

# McCain Intersection Works When All Others Fail During Category 3 Winter Storm Stella

## CASE STUDY

McCain's 48VDC Low-Voltage ATC Cabinet powers only working signals in Newburyport, MA until power was restored.

### McCain's Low-Voltage ATC Cabinet Continues Operating During Massive Power Outage

In early 2017 at the request of McCain Distributor, Electric Light Company, Inc., the Massachusetts Department of Transportation (MassDOT) approved a solo intersection pilot to test McCain's Low-Voltage ATC (Advanced Traffic Controller) Cabinet. Initially designed to test the low-voltage cabinet's safety features for installers, the pilot yielded a major additional benefit when a late season Category 3 winter storm caused massive power outages throughout the region.

The intersection with McCain's 48VDC Low-Voltage ATC Cabinet remained fully operational during the storm and throughout the recovery period. Ten hours after the storm, at the time of its discovery, the battery backup was still at 70%; enough to run the intersection for two days fully actuated and an additional two weeks in flashing yellow.

- **In Newburyport, MA, after the storm, only the McCain intersection remained operational.**
- **Every other signal in town remained dark until service crews were able to restore power.**
- **10 hours after police discovered the functioning intersection, the battery backup still had 70% of its charge remaining.**

### PROJECT LOCATION

Intersection of Old Route 1 and Low Street in Newburyport, Massachusetts – a historic city in Essex County approximately 35 miles north of Boston.

### SOLUTION

McCain 48VDC Low-Voltage 350i ATC Cabinet

### Snow Emergencies Routinely Leave Corridors Without Operating Signals

Given its climate and geography, the Massachusetts coastline is particularly susceptible to massive snow storms and blizzards as well as the power outages that accompany them. When they lose power, the majority of the region's signalized intersections remain offline until utility service is restored, which in some cases, can be days or weeks. The danger of icy and snow-covered intersections is compounded by dark signals, one of the most dangerous traffic scenarios.

In March 2017, late winter storm Stella brought blizzard conditions to parts of Massachusetts, blanketing New England with 3 – 5 feet of snow, leaving 100,000 customers without power. As a result, every one of Newburyport's conventional traffic cabinets failed when they lost utility power.

New England is not alone. Extreme weather is causing a dramatic increase in major power outages, estimated to have increased tenfold since the mid-1980s.

### BENEFITS OF LOW-VOLTAGE OPERATIONS

- ✓ Dramatically extend the life of battery backups
- ✓ Protect drivers, personnel, and public from accidental contact with high-voltage (120VAC) wires in the event of a knockdown
- ✓ Lower personal protective equipment (PPE) requirements
- ✓ Improve safety for anyone with access to the cabinet (e.g. installers, technicians, consultants)