

San Diego Gas & Electric

Using Weather Data to Manage Electric Power Grid



Case Study Summary

Location: San Diego County

Participating Organization: San Diego Gas & Electric

Problem: Wildfires in southern California in the fall of 2007 caused the evacuation of more than 500,000 people with over 2,000 structures burned and billions of dollars in damages.

Solution: Weather Stations installed throughout San Diego County to provide valuable information to the electric power grid management process in preemptively reducing fire damages caused by high winds.

Products Used: CR1000 datalogger, 05103 Wind Monitor, cell communications

In October of 2007, 30 wildfires burned approximately 972,147 acres from Santa Barbara County southward to the U.S.-Mexico border. In San Diego County 6 fires burned 368,716 acres. Several of these fires could have been caused by power lines that were damaged by extraordinarily strong Santa Ana winds with gusts measured as high as 112 mph!

San Diego Gas and Electric (SDG&E), took it upon themselves to become more proactive when it comes to managing their power grid during periods of adverse weather conditions. In August, 2008 SDG&E worked with Western Weather Group to install several weather stations in San Diego County. Data were gathered every 10 minutes and made available to the staff meteorologists and grid operations personnel. During the fall of 2008 the stations provided valuable weather data where there had previously not been any.

Over the next several years the automated weather monitoring network was expanded across San Diego and Southern Orange Counties to include up to 170 stations, making it the most densely populated automated weather monitoring system in the United States!

During the December, 2017 Santa Ana event this network of stations provided the grid operations personnel with invaluable data that allowed them to make real-time decisions that included shutting down circuits where dangerous wind conditions were occurring and prevented fires that could have been caused by the high winds.