



NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL

Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5731

Vegetation-Related Transmission Outages Fourth Quarter 2005

April 19, 2006

During the fourth quarter of 2005, there were nine vegetation-related outages reported for 200 kV and higher transmission lines. All of these transmission outages were caused by tree contact from outside the right-of-way zone. There were no transmission outages caused by tree contact from inside the right-of-way zone. The following is a brief description of each of these outages:

Category 2 — Vegetation Located Within the Buffer Zone of the Transmission Line Right-Of-Way or Outside the Transmission Right-Of-Way

Mid-Atlantic Area Council

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

- The transmission owner reported a 230 kV vegetation-related outage that occurred on October 25, 2005, with a duration of 322 minutes (five hours and twenty-two minutes). The transmission owner reported that a heavy, wet snow storm (with leaves still on trees) caused two red oaks, approximately 15 feet off the right-of-way on a hillside, to topple into the line. The trees were removed and the line was patrolled. National Oceanic & Atmospheric Association classified this storm event as one of the top ten storms in the area in 2005. MAAC stated that no regional action was required.

Midwest Reliability Organization

Reported one 345 kV vegetation-related transmission outage from outside the right-of-way.

- The transmission owner reported a momentary 345 kV vegetation-related outage that occurred on October 7, 2005. The transmission owner reported a contractor clearing trees off the outside of the right-of-way with a Hydro Axe, cut a tree and lifted it, contacting the line. MRO stated that no regional action was required.

Northeast Power Coordinating Council

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

- The transmission owner reported a 230 kV vegetation-related outage that occurred on November 28, 2005, with a duration of 873 minutes (fourteen hours and thirty-three

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minutes). The transmission owner reported that a healthy tree fell into the line during conditions of high winds and wet soil. The tree was 15 feet off the edge of the right-of-way. NPCC stated that no regional action was required.

Southeastern Electric Reliability Council

Reported two 230 kV vegetation-related transmission outages from outside the right-of-way.

- The transmission owner reported a 230 kV vegetation-related outage that occurred on November 9, 2005, with a duration of 139 minutes (two hours and nineteen minutes). The transmission owner reported that a customer cut a tree, which was approximately 20 feet outside of the right-of-way that fell into the transmission line. A company representative met with the customer and the customer agreed to let the transmission owner cut any trees in the future that might contact the transmission line. SERC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage that occurred on December 6, 2005, with a duration of 258 minutes (four hours and eighteen minutes). The transmission owner reported that a logger cut a tree outside of the right-of-way that fell onto the transmission line. The incident was discussed with the logger. SERC stated that no regional action was required.

Western Electricity Coordinating Council

Reported four 230 kV vegetation-related transmission outages from outside the right-of-way.

- The transmission owner reported a 230 kV vegetation-related outage that occurred on October 31, 2005, with a duration of 430 minutes (seven hours and ten minutes). The transmission owner reported that a tree fell down into the line causing relay action to trip and lockout the transmission line. The line did not sustain any damage, but clearance was necessary to remove the tree. The tree was located outside of the transmission right-of-way. The entire row of trees was patrolled to check for dangerous trees. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage that occurred on November 5, 2005, with a duration of 613 minutes (ten hours and thirteen minutes). The transmission owner reported that the outage was caused by winds blowing against the non-windfirm cut line in the third rotation forest. The tree was infected by root rot and was removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage that occurred on December 18, 2005, with a duration of 265 minutes (four hours and twenty-five minutes). The transmission owner reported that a logging activity adjacent to the transmission line left a fringe of trees along the edge of the transmission line. These trees were not windfirm and consequently blew into the line. The trees were removed and the surrounding area was surveyed for additional imminent danger trees. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage that occurred on December 19, 2005, with a duration of 694 minutes (eleven hours and thirty-four

minutes). The transmission owner reported that a large fir tree blew from off the right-of-way and fell into the line. The tree was subsequently removed.

Table 1 summarizes the number of transmission outages by voltage level, and whether the outage was a result of vegetation within or outside of the right-of-way for the fourth quarter of 2005.

Region	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	Category 1	Category 2	Category 1	Category 2	Category 1	Category 2	Category 1	Category 2
	(within ROW)	(outside ROW)	(within ROW)	(outside ROW)	(within ROW)	(outside ROW)	(within ROW)	(outside ROW)
ECAR	0	0	1-230 kV; 2-345 kV	0	1-765 kV	0	0	
ERCOT	0	0	0	0	0	0	0	
FRCC	0	0	0	0	1-230 kV	0	0	
MAAC	0	0	0	0	0	0	0	1-230 kV
MAIN	0	0	0	0	0	0	0	
MRO	0	0	0	0	1-230 kV; 1-345 kV	0	0	1-345 kV
NPCC	0	1-230 kV	0	0	0	2-230 kV	0	1-230 kV
SERC	0	1-500 kV	1-230 kV	0	2-500 kV	3-230 kV	0	2-230 kV
SPP	0	0	0	0	1-345 kV	1<200 kV	0	
WECC	0	3-230 kV	2-500 kV	4-<200 kV 1-230 kV	1-230 kV; 1-500 kV	1<200 kV; 1-500 kV	0	4-230 kV
Subtotal	0	4-230 kV; 1-500 kV	2-230 kV; 2-345 kV; 2-500 kV	4-<200 kV 1-230 kV	1-765 kV; 3-500 kV; 2-345 kV; 3-230 kV	1-500 kV; 5-230 kV; 2-<200 kV	0	8-230 kV; 1-345 kV
TOTAL	Category 1 (within ROW)				Category 2 (outside ROW)			
	5-230 kV; 4-345 kV; 5-500 kV; 1-765 kV				6-<200 kV; 18-230 kV; 1-345 kV; 2-500 kV			