NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Vegetation-Related Transmission Outage Report
First Quarter 2009

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

Vegetation-related transmission outages that occurred in the first 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 first quarter by voltage class and category.

Table 1: First 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						**0**
Category 2 — Fall-ins						**0**
Category 3 — Fall-ins	2	5				**7**
Total	**2**	**5**	**0**	**0**	**0**	**7**

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In comparison, during the first quarter of 2008 the following 14 vegetation-related transmission outages were reported:

- Fourteen (14) Category 3 outages:
  - 10-230 kV
  - 4-<200 kV

Category 3 — Fall-ins

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

SERC Reliability Corporation
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 February 12, 2009 with a duration of 5 hours and 47 minutes. Bank erosion and high winds contributed to the falling of an 87-foot tree into the line resulting in the outage. An additional 11 trees in close proximity to the line were removed.

Western Electricity Coordinating Council, Inc.
Reported four 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 January 2, 2009 with a duration of 15 hours and 9 minutes. High winds and soil saturation caused a Douglas-Fir to be uprooted resulting in the outage. The tree was removed and after analyzing the area, no other threats were found.
2. The transmission owner reported one 230 kV outage from outside the right-of-way on March 15, 2009 with a duration of 16 minutes. High winds, soil saturation, and logging fringe caused a tree to fall into the line resulting in the outage. This tree was not previously recorded as a danger tree. Upon examination, 40 trees in the area were marked as 'danger trees' and set for removal.
3. The transmission owner reported one 230 kV outage from outside the right-of-way on March 15, 2009 with a duration of 10 hours and 20 minutes. High winds, heavy rain and root rot caused a 90-foot Hemlock tree to fall into the line resulting in the outage. No additional remedial actions taken.
4. The transmission owner reported one 230 kV outage from outside the right-of-way on March 16, 2009 with duration of 6 hours and 11 minutes. Heavy rain, saturated soil and root rot caused an 80-foot Douglas Fir to fall into the line resulting in the outage.

WECC also reported two RE designated critical line <200 kV vegetation-related transmission outages from outside the right-of-way:

1. The transmission owner reported one RE designated critical line <200 kV vegetation-related transmission outage from outside the right-of-way on January 5, 2009 with a duration of 13 hours and 42 minutes. A tree fell into the line resulting in the outage. The transmission owner reports that vegetation management on this line is ongoing.

2. The transmission owner reported one RE designated critical line <200 kV vegetation-related transmission outage from outside the right-of-way on January 7, 2009 with a duration of 11 hours and 1 minute. A tree fell into the line resulting in the outage. The transmission owner reports that vegetation management on this line is ongoing.

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

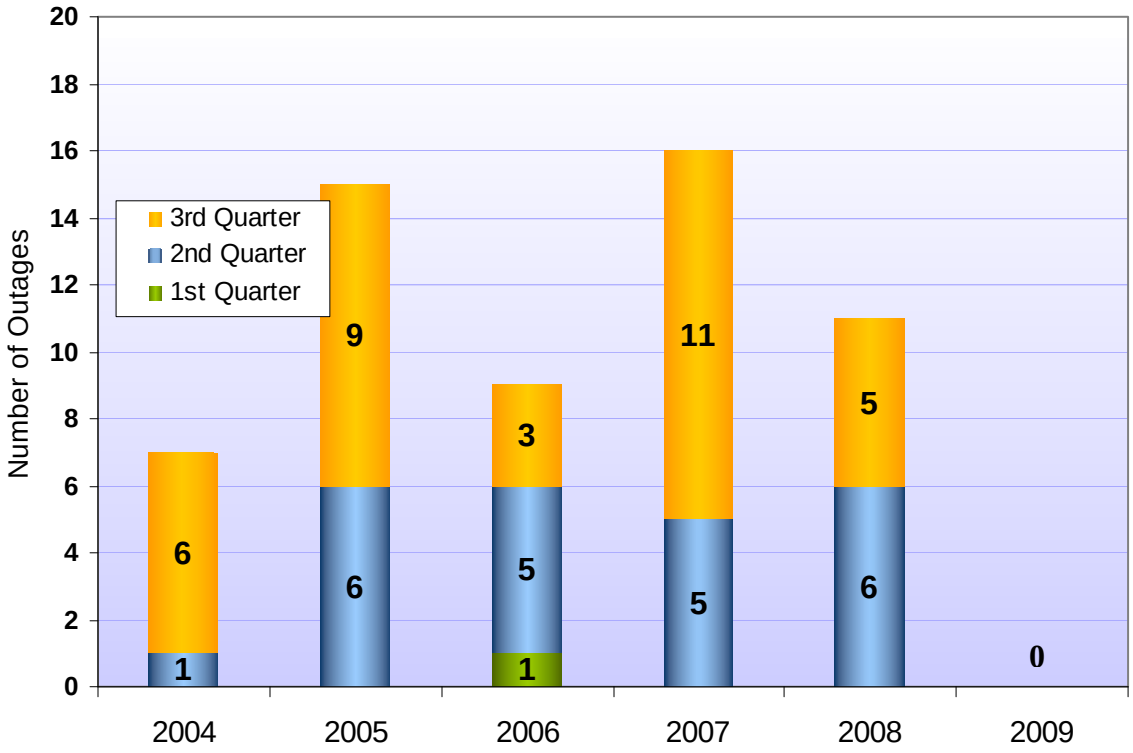
Figure 1 illustrates the number of outages caused by vegetation growing into transmission lines from within the right-of-way that have been reported since 2004. Figure 2 provides this information by voltage class for each year.

