NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Vegetation-Related Transmission Outage Report
First Quarter 2011

The NERC Board of Trustees Compliance Committee has reviewed and accepted this Vegetation-Related Transmission Outage First Quarter 2011 Report.

Vegetation-related transmission outages that occurred in the first quarter of 2011 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 2011 Summary of Vegetation-Related 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	0	0	0	0	**0**
Category 2 — Fall-ins	0	0	0	0	0	**0**
Category 3 — Fall-ins	0	3	0	0	0	**3**
Total	**0**	**3**	**0**	**0**	**0**	**3**

116-390 Village Blvd.
Princeton, NJ 08540
609.452.8060 | www.nerc.com

In comparison, during the first quarter of 2010, the following five vegetation-related transmission outages were reported:

- Five Category 3 outages:

  1 – 500 kV

  4 – 230 kV

Category 1 — Grow-ins

No outages caused by vegetation growing into lines from vegetation inside and/or outside of the ROW were reported during the first quarter 2011.

Category 2 — Fall-ins

No outages caused by vegetation falling into lines from inside the ROW were reported during the first quarter 2011.

Category 3 — Fall-ins

Three outages caused by vegetation falling into lines from outside the right-of-way were reported during the first quarter 2011.

Western Electricity Coordinating Council, Inc.
Reported three 230 kV vegetation-related transmission outages from outside the right-of-way:

1. The transmission owner reported one 230 kV vegetation-related transmission outage from outside the right-of-way on March 25, 2011 with a duration of 15 hours and 16 minutes. During a major winter storm a 75 foot tall healthy ponderosa pine tree originating off the 100-foot right-of-way broke off about 12 feet above the ground and fell across two phases of a 230 kV transmission line.
2. The transmission owner reported two 230 kV vegetation-related transmission outages from outside the right-of-way on the same transmission line. In both cases, the line is crossing a heavy forested area with large trees growing on steep, mountainous terrain. The first outage occurred on February 23, 2011, with a duration of 19 hours and 50 minutes. A large tree came down due to snow and wind load. The tree was growing 40 feet outside the right-of-way. The second outage occurred on March 2, 2011 with a duration of 7 hours and 53 minutes. A large tree came down due to snow and wind load. The tree was growing 30 feet outside the right-of-way. Fortunately, there was no damage to the conductors in either case and the fallen trees were removed.

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

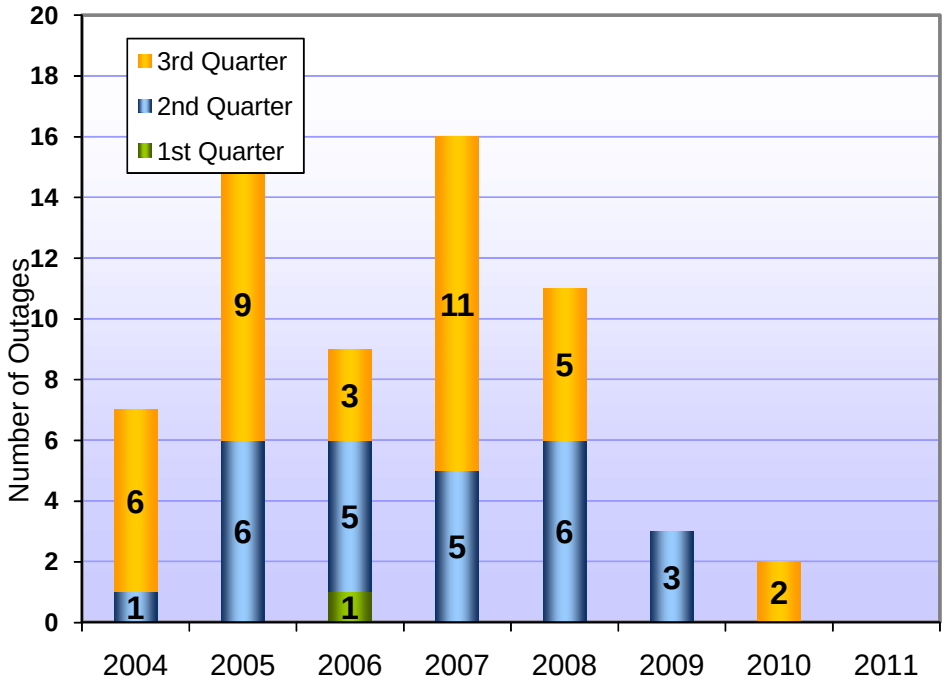
Figure 1 illustrates the number of outages caused by vegetation growing into transmission lines from within the right-of-way that have been reported since 2004. Figure 2 provides this information by voltage class for each year.

