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Vegetation-Related Transmission Outages First Quarter 2006

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During the first quarter of 2006, there were twelve vegetation-related outages reported for 200 kV and higher transmission lines. There was one 230 kV transmission outage caused by tree contact from inside the right-of-way zone. There were ten 230 kV and one 500 kV transmission outage caused by tree contact from outside the right-of-way zone. The following is a brief description of each of these outages:

Category 1 — Vegetation Located Within Transmission Right-of-Way

Florida Reliability Coordinating Council

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

- The transmission owner reported a 230 kV vegetation-related outage occurred on March 9, 2006, with a duration of 54 seconds. The line loading percentage of normal rating at the time of the line trip was 7 percent. The transmission owner reported that a castor bean plant had grown up into the energized conductor, made contact and tripped the circuit. The outage occurred directly behind a commercial nursery where peat and other soil nutrients had been discarded. The transmission owner completed a full circuit patrol and has ensured that this entire circuit is clear of any future vegetation issues. Additionally, the transmission owner is completing a ground patrol of all 230 kV lines, having completed 50% of the circuits with the balance of this work scheduled to be completed by early May. FRCC stated that no regional action was required.

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

Southeastern Electric Reliability 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 occurred on January 6, 2006, with a duration of 115 minutes (one hour and fifty-five minutes). The transmission owner reported that a property owner felled a large poplar tree into a bottom conductor. The tree was 95 feet tall and measured 77 feet from the center line. No damage was done to the conductor or structures. This was a large, healthy tree that was being harvested by the property owner. This tree did not show up as a threat during a semi-annual helicopter patrol of this line. This outage resulted from human intervention and not an inadequacy in the transmission owner's vegetation management program. SERC stated that no regional action was required.

Western Electricity Coordinating Council

Reported one 500 kV vegetation-related transmission outage from outside the right-of-way.

- The transmission owner reported a 500 kV vegetation-related outage occurred on February 10, 2006, with an initial duration of three minutes and then 116 minutes (one hour and fifty-six minutes). The transmission owner reported that a tree, off of the right-of-way, blew into the transmission line. The tree has been removed. The city of this reported area has set strict management requirements that constrain the company from their normal management practices. WECC stated that no regional action was required.

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

- The transmission owner reported a 230 kV vegetation-related outage occurred on January 7, 2006, with a duration of 150 minutes (two hours and thirty minutes). The transmission owner reported that a large fir tree on a private property adjacent to the company's transmission right-of-way went over due to wind and contacted the transmission line. The line sustained no damage and was restored to service after line patrol was completed. The entire right-of-way 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 occurred on January 10, 2006, with a duration of 576 minutes (nine hours and thirty-six minutes). The transmission owner reported that a tree, off of the right-of-way, fell into the transmission line. Continued rain saturated the ground and high winds tipped over an otherwise healthy tree. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on January 10, 2006, with a duration of 371 minutes (six hours and eleven minutes). The transmission owner reported that a tree, off of the right-of-way, broke, and fell into the transmission line. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on January 30, 2006, with a duration of 560 minutes (nine hours and twenty minutes). The transmission owner reported that a tree, off of the right-of-way, fell into the transmission line. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on January 30, 2006, with a duration of 2089 minutes (thirty-four hours and forty-nine minutes). The transmission owner reported that heavy snow was in the area at the time of the outage. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on February 4, 2006, with a duration of 1756 minutes (twenty-nine hours and sixteen minutes). The transmission owner reported that a tree from outside of the right-of-way fell into the transmission line. This tree, along with two additional danger trees, has been removed from this location. WECC stated that no regional action was required.

- The transmission owner reported a 230 kV vegetation-related outage occurred on February 4, 2006, with a duration of 360 minutes (six hours). The transmission owner reported that a tree, off of the right-of-way, fell into the transmission line. High winds were present at the time of the outage. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on February 17, 2006, with a duration of 272 minutes (four hours and thirty-two minutes). The transmission owner reported that a tree, off of the right-of-way, fell into the transmission line. The tree has been removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred on February 17, 2006, involving both circuits on a double circuit tower, with a combined duration of 457 minutes (seven hours and thirty-seven minutes). The transmission owner reported that a cottonwood tree unearthed (entire root ball) and blew over during a windstorm. No customers or generation was lost as a result of this outage. The tree was removed from the line. Though out of the right-of-way, all the rest of the trees in that vicinity were topped. WECC stated that no regional action was required.

In addition to the twelve vegetation-related outages reported for 200 kV and higher transmission lines, there were two vegetation-related transmission outages from outside the right-of-way reported by WECC for RRC designated critical lines <200 kV.

- The transmission owner reported a <230 kV vegetation-related outage occurred on January 11, 2006, with a duration of 2118 minutes (thirty-five hours and eighteen minutes). The transmission owner reported that a Douglas Fir on the edge of the right-of-way made contact with the transmission line. The tree was removed from the line. WECC stated that no regional action was required.
- The transmission owner reported a <230 kV vegetation-related outage occurred on January 11, 2006, with a duration of 2115 minutes (thirty-five hours and fifteen minutes). The transmission owner reported that a Douglas Fir on the edge of the right-of-way made contact with the transmission line. The tree was removed from the line. WECC stated that no regional action was required.

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 first quarter of 2006.

Region	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	<i>Category 1</i> (within ROW)	<i>Category 2</i> (outside ROW)	<i>Category 1</i> (within ROW)	<i>Category 2</i> (outside ROW)	<i>Category 1</i> (within ROW)	<i>Category 2</i> (outside ROW)	<i>Category 1</i> (within ROW)	<i>Category 2</i> (outside ROW)
	ERCOT	0	0					
FRCC	1-230 kV	0						
MRO	0	0						
NPCC	0	0						
RFC	0	0						
SERC	0	1-230 kV						
SPP	0	0						
WECC	0	2<200 kV 9-230 kV 1-500 kV						
Subtotal	1-230 kV	2<200 kV 10-230 kV 1-500 kV						
TOTAL	Category 1 (within ROW)				Category 2 (outside ROW)			