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															
MRO															
NPCC															
RFC															
SERC			1-230 kV												1-230 kV
SPP															
TRE															
WECC			2-<200 kV 4-230 kV												2-<200 kV 4-230 kV
TOTAL			2-<200 kV 5-230 kV												2-<200 kV 5-230 kV

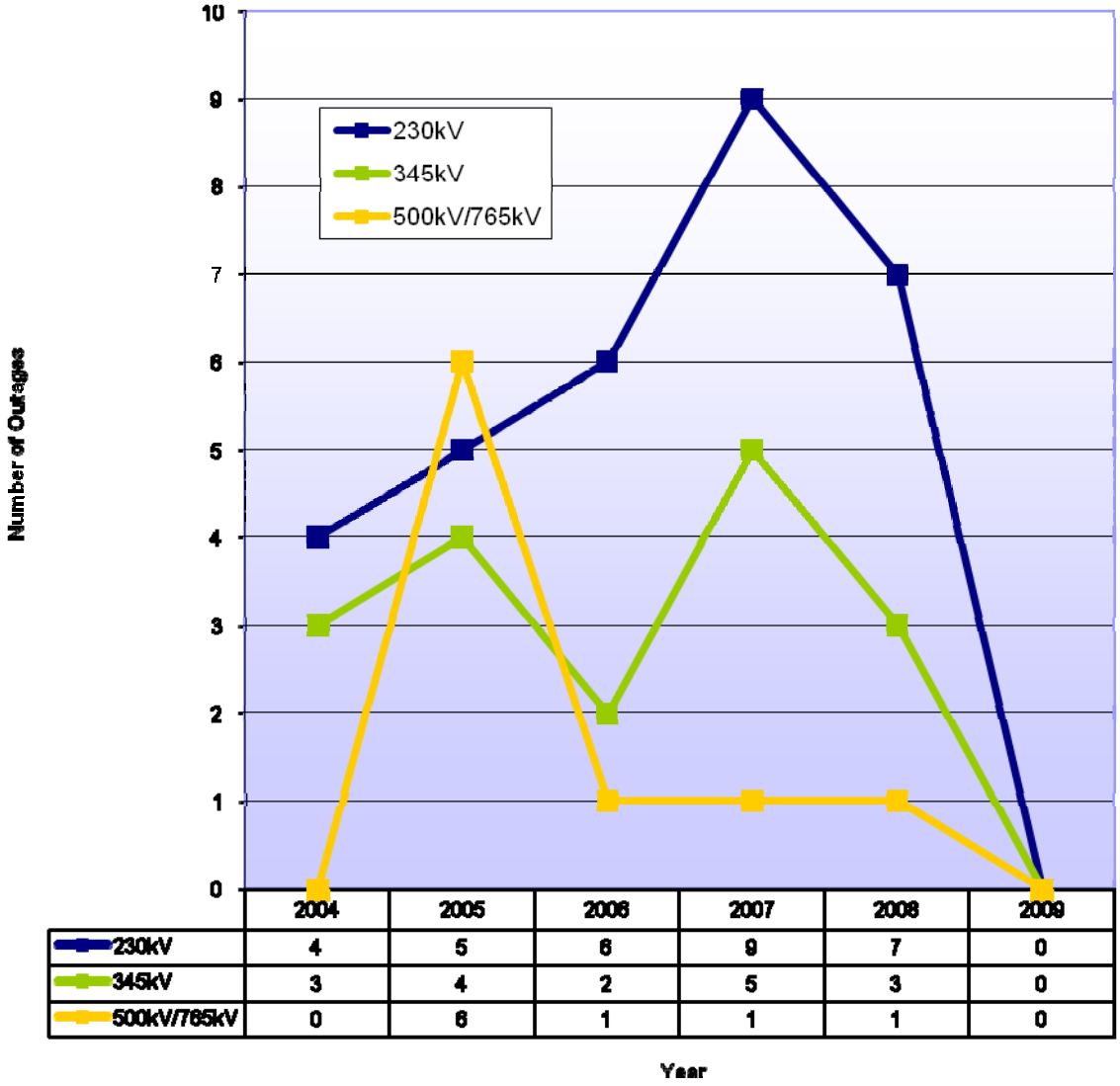
* Contains only sustained outages of transmission lines and does not include violations resulting from momentary outages or encroachments into the clearance zone as described in standard FAC-003.

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.

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



	2004	2005	2006	2007	2008	2009
230kV	4	5	6	9	7	0
345kV	3	4	2	5	3	0
500kV/765kV	0	6	1	1	1	0