

Vegetation-Related Transmission Outage Report Second Quarter 2009

The NERC Board of Trustees Compliance Committee has reviewed and accepted this Vegetation-Related Transmission Outage Second Quarter 2009 Report.

Vegetation-related transmission outages that occurred in the second quarter of 2009 are being reported in accordance with 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 ROW.
- Category 2 — Fall-ins: Outages caused by vegetation falling into lines from inside the ROW.
- Category 3 — Fall-ins: Outages caused by vegetation falling into lines from outside the ROW.

All Category 1 and 2 outages are considered to be violations of NERC standard FAC-003-1, with corresponding levels of noncompliance defined in the standard. The reporting of these violations is handled separately as part of the NERC performance reporting process. Category 3 outages are not considered to be violations of NERC standard FAC-003-1. Table 1 is a summary of the vegetation outages that occurred in the second quarter by voltage class and category.

Table 1: Second Quarter 2009 Summary of Vegetation-Outages by Voltage Class and Outage Category

Category	RE Designated Critical Lines <200 kV	230 kV	345 kV	500 kV	765 kV	Total
Category 1 — Grow-ins			2		1	3
Category 2 — Fall-ins						0
Category 3 — Fall-ins		5				5
Total	0	5	2	0	1	8

In comparison, during the second quarter of 2008, the following 11 vegetation-related transmission outages were reported:

- Six Category 1 outages:
 - 1 - 500 kV
 - 5 - 230 kV
- Five Category 3 outages:
 - 4 - 230 kV
 - 1 - <200 kV

Category 1 — Grow-ins

Outages caused by vegetation growing into lines from vegetation inside and/or outside of the ROW.

Midwest Reliability Organization

Reported one 345 kV vegetation-related transmission outage from inside the right-of-way:

1. The transmission owner reported one 345 kV vegetation-related outage from inside the right-of-way on April 4, 2009 with a duration of 16 hours and 2 minutes. Line contact with a tree during a winter storm with high winds, ice and snow resulted in the outage. Suspect trees were cut down on April 7, 2009.

Northeast Power Coordinating Council

Reported one 765 kV vegetation-related transmission outage from inside the right-of-way:

1. The transmission owner reported one 765 kV vegetation-related outage from inside the right-of-way on May 13, 2009 with a duration of 8 hours. The line patrol found several trees on fire near the right-of-way resulting in an electrical arc suspected of causing the line trip. The fire was extinguished and the trees were removed.

Reported one 345 kV vegetation-related transmission outage from inside the right-of-way:

1. The transmission owner reported one 345 kV vegetation-related outage from inside the right-of-way on May 21, 2009 with a duration of 4 hours and 39 minutes. Strong winds existed at the time of the outage. A patrol found a burnt Spruce tree in the right-of-way and promptly removed it.

Category 3 — Fall-ins

Outages caused by vegetation falling into lines from outside the right-of-way

Midwest Reliability Organization

Reported one 230 kV vegetation-related transmission outage from outside the right-of-way:

1. The transmission owner reported one 230 kV vegetation-related outage from outside the right-of-way on April 23, 2009 with a duration of 12 hours. Heavy flooding,

snowmelt runoff and high fast-moving water in the river resulted in significant erosion along the river bank. This compromised the root structure of an otherwise healthy tree, which fell into the adjacent transmission line. All trees affected by this erosion were removed.

Florida Reliability Coordinating Council

Reported one 230 kV vegetation-related transmission outage from outside the right-of-way:

1. The transmission owner reported one 230 kV vegetation-related outage from outside the right-of-way on May 21, 2009 with a duration of 5 hours and 37 minutes. Heavy precipitation in the area caused root rot, resulting in a Laurel Oak tree falling into the line. A spot-check was initiated by the Regional Entity.

SERC Reliability Corporation

Reported three 230 kV vegetation-related transmission outages from outside the right-of-way:

1. The transmission owner reported one 230 kV outage from outside the right-of-way on April 6, 2009 with a duration of 1 hour and 34 minutes. High winds and root rot contributed to a Pine tree falling into the line. No other threats were found; the Pine tree was removed.
2. The transmission owner reported one 230 kV outage from outside the right-of-way on April 10, 2009 with a duration of 6 hours and 5 minutes. A tree on the edge of the right-of-way was identified as damaged during Hurricane Katrina in 2005. Eventual internal decay weakened the tree further and resulted in the tree falling into the conductor. The entity adjusted the annual work schedule to perform side trimming.
3. The transmission owner reported one 230 kV outage from outside the right-of-way on June 3, 2009 with a duration of 24 hours and 5 minutes. Storm conditions and root decay resulted in a 97-foot Gum tree falling into the line. The line was subsequently patrolled and no other threats were found.

Table 2 summarizes the number of transmission outages by voltage level, region, and category.

