



Princeton Forrestal Village, 116-390 Village Boulevard, Princeton, New Jersey 08540-5721
www.nerc.com • 609-452-8060 (Voice) • 609-452-9550 (Fax)

Vegetation-Related Transmission Outages Second Quarter 2006

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The Board of Trustees adopted version 1 of standard FAC-003 — *Transmission Vegetation Management Program* on February 7, 2006. Since the effective date of the version 1 standard is April 7, 2006, NERC Compliance recently modified the 2006 Compliance Enforcement Program by replacing version 0 of this standard with the revised standard. As a result, the vegetation-related transmission outages that occurred in the second quarter of 2006 are being reported in accordance with standard FAC-003-1.

The revised 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 now 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.

During the second quarter of 2006, there were seven vegetation-related outages reported for 200 kV and higher transmission lines. There were three 230 kV, one 345 kV, and one 500 kV transmission outages caused by trees growing into lines from inside the right-of-way zone. There were two 230 kV transmission outages caused by trees falling into lines from outside the right-of-way zone. The following is a brief description of each of these outages:

Category 1 — Outages Caused by Vegetation Growing Into Lines from Inside and/or Outside of the Right-Of-Way

Southeastern Electric Reliability 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 June 29, 2006, with a duration of 4 hours, 19 minutes. The line loading percentage of normal rating at the time of the line trip was 8 percent. The transmission owner reported that a pine tree in a fence row grew into the conductor maximum operating zone and caused an outage on the line. The tree was in a property line screen of pines along a fence between pasture fields. Trees in the screen were trimmed during the outage and the trees in that

screen are scheduled to be removed at a later date. An additional crew has been secured to expedite scheduled work at other locations on the line. The screen was scheduled to be trimmed in July. SERC states that this outage is being reported as a noncompliance under investigation.

Southwest Power Pool

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

- The transmission owner reported a 345 kV vegetation-related outage occurred on June 28, 2006, with a duration of 9 hours, 44 minutes. The line loading percentage of normal rating at the time of the line trip was 14.6 percent. The transmission owner reported that a willow tree growing on the right-of-way was not observed during aerial patrols. It subsequently grew and contacted the transmission line conductor. The offending tree was removed as well as an adjacent shorter tree. As a result of an investigation, the inspection process is being reviewed to identify remedial measures. SPP states the noncompliance process has been started.

Western Electricity Coordinating Council

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

- The transmission owner reported a 230 kV vegetation-related outage occurred on June 24, 2006, with a duration of 1 hour, 55 minutes. The line loading percentage of normal rating at the time of the line trip was 50 percent. The transmission owner reported that a tree grew into a sagging transmission line. A 40 foot tree made contact and a bell was broken. The tree was immediately trimmed to correct clearance. A permit has been obtained and this tree and others are scheduled to be removed. WECC stated that no regional action was required.
- The transmission owner reported a 230 kV vegetation-related outage occurred twice on June 27, 2006, with a total duration of 3 hours, 12 minutes. The line loading percentage of normal rating at the time of the line trip was 12 percent. The transmission owner reported a conductor contacted the tree under the transmission line. The tree was removed on June 28, 2006. WECC stated that no regional action was required.

WECC is reporting these outages as noncompliance under investigation.

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

- The transmission owner reported a 500 kV vegetation-related outage occurred on June 25, 2006, with a duration of 6 hours, 12 minutes. The line loading percentage of normal rating at the time of the line trip was 3 percent. The transmission owner reported a 15 foot willow on an approximately 8 foot berm, made contact with the conductor. The tree has been removed. The Contract Statement of Work is being reviewed and amended to clearly define acceptable work standards. WECC stated that no regional action was required.

WECC is reporting this outage as a noncompliance under investigation.

Category 3 — Outages Caused by Vegetation Falling Into Lines from Outside the Right-Of-Way

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 occurred on June 8, 2006, with a duration of 12 hours, 20 minutes. The transmission owner reported that one (12 inches diameter) healthy poplar tree fell into the line from outside the right-of-way during gusting winds and wet soil after heavy rain. The transmission owner has reportedly removed several danger trees in the same area in advance of regular maintenance as a precautionary measure. NPCC stated that no regional action was required.

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 June 22, 2006, with a duration of 3 hours, 10 minutes. The transmission owner reported that the line locked out when a tree outside the right-of-way fell into the line. The tree was a 90 to 100 foot tall locust tree that had no external danger signs, but it had rotted inside at the butt, and strong winds knocked it down. The tree was 35 feet off of the right-of-way. Crews patrolled the line's corridor for signs of damaged or unhealthy trees and found no problems. Two trees were cut from outside the right-of-way as a precaution. SERC stated that no regional action was required.

Table 1 summarizes the number of transmission outages by voltage level and category.

Table 1 - 2006 Vegetation-Related Transmission Outages Reported

Region	First Quarter ¹		Second Quarter ²			Third Quarter			Fourth Quarter		
	Category 1	Category 2	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3	Category 1	Category 2	Category 3
	ALL (within ROW)	ALL (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)
ERCOT	0	0									
FRCC	1-230 kV	0									
MRO	0	0									
NPCC	0	0			1-230 kV						
RFC	0	0									
SERC	0	1-230 kV	1-230 kV		1-230 kV						
SPP	0	0	1-345 kV								
WECC	0	2<200 kV 9-230 kV 1-500 kV	2-230 kV 1-500 kV								
Subtotal	1-230 kV	2<200 kV 10-230 kV 1-500 kV	3-230 kV 1-345 kV 1-500 kV		2-230 kV						

¹ These vegetation-related transmission outages were reported in accordance with NERC standard FAC-003-0.

² These vegetation-related transmission outages were reported in accordance with NERC standard FAC-003-1.