

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Vegetation-Related Transmission Outage Report

First Quarter 2014

RELIABILITY | ACCOUNTABILITY



3353 Peachtree Road NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Executive Summary

The vegetation-related transmission outages that occurred in the first quarter of 2014 are being reported in accordance with Requirement 4 of standard FAC-003-1.¹

The standard requires each outage to be categorized as one of the following:

- Category 1 — Grow-ins: Outages caused by vegetation growing into lines from vegetation inside and/or outside of the Right-of-Way (ROW).
- Category 2 — Fall-ins: Outages caused by vegetation falling into lines from inside the Right-of-Way (ROW).
- Category 3 — Fall-ins: Outages caused by vegetation falling into lines from outside the Right-of-Way (ROW).

Table 1 is a summary of the vegetation outages that occurred in the first quarter by voltage class and category.

Category	RE Designated Critical Lines <200 kV	230 kV	345 kV	500 kV	765 kV	Total
Category 1 — Grow-ins	0	0	0	0	0	0
Category 2 — Fall-ins	0	0	0	0	0	0
Category 3 — Fall-ins	0	4	0	1	0	5
Total	0	4	0	1	0	5

Table 1: Summary of Vegetation-Related Outages, by Voltage Class and Outage Category for First Quarter 2014

All the outages in the first quarter of 2014 fell within the footprint of a single Regional Entity, SERC Reliability Corporation. All the outages were Category 3, fall-ins due to high wind, tornado or thunderstorm conditions in the area.

In comparison, during the first quarter of 2013, there were two 230kV Category 3 vegetation-related transmission outages (both occurred during high winds/thunderstorm periods) and one

¹ Per R3.2 of Reliability Standard FAC-003-1, the Transmission Owner is not required to report to the Regional Entity certain sustained transmission line outages caused by vegetation such as (1) vegetation-related outages that result from vegetation falling into lines from outside the ROW that result from natural disasters or (2) vegetation-related outages due to human or animal activity.

345kV Category 3 vegetation-related transmission outage (occurred due to a rotted tree) reported.

The events that occurred in the first quarter of 2014 do not cause a concern or pose a significant risk on the reliability of the bulk power system.

Reported Vegetation Outages for Q1 2014

Category 1 — Grow-ins

No outage caused by vegetation growing into lines from vegetation inside and/or outside of the ROW was reported during the first quarter 2014.

Category 2 — Fall-ins

No outages caused by vegetation falling into lines from inside the ROW were reported during the first quarter 2014.

Category 3 — Fall-ins

As noted above, five (5) category 3 outages caused by vegetation falling into lines from outside the right-of-way were reported during the first quarter 2014. Details of the outages are below.

SERC Reliability Corporation (SERC)

Outage on January 6, 2014: A 108 feet tall live loblolly pine tree located 23 feet off the ROW fell against a 230kV line during windy conditions. Previous prescribed burning had burned the inside and caused a cavity. Though the cavity was not visible from the ROW, it coupled with the wind to bring down the tree; and caused an outage that lasted 4 hours and 19 minutes. A contract tree crew patrolled the line and the controlled burning area for any hazard trees. As a result, an oak tree that had been damaged by the prescribed burn was removed.

Outage on January 11, 2014: During a severe thunderstorm, strong winds broke a live, 120 feet tall loblolly pine tree approximately 10 feet from the ground. The tree fell into outside phase of the 230kV transmission line, causing an outage that lasted 56 hours and 16 minutes. The long outage duration was due to the flooding of a nearby creek which prevented the repairs of the two insulators damaged in the tree fall. The tree was located 19 feet outside the ROW. Contract tree crew inspected the area and removed an additional hazard tree.

Outage on January 21, 2014: During high winds, a live 98 feet tall loblolly pine tree located 38 feet from the ROW was uprooted, and struck a conductor of a 500kV transmission line. The uprooted tree caused an outage that lasted for approximately 2 hours and 7 minutes. The contract tree crew inspected the area and removed several trees.

Outage on February 21, 2014: A live, healthy 90 feet tall laurel oak tree which was located 9 feet outside the ROW was uprooted during a possible tornado, causing an outage on a 230kV tapped line. The tapped line was down for 4 hours and 30 minutes however the power was

restored to the network line in 29 minutes. The area was inspected, and no danger trees were found at this location.

Outage on March 30, 2014: During strong winds, a 78 feet tall yellow poplar that was located 18 feet outside the ROW fell into a 230kV transmission line. The tree was located on a creek bank with erosion from recent rains. The line was sectionalized, and the power was restored within 29 minutes in one area and within 5 hours and 47 minutes in another area. The areas were inspected to determine if any other off-ROW trees presented a similar fall-in risk, and none were found.

Marked Decrease in Category 1 Outages

There has been a marked decrease in Category 1 outages since to implementation of FAC-003 standard. The following two figures illustrate the decline in the number of outages caused by vegetation growing into transmission lines from within the right-of-way since 2004.