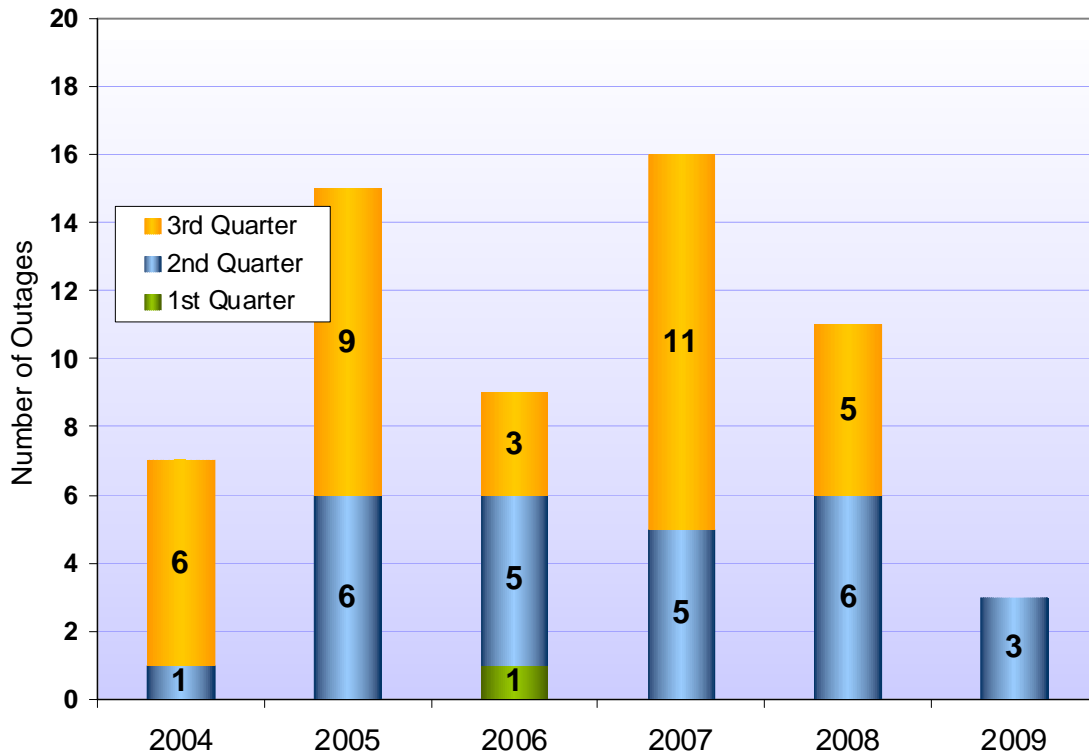
Figure 1 illustrates the number of outages caused by vegetation growing into transmission lines from within the right-of-way that have been reported since 2004. Figure 2 provides this information by voltage class for each year.

Table 2: Summary of Vegetation-Related Transmission Outages* by Region and by Outage Category for Each Quarter in 2009

Region	First Quarter			Second Quarter			Third Quarter			Fourth Quarter			TOTAL		
	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3
	GROW-INS (inside/outside ROW)	FALL-INS (inside ROW)	FALL-INS (outside ROW)	GROW-INS (inside/outside ROW)	FALL-INS (inside ROW)	FALL-INS (outside ROW)	GROW-INS (inside/outside ROW)	FALL-INS (inside ROW)	FALL-INS (outside ROW)	GROW-INS (inside/outside ROW)	FALL-INS (inside ROW)	FALL-INS (outside ROW)	GROW-INS (inside/outside ROW)	FALL-INS (inside ROW)	FALL-INS (outside ROW)
FRCC						1-230 kV									1-230 kV
MRO				1-345 kV		1-230 kV							1-345 kV		1-230-kV
NPCC				1-345 kV 1-765 kV									1-345 kV 1-765 kV		
RFC															
SERC			1-230 kV			3-230 kV									4-230 kV
SPP															
TRE															
WECC			2-<200 kV 4-230 kV												2-<200 kV 4-230 kV
TOTAL			2-<200 kV 5-230 kV	2-345 kV 1-765 kV		5-230 kV							2-345 kV 1-765 kV		2-<200 kV 10-230 kV

* Contains only sustained outages of transmission lines and does not include violations resulting from momentary outages or encroachments into the clearance zone as described in standard FAC-003.

Figure 1: Category 1 — Grow-in Outages Caused by Vegetation Growing into Lines from Inside and/or Outside the ROW.[‡]



[‡] Includes one 2007 Category 1 outage caused by vegetation growing into a RRO-designated critical line <200 kV.
 Second Quarter 2009 Vegetation-Related Transmission Outages
 August 6, 2009

Figure 2: Category 1 —Grow-In Vegetation Related Outages of 230 kV and Higher Transmission by Voltage Class

