LLC 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 non-utility contractor in North America.

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