

**NERC**

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

# Vegetation-Related Transmission Outage Report

Second Quarter 2014

**RELIABILITY | ACCOUNTABILITY**



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## Executive Summary

The reportable<sup>1</sup> vegetation-related transmission outages that occurred in the second quarter of 2014 are being reported in accordance with Requirement 4 of standard FAC-003-1.

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 second 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	2	0	0	0	2
<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>

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

In comparison, in the report for the second quarter of 2013, there were two Category 3 vegetation-related transmission outages that affected Regional Entity-designated critical lines under 200 kV (both occurred during high winds) and one Category 3 vegetation-related outage on a 230 kV line (during a localized storm).

As discussed below, the events that occurred in the second quarter of 2014 do not cause a concern or pose a significant risk to the reliability of the bulk power system.

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<sup>1</sup> 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 Right-of-Way that result from natural disasters or (2) vegetation-related outages due to human or animal activity.

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## Reported Vegetation Outages for Q2 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 second quarter 2014.

### Category 2 — Fall-ins

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

### Category 3 — Fall-ins

As noted above, two (2) Category 3 outages caused by vegetation falling into lines from outside the ROW were reported during the second quarter 2014. Details of the outages are below.

#### **SERC Reliability Corporation (SERC)**

Outage on June 13, 2014: A healthy green oak tree 40 feet off the right-of-way uprooted and struck a 75-foot tall oak tree located 16 feet off the ROW, causing it to fall into a 230 kV transmission line during a thunderstorm. The resulting outage lasted for 17 hours and 44 minutes.

The surrounding area was patrolled for 5 spans for any other hazardous trees. One additional tree was identified and removed.

#### **Western Electricity Coordinating Council (WECC)**

Outage on May 1, 2014: An outwardly healthy 75-foot tall Douglas fir that was 20 feet outside the ROW fell on an outside phase of a 230 kV line, causing an outage. The tree was suffering from laminated root rot decay, a condition that destroys the large supporting roots, but leaves the smaller absorption roots intact, allowing the tree to appear healthy. The outage lasted 5 hours and 13 minutes.

A contract tree crew patrolled the area but found no additional defective trees. Weather did not appear to be a factor in this outage. Since 2007, WECC is aware of three previous vegetation-caused outages from laminated root rot in or near the Puget Sound Basin of Washington. These outages occurred on transmission lines owned by various registered entities. WECC will continue to monitor the reliability impact of vegetation-related outages caused by laminated root rot.

## Summary of 2014 Outages to date

The table below summarizes the number of transmission outages by voltage level, region, and category in the first and second quarter of 2014.

Region		FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	TOTAL
First Quarter	Category 1									
	Category 2									
	Category 3					4-230kV 1-500kV				4-230kV 1-500kV
Second Quarter	Category 1									
	Category 2									
	Category 3					1-230kV			1-230kV	2-230kV
TOTAL for Q1 and Q2 2014	Category 1									
	Category 2									
	Category 3									6-230kV 1-500kV
<p style="text-align: center;"> <b>Category 1: GROW-INS (inside/outside ROW)</b>  <b>Category 2: FALL-INS (inside ROW)</b>  <b>Category 3: FALL-INS (outside ROW)</b> </p>										

## Marked Decrease in Category 1 Outages

Across the regions, Category 1 outages are increasingly rare due to implementation of the 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 ROW since 2004.

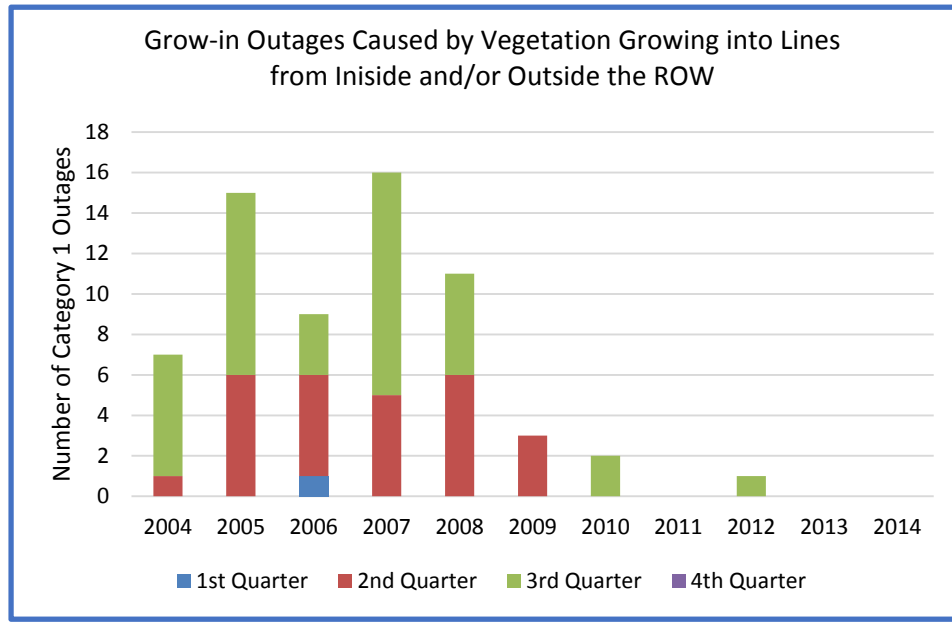


Figure 1: Grow-in outages from inside and/or outside ROW by reported quarter and year

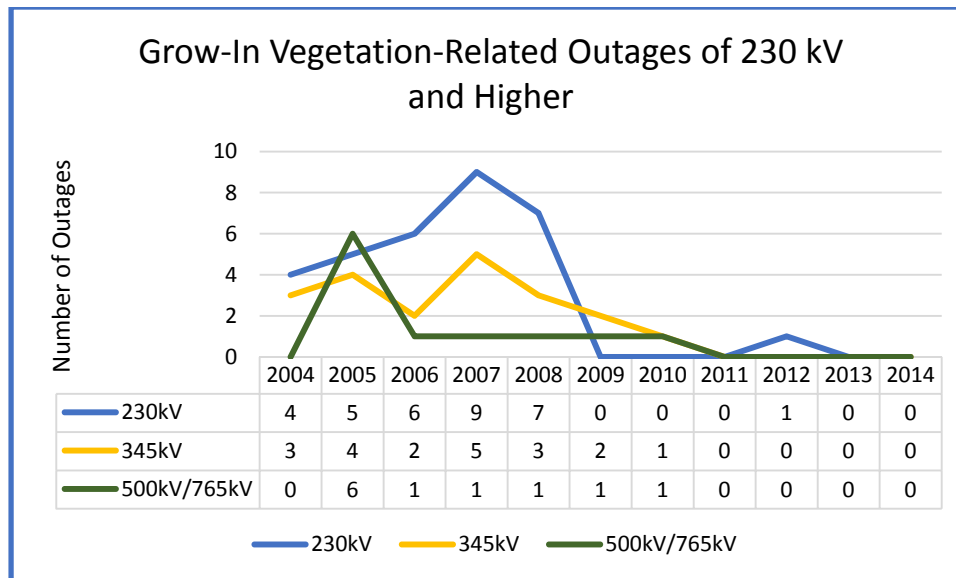


Figure 2: Grow-in vegetation related to outages of 230 kV and other high voltage class transmission line