



# NEPTUNE VS. NATURE, NO CONTEST.

In the fall of 2001, Taiwan was rocked by a powerful typhoon. Among the many businesses hit hard by the disaster was Taiwan Power, the country's national electric company. Taiwan Power's Taipei City warehouse was flooded. The company had just taken delivery of 80 DAP handheld computers, which are utilized as part of Neptune's ARB® Utility Management Systems™ for walk-by meter reading. The units, which were still in their shipping crates in the warehouse basement, were completely submerged in water and mud.

While DAP handhelds are considered among the industry's most rugged, no unit had ever been subjected to such adverse conditions. Taiwan Power returned one of the units for a preliminary damage assessment. The shipping carton arrived with the unit and a good portion of floodwater inside. However, once the handheld was dried off, it booted up immediately.

The utility returned the remaining 79 units for inspection. Other than replacing the computer's battery chargers as an operational and safety consideration, the units required no repairs. Each was fully operational and ready to operate like new.

## **Suspension of Disbelief**

In the United States, typhoons are rare, but hurricanes are a frequent occurrence.

Faced with the ongoing threat of such storms, the executive management team of a large southeastern utility company challenged its staff to improve responsiveness with respect to power restoration following severe storms. The utility came up with a scenario that would test the limits of Neptune's mobile AMR data collection equipment.

The utility put together a proof-of-concept project that called for its Line Inspection helicopter to be outfitted with mobile data collectors that would read RF-equipped electric meters. This would allow the utility to access a

large number of meters in a short period of time, and would give them the information necessary to quickly pinpoint areas needing service restoration. The utility tested the idea by outfitting its helicopter with Neptune's MRX920™ mobile unit. The helicopter then flew a predetermined path over a portion of the utility's service area on the Florida coast, traveling at an altitude of 400 feet and a speed of 60 mph. In 70 minutes of flight time, the MRX920 collected over 147,000 readings – an average of over 2,000 reads per minute. This is data that the utility would not otherwise be able to collect in post-storm conditions in which the normal methods of data collection are impossible.

The utility continues to analyze the extraordinary results and evaluate the reliability of the outage prediction models the test provided.

## **Extreme Conditions, Exceptional Results**

Neptune's ARB Utility Management Systems are built with the objective of putting utilities in control of their resources. Unfortunately, no matter how efficiently the system gathers, transmits, and presents data, there are some things that cannot be controlled – namely, the conditions in which these systems must operate.

In both scenarios presented here, Neptune products were asked to perform in conditions beyond even those their aggressive design specifications suggest. Both times, the products responded in dramatic fashion with accurate, efficient results. These situations prove that utilities that take advantage of Neptune's expertise can expect amazing results in everyday situations, and in almost any circumstances the future may bring.



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