

Date: April 9, 2007

To: Public Service Commission
Heber M. Wells State Office Building
160 East 300 South, Fourth Floor
Box 45585
Salt Lake City, Utah 84145

Reference: Docket Number 07-035-08

Subject: Imminent Safety Hazard Evergreen Park

All the wood pin that supports insulators on pole number 34391 1, located on the east side of Evergreen Park have failed. This pole supports two of East Millcreek Substation's four exit circuits. There are twelve failed insulator supports pins on this pole. Eight of the twelve are squatters and if neglected, will cause either a cross arm fire, pole fire or become a floater. (Squatter is the industry term where an insulator pin has fallen through the cross arm shorting out the critical underside of a pin insulator.) The four remaining failed pins appear to have charred, burnt, and finally broken under the weight of the wire. (Floater is the industry term for an insulator that is no longer secured to a cross arm.) The 7,200 volt y& and insulators on the east side of the lower cross arm no longer appears to be attached to the cross arm. Floaters cause outages, cross arm and pole fires. A floating wire (which exists on this pole) is an extreme hazard. The wire can be knocked down by wind or a tree branch. If the wire at Evergreen Park, falls it will land on the chain link fence surrounding the park. Any child touching the fence when the wire falls could be killed. Immediate action is required to resolve the safety hazards on pole 343911.

Pole number 343911, carries two 7.2/12.5 kV substation exit circuits. One of the circuits on this pole is East Millcreek circuit number 13. The lack of maintenance on circuit number 13, is the subject of Docket Number 07-035-80. Due to the high short circuit current on a substation exit circuit, it is critical that they receive the highest level of maintenance. **Twelve failed insulator pins on a single pole reflects the level of maintenance support Utah Power lines receive from PacifiCorp.**

A phase to ground, short circuit on any large substation exit circuit can be disastrous. East Millcreek Substation is a 20,000 kVA substation. A phase to ground short circuit current on East Millcreek double circuit exit may exceed 13,000 ampere. This level of short circuit current can cause the explosive failure of substation transformers and circuit breakers that are under rated or poorly maintained. In recent years, it is believed, three substation circuit breakers have failed (non-explosively) at the East Millcreek substation from what is believed to be poor maintenance. The short circuits on these three failed circuit breakers was believed to be less than 4,000 amperes. **A 12,000 ampere short circuit could be catastrophic.**

Due to the extreme hazard that exists at pole 343911 at Evergreen Park, this hazard needs to be resolved immediately. An executive order to replace and preserve the cross arms and

insulator pins from pole 343911, must issued. Once the cross arms, wooden pins, and insulators from pole 343911 are reviewed by the Public Service Commission, the cross arm and pins from the pole on Fisher Lane will not be required. The charred, burnt, broken wood pins and cross arms from pole 343911 need to be keep intact and not torn apart as occurred on the cross arm removed from 3003 Craig Drive. The intact pins and cross arms from pole 343911, will conclusively prove the extent of the safety hazard created by ignoring maintenance of squatting pin insulators.

Three photographs are attached. The first is of pole number 343911. The difference between squatters and floaters can be seen. A squatter insulator rests on the cross arm; its wood pin support protrudes through the bottom of the cross arm; the insulator is held perpendicular to the cross arm because the charred and burnt pin has not yet broken. A floater insulator looks similar to a squatter but the insulator is no longer perpendicular to the cross arm. Floaters are no longer attached to the pin support or cross arm. A floating insulator usually rests at an angle or on its side.

The second photograph shows a close up of the west end of the top cross arm on pole 343911. The pin insulators are no longer perpendicular to the cross arm. The wooden pins supporting and holding the insulators are charred, burnt, and broken. The wooden pin on the front left extends further out of the cross arm, because it is about to fall out of the cross arm. Most pole have only a single cross arm. On a single cross arm pole the wire would most likely already fallen off the cross arm.

The third photograph shows a close up of the lower arm on the east side of the pole. Both insulators supporting the wire appear to be charred, burnt, and broken. The insulators are no longer perpendicular to the cross arm. The second floating insulator is hidden by the cross arm. This wire can be blown or pushed off from the cross arm.

Dr. Richard E. Drake

CC with Photographs:

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