Paramithas, Panos (V72983)

From: Kesler, Steven L(Z55768)
Sent: Tuesday, June 15, 2004 4:39 PM
To: Paramithas, Panos (V72983); Leake, Harvey C(Z60326)
Cc: Kesler, Steven L(Z55768); Phegley, Steven D(K74768)
Subject: FW: Status report - WAPA Liberty/Westwing and SRP Agua Fria/Westwing 230kv lines

Below is preliminary information from SRP on the status of the Liberty/Westwing and Agua Fria/Westwing 230kV lines and the potential cause of the of the fault on the Liberty/Westwing 230 kV line, for your information. Steve K.

-----Original Message-----
From: Phegley, Steven D(K74768)
Sent: Tuesday, June 15, 2004 4:22 PM
To: Kesler, Steven L(Z55768)
Subject: FW: Status report - WAPA Liberty/Westwing and SRP Agua Fria/Westwing 230kv lines

-----Original Message-----
From: EAGAR TERRY S [mailto:tseagar@srpnet.com]
Sent: Tuesday, June 15, 2004 3:45 PM
To: GENTRY MIKE; MARQUEZ JR EDMUNDO (ED); Phegley, Steven D(K74768)
Cc: UNDERHILL JOHN T; VROOM JAMES W (JIM); BAKLEY C J; DOGGETT RONALD P; GREEN JAMES R (JIM); CHIPMAN DARYL L
Subject: Status report - WAPA Liberty/Westwing and SRP Agua Fria/Westwing 230kv lines

This will be an attempt to summarize the damage on the above circuits as well as the repairs made to date and repairs yet to be made. The information is from Jim Green, SRP's foreman in charge of the field repairs. Unless additional damage is found, Mr. Green believes all repairs will be made by Wednesday evening.

The damage is confined to two separate sections areas that I'll refer to as the north and the south sections. All towers are double circuit self supporting steel structures. The WAPA circuit is on the west side of the towers and the SRP circuit is on the east. Some of the repairs I refer to may have been completed while some may be ongoing. Repairs or replacement of shield wire is required on both the WAPA and the SRP sides of the tower. At this time it is believed that all phase conductor repair will be on the WAPA circuit. At this time, sock line is in and shield wire is being pulled in the south section.

SOUTH SECTION - This includes tower #73 on the south end to tower #77. We believe this entire event started at tower #73 which is located about 1/2 way between Beardsley and Union Hills along the alignment of about 115th Avenue. Eye witnesses at a Plant Nursery just east of tower #73. observed a large bird on the tower before the fault occurred. They reported to Jim Green that, as the bird began to fly away, the lines below were engulfed in a large fire. It is likely that a bird streamer (large stream of excrement) shorted out all or a portion of an insulator assembly, thus triggering this event. At this time, WAPA is uncertain what the phasing is on this tower, but from the insulator damage, it appears that the top phase was more involved than the others. The pin supporting the top insulator burned off, dropping this phase onto the arm below. Apparently the fault continued for a long enough period of time for the ball of fire to engulf the shield wire

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and cause it to burn down as well.

The WAPA static failed from tower #73 to tower #77. The SRP static failed from tower #73 to tower #75.

At tower #73, all 3 WAPA insulator strings were replaced and one SRP insulator string was replaced. In addition, near tower #73, 9 sets of preformed patch rods were installed on the WAPA phase conductors and 3 full tension splices were installed to repair damaged phase conductors.

In the span from #73 to #74, conductor damage was small, necessitating cleaning and sanding only.

At tower #74, there was no insulator damage. Both shield wires were down.

In the span from #74 to #75, 4 sets of patch rod were installed on the conductors.

At tower #75, both shield wires were down. Two insulator strings were replaced on the WAPA circuit.

In the span between #75 and #76, 7 sets of patch rod were installed on the WAPA conductors.

At tower #76, the WAPA static is down. All three insulators strings on the WAPA circuit were replaced.

Between tower #76 and #77, 9 sets of patch rods were installed and 3 full tension splices were installed. Two of these splices were the extra length to permit removing two 24 inch sections of damaged conductor.

At tower #77, the shield wires were intact. Two insulator strings were replaced on the WAPA circuit.

NORTH SECTION - This includes 7 towers from #85 on the south end to #90 near the north end and, north of #90, tower 11F. It should be noted that thorough inspection and repair of the damage in this north section is not as far along as on the south section. For this reason, the information will likely change slightly as inspection and repairs continue. There have been some conductor repairs made, but a complete inventory isn't yet available.

At tower #85 (and at least one span to the south toward tower #84) the static is still in the air but annealed and welded together. Undoubtedly some of this static will have to be replaced.

At tower #86, 50 ft. of phase conductor and two splices will be required in all 6 phase conductor positions. All 3 insulator strings will need to be replaced on the WAPA circuit. The WAPA shield wire is down but the SRP is intact.

At tower #87, the WAPA shield wire is down. All insulators and the phase conductors appear to be ok. They will be inspected more closely to be sure.

At tower #88, the WAPA shield wire is down. The insulators and conductor in spans on each side of this tower haven't yet been closely inspected. This will take place shortly.

At tower #89, the WAPA shield wire is down. In addition, all 3 WAPA insulator strings have been replaced. We'll need to splice in about 50 ft. of conductor at all 6 conductor positions on the WAPA circuit.

The spans of conductor on each side of #89 have not been thoroughly inspected yet to determine what repairs, if any, will be required.

At tower #90, we'll need to splice in about 50 feet of conductor at all 6

conductors positions. Both the WAPA and the SRP shield wires are down at this tower.

At tower #11F, it appears that no repairs are necessary at this tower. A closer inspection will be made to be sure.