

# WEATHER AND GEOGRAPHICAL RISKS TO UTILITY AND GAS TRANSMISSION LINES

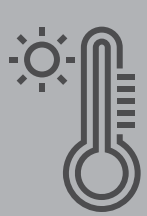


Natural weather hazards by themselves often pose threats to electric utility and gas organizations across their service territories at any given time. Weather hazards such as high winds, lightning, high temperatures and drought conditions combined with an ignition source can increase an already hazardous situation. Weather always plays a role in how a fire starts, grows, changes and the assets it can impact. Asset specific forecasting and monitoring of these conditions is critical to minimize grid related wildfires and warn impacted communities.

When multiple weather conditions are present at the same time, fighting and containing the wildfire becomes increasingly dangerous and difficult to contain. At this point, real-time monitoring and alerting based on assets within critical high fire risk areas is the key to operational decision making, utility customer safety and asset protection.

## Dry vegetation / Drought conditions

- Lack of rain and humidity remove moisture from plant life
- Dry or dead foliage provides ample fuel allowing for easier ignition of a wildfire
- Increases the chance of the wildfire quickly spreading



## Increasing temperatures

- Speeds the process of evaporation and plant dehydration
- Can increase heat stress in firefighters hindering their ability to slow or stop the wildfire spread

## High winds / changing winds

- Can cause trees or branches to blow onto power lines sparking fires
- Exposes utility assets during a wildfire event with very little warning
- Increases the spread of the wildfire growth
- Changing winds can shift the wildfire direction, quickly endangering new assets and sparking new fires
- A small spark can quickly be turned into a raging wildfire within minutes



## Lightning

- Can spark new fires adding to the wildfire growth
- Poses risk to those fighting the wildfire
- Strikes near or on a gas line structure may cause a gas leak or fire
- Flashover to ground of a line could occur



## Dense smoke

- Can cause outages from flashover events between transmission lines
- May affect a large area as terrain slows down access
- May be given lower priority of wildfire fighting resources
- Degrade transmission and increase arcing



## Remote areas

- Hinders the ability for firefighting teams to reach the wildfire
- May affect a large area as terrain slows down access
- May be given lower priority of wildfire fighting resources
- Damage to transmission can impact planned supply, limit grid balancing options and force outages

## MINIMIZING RISK

With the increase in annual wildfires, it is critical for electric utility and gas transmission organizations to have up-to-date, real-time and forecast data to help minimize threats to assets, reduce outages and provide cost savings. The good news is accurate wildfire and weather data is available, and there are tools that combine that data into one easy-to-use, reliable product that will allow users to proactively lessen the impact to assets, budget and help provide personnel safety.