Table 2: Summary of Vegetation-Related Transmission Outages* by Region and by Outage Category for Each Quarter in 2011

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															
SPP															
TRE															
WECC			3-230 kV												3-230 kV
TOTAL			3-230 kV												3-230 kV

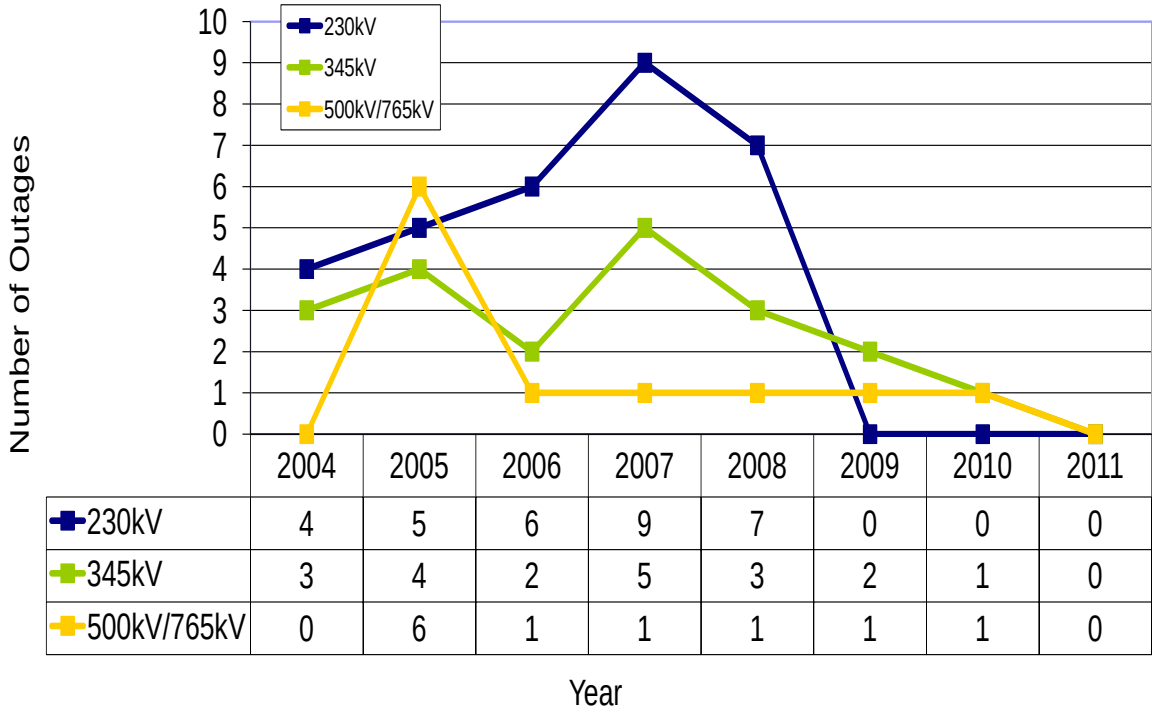
* Contains only sustained outages of transmission lines and does not include violations resulting from momentary outages or encroachments into the clearance zone as described in standard FAC-003.

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	2010	2011
230kV	4	5	6	9	7	0	0	0
345kV	3	4	2	5	3	2	1	0
500kV/765kV	0	6	1	1	1	1	1	0