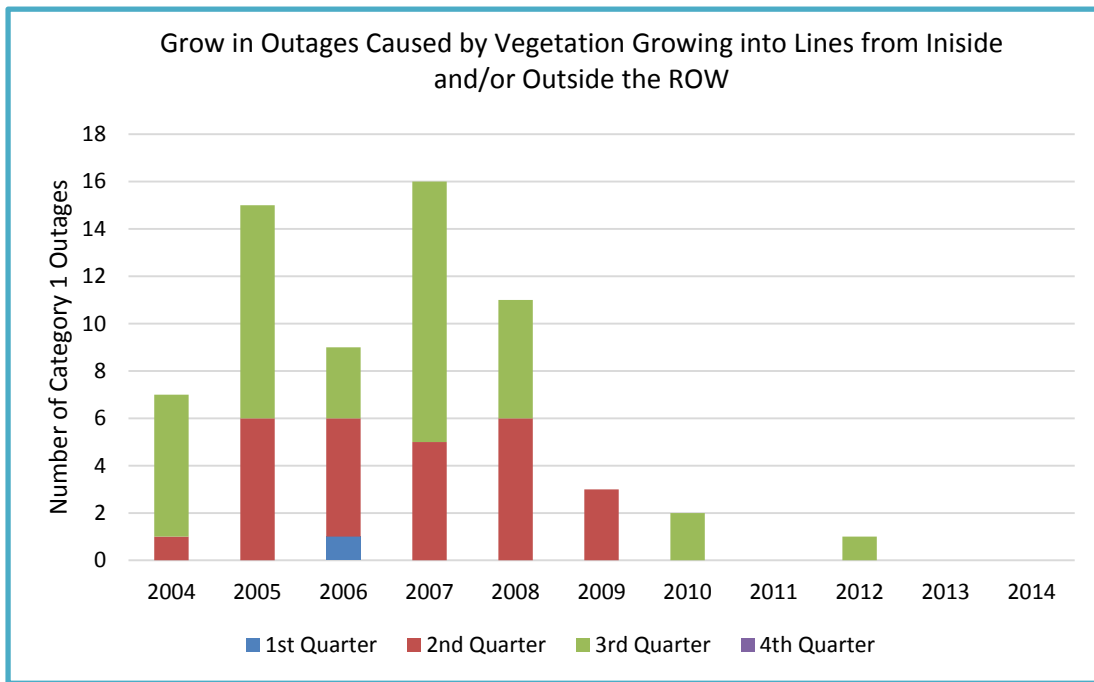


Figure 1: Grow-in outages from inside and/or outside ROW by reported quarter and year

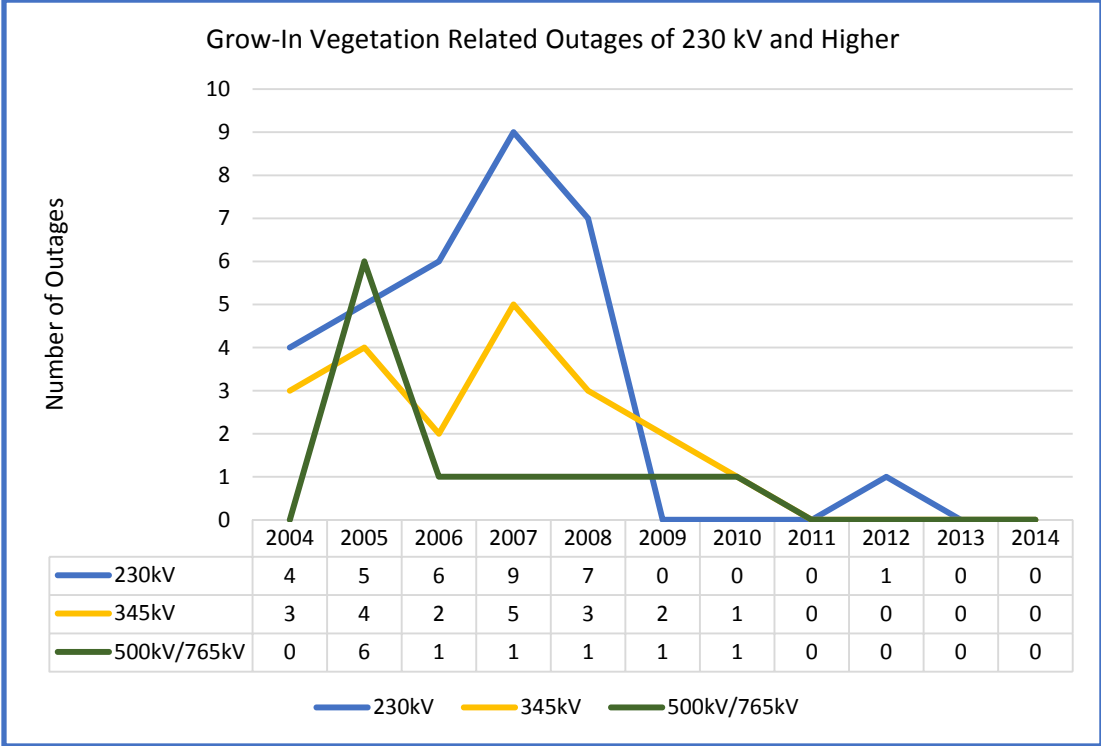


Figure 2: Grow-in vegetation related to outages of 230 kV and other high voltage class transmission line