

## Outage frequency and duration EU28-29

One key company goal on an annual basis is to deliver world-class reliability to customers. This includes achieving stretch targets for outage frequency and restoration times. The objective is to achieve indexes that are less than the target numbers.

There were 11 major storms and five extraordinary storms in 2010. The 2010 year-end total System Average Interruption Frequency Index (SAIFI) beat the target. Results were more than the targets for non-storm Customer Average Interruption Duration Index (CAIDI) and major storm (> 10,000 customers) CAIDI. Both the non-storm CAIDI and major storm CAIDI were above the 2009 result and the three-year average.

Storm activity for 2010 involved more interruptions caused by wind damage and tree growth compared to lightning as had been the case in previous years. Lightning-related outages can often be restored quickly by replacing a fuse or closing a feeder circuit breaker. Tree growth-related outages can be somewhat elusive and require more time to find during feeder patrols. This is especially true when an outage occurs after dark, and no customer calls are received providing a location for a possible contact between a tree and power line.

An extraordinary storm is declared if one of the following conditions is met: severe weather conditions result in 100,000 or more unplanned and sustained customer interruptions within a single day; or events of sufficient intensity give rise to a state of emergency declaration by local, state or federal government.

## 2010 reliability performance

### EU28 – Power outage frequency

We Energies system SAIFI<sup>(1)</sup> = 0.66\*

### EU29 – Average power outage duration

We Energies system SAIDI<sup>(2)</sup> = 97.5 minutes\*

We Energies system CAIDI<sup>(3)</sup> = 147 minutes

\*SAIFI and SAIDI values exclude extraordinary storm and transmission related outages only.

<sup>(1)</sup> SAIFI: System Average Interruption Frequency Index – A system SAIFI of 1.0 means that on average, a customer on the distribution system would experience one interruption in a year, while a SAIFI of 0.5 would equate to one interruption every two years.

<sup>(2)</sup> SAIDI: System Average Interruption Duration Index – A system SAIDI of 50 minutes means that on average, a customer on the distribution system would experience 50 minutes of interruption in a year.

<sup>(3)</sup> CAIDI: Customer Average Interruption Duration Index – A system CAIDI of 100 minutes means that if a customer experiences an interruption, the average duration of the interruption would be 100 minutes.

## Electric distribution system reliability highlights for 2010

- The 15,143 outage events in 2010 is the highest number of outage events in the last five years.
- The major outage causes in 2010 included: vegetation; equipment failure/deterioration; weather; and wildlife.
- Restoration analysis for 2010 showed that 90.1 percent of We Energies' customers were back in service within three hours after an outage for non-storm days.
- On non-storm days, 98.7 percent of customers were restored within eight hours; for major storms, 99.3 percent were restored within 24 hours.

