2009 VICTORIAN BUSHFIRES ROYAL COMMISSION

SUBMISSIONS – HORSHAM FIRE (PERSONS REPRESENTED BY MADDENS LAWYERS)

1 SUMMARY

1.1 The Horsham fire started when a pole cap assembly holding a SWER conductor detached from the pole allowing the conduct to fall, causing arcing with foliage on the ground and ignition.

1.2 The pole was designed to be held by 3 coach bolts. One bolt probably fell some considerable time before shortly prior to or on that day of 7 February 2009 and the remaining bolt failed to hold the pole cap in the weather of that day and was pulled out.

1.3 The power assets involved are part of the Powercor distribution network.

1.4 The subject SWER line ran generally east/west and it was known or should have been known to Powercor that it was a line in respect of which there was significant risks of pole top assembly failure. The knowledge of this specific risk was within the industry and to be had from:

(i) the pole was a pine pole and coach bolts were not appropriate bolts for pine poles;

(ii) the age of the pole and attaching assembly;

(iii) industry knowledge of risk associated with aging assets particularly in areas subject to Aeolian vibration;

(iv) other pole top failures occurring on the subject spur line in the very recent post;

(v) the condition of the various pole top assemblies on the same SWER line as was found by a proper inspection undertaken shortly after the subject fire.

2 IMMEDIATE CAUSE

2.1 The subject pole being pole 15 was part of the Remlaw spur line running across the property of Alan Peterson. It was constructed in about 1963 by the SEC and had for many years been owned and maintained by Powercor.

2.2 The line travelled generally east/west on flat Wimmera plains land. This configuration made it particularly susceptible to Aeolian vibration. This vibration affected the pole top assembly resulting in the coach screws attaching the cap to the pole to work loose. The fact that the pole was a pine pole made this loosening more likely.

2.3 Two of the three screw bolts holding the cap, including the one that had last dislodged prior to the assembly failure, were located by CFA/DSE fire investigators shortly after the fire. The third bolt, that fell first, was later located by the land owner using a metal detector and tendered to the Commission (exhibit 263 and 264).

2.4 The escape of electricity from the conductor after its detachment and hitting the ground caused the fuse on the isolating transformer at the commencement of the spur line to operate. None the less the escape of power that occurred before the fuses operation was sufficient to ignite the tinder dry grass in the paddocks.

2.5 Powercor through the statement of its Manager of Network Safety, Environment and Compliance, Vince Power, accepts the above scenario (exhibit 258 – WAT7002.001.0001). There is no plausible alternative explanation for the fire.

2.6 The weather of the day contributed to the failure of the pole cap assembly in that there were:

(i) strong winds gusting to 80km per hour;

(ii) temperature of approximately 45 degrees.

This high temperature caused expansion of the conductor, and the high wind increased lateral pressure on the pole cap. Neither of these weather factors were extraordinary for the area and certainly not outside design expectations.

That there was a very high fire danger index did not contribute so much to the cause of the conductor falling but rather the probability of the conductor fall igniting a fire.

3 INSPECTION OF THE CONDITION & THE LIKE

3.1 Powercor, in addition to the risk factors associated with age, topography and direction of the line, knew of other failures that had occurred in the immediate past being in particular on 6 September 2005 a failure of the pole top assembly on pole 14 , (statement Geoffrey WIT.7518.001.0001-R).

3.2 The subject pole, being a pine pole, meant that the pole was more likely to release caps than hardwood poles (Gertz T7501, line 20) and this was not reflected in the inspection program.

3.3 The fact that the line was subject to Aeolian vibration increased risk of pole top failure assembly.

3.4 Despite specific risks as referred to in 3.1, 3.2 and 3.3 there was no modification by Powercor to its usual inspection program of once every 5 years, with the last inspection pre 7 February 2009 being on 21 July 2004 or of the method or detail of such inspection.

3.5 The inspection method was from the ground possibly using stabilised binoculars. The inspection whilst affording an opportunity to detect detached coach bolts did not afford any real prospect of detecting loose coach bolts and/or broken or damaged tie wires. The inadequacy of the inspection process and/or the undetected deterioration of the line and therefore the need for more frequent and closer inspection is emphasised by the fact that in addition to the subject failure on 7 February

2009 an inspection of the asset in July 2009 established 3 further assembly failures all capable of causing or resulting in conductor falls. That is a failure rate in 25% of the poles assemblies on the subject spur line.

4 POWERLINE MAINTENANCE

4.1 The fire occurred as a consequence of inadequate power line maintenance.

4.2 The maintenance program adopted by Powercor and in accordance with ESV regulations is a reactive maintenance system. This reactive maintenance system has been promoted or permitted by:

(i) the failure, as was evidenced by the evidence of Vince Power, to have any appropriate system for documentation of failure, investigations of failures and predictability of failure. This failure highlighted by Powercor being unable to put before the Commission any evidence as to expected life of assets and when preventative maintenance needed to be undertaken;

(ii) the fact that fault notification and/or defect findings on inspection do not require reporting to ESV save when there is an extended period of customer service loss. This is emphasised in this particular case in that this catastrophic fault would not have required notification, absent the fire resulting from it.

(iii) the passive or even submissive role adopted by Energy Safe Victoria in the design, implementation and

supervision of regulations particularly in relation to inspection of pole top assemblies it in effect accepting the recommendations of Powercor without any independent analysis;

4.3 The Royal Commission, in addition to making findings that the failure of the bolt to hold the pole caused the cap to fall and the fire to start, should make findings that a proper inspection and reporting program, with analysis of condition and fault, would eliminate or at least greatly reduce the risk of recurrence of such faults and their devastating consequences.