

Formal Submission to Powerline Bushfire Safety Taskforce

1. The opportunity for the Victorian public to make submissions to Energy Safe Victoria's **Powerline Bushfire Safety Taskforce** is acknowledged and appreciated. This submission will not restrict itself to the specific questions asked in the Taskforce's Consultation Paper^[1].

BROAD OVERVIEW

2. Climate Imperatives: Our planet is undergoing rapid change of the biosphere under the onslaught of 250 years of industrialization. Most of the damage has been through population explosions made possible by cheap oil. Fifty-six years of post-WWII consumerism has wrought enormous additional destruction. Now commerce wants all seven billion of us on Spaceship Earth to become avid consumers, which will clearly accelerate resource depletion, and accelerate the destruction and poisoning of remnant biosphere ecosystems. Twenty years ago climate scientists already had good evidence of looming catastrophe, and told the world's leaders of the urgent need to slash 1990 emission levels by 80% to have a realistic chance of avoiding runaway Super Greenhouse annihilation. In absolute terms that means global CO₂(e)^[2] must be cut from 35 billion tonnes/yr to about 7 billion tonnes/yr as soon as possible. And we are now seven billion people, so the equitable carbon share today is a paltry one tonne CO₂(e) per person each year. And yet the global economic paradigm remains fixated on indefinite economic growth. If Victorians were to map out a future scenario for carbon equity, namely one tonne CO₂(e) per person per year, sharing the burden equally with all other people, then our lifestyles would transform radically, and there would be no place whatsoever for Victoria's present day fossil-fuelled baseload generation-transmission-distribution system. In the absence of geosequestration, or a new land mass the size of the Pacific Ocean on which to grow trees, there simply is no way of continuing with business as usual and magically slashing Victoria's emissions to a 5.6 million tonne CO₂(e)/yr carbon footprint statewide. So, based on the absolute dictates of our planet's safe heat balance equations, Victoria's steam-age electricity system should be scrapped, because its continued operation guarantees our amoral complicity in knowingly engineering a genocidal climate catastrophe. Ross Garnaut does not lightly describe climate change as a **diabolical policy problem**.

1 <http://www.esv.vic.gov.au/LinkClick.aspx?fileticket=kggmijjQIT0%3d&tabid=380&mid=2059>

2 "CO₂(e)" is carbon dioxide equivalent and includes CO₂, nitrous oxides, methane, halons/CFCs, sulphur hexafluoride and perfluorocarbons. All these six gases have a powerful heat trapping effect in our Earth's atmosphere, as recognised by the peer-reviewed research of atmospheric physicists, the people who are the smartest in the room.

3. Unbridled Capitalism: "The Stupidest White Men in the Room". The looming climate catastrophe and the apocalyptic situation for citizens of Eastern Japan after the triple reactor meltdown [and spent MOX fuel pool prompt criticality mini-nuclear explosion] at Fukushima-Daiichi No.1 show that global capital only knows about creaming the profits and leaving all the downsides for the public to pick up. Arguably carbon trading involves handing another profit-making activity to the pro-market growth addicts who created the climate problem in the first place. If they were not in total denial about the long term risks of killing off all their customers on this overcrowded planet, they would not act so recklessly for short-term gouged profits. In the context of looming mega-death it is perhaps not surprising that Asia-based owners of monopoly electricity distribution assets in Victoria, using neo-liberal commerce models straight out of the Chicago School of Economics, can ignite rampaging firestorms which killed 119 Victorian citizens, and yet not face prosecution for the apparent unsafe operation of very old crumbling assets. The whole industry is regulated and operated on a neo-liberal economic paradigm, which has an ideological basis antithetical to the concepts of inter-generational equity, public duty, public safety, or copping a fair penalty from the state when people die as a result of its penny-pinching commercial decisions. Big business is constantly bleating on through mouthpieces like the IPA and BCA about "sovereign risk" and regulatory risk. I would counter that the public (the voters!!) and its elected government of the day need to strongly face-off against this pathetic whinging with a concept of "Stupidity Risk" to the public, arising directly from the corporate world's excesses. Nowhere is this more starkly demonstrated than in the area of climate change, where some years ago Australia's stationary energy industry was part of a self-styled "Greenhouse Mafia" apparently intent on pressing on with outmoded economic paradigms until all their customers die from collapse of the biosphere with a 2-degree-Celsius planetary fever, up to and beyond the planet's tipping point: another Super-Greenhouse armageddon (duration predicted by paleo-climatologists is 250,000 years, not 1,000!!)

BACK FROM THE BRINK

4. The rest of this submission gets back "inside the tent" and discusses issues as if it was actually OK to keep polluting at unsustainable levels for another four decades, when clearly it is not. So let's pretend for now that market evolution will save us, even though what we really need is an energy market revolution.

5. Prudent cost increases for a public benefit: (Trade Practices Act 1974). When the SECV was broken up and privatised, the public benefit was to be defended by allowing the distributors – natural monopolies – to engage in anti-competitive behaviours, see S.88 of the Trade Practices Act

1974. It is the **public benefit**, not consumer interest which is paramount. In the context of energy markets, the contrast is stark: consumers want only cheap electricity in abundance, reliable at the flick of a switch. The broader, long-term public benefit is more about not being burned alive by firestorms, and not having our planet raped by man-made climate catastrophes. So electricity distributors should have been permitted to maintain a 100% safe set of poles and wires at all times, even if customers complained about the recurring cost of safe operation and maintenance activities (*including line replacement, see below*) reflected in their power bills. All the time Graeme Samuel was chairman of the ACCC, I never once heard him talk in the media about the public benefit, his only obsessive focus was on cheap goods for consumers. Yet again, this seems to be a case of the cancer of neoliberalist economic ideology infecting the brains of the regulatory community. At least Alan Fels supported the public benefit concept^[3]. Newer legislation, the *Competition and Consumer Act 2010* has enshrined the narrow consumer focus into written law, at the expense of legitimate public interests and public benefits, such as defending the global commons (the biosphere).

6. Section 75 of the Electricity Safety Act 1998 contains penalty provisions for distribution companies which operate power lines unsafely. The penalty is 1500 Penalty Units . One unit was worth \$113.42 on Black Saturday, for an exceedingly modest slap on the wrist of \$170,130 penalty for about \$3 billion worth of destruction. But successful prosecution and imposition of the maximum penalty would send a strong message of wrongdoing. I have heard nothing in the media or elsewhere about any distribution company being prosecuted by ESV, by Victoria Police, by WorkSafe or by the Office of Public Prosecutions for all the unsafe lines^[4] that failed — and ignited firestorms — on Black Saturday. We are still waiting with baited breath, two and a half years later: "don't hold your breath" would seem to be wise counsel...

7. "Replacement": What's in a word? There are no plans to replace worn-out rural power lines. I took issue with Mr Ebdon at the Bairnsdale meeting regarding the confusing use of words in the Consultation Paper. Specifically the word "replacement" is being used by ESV to describe "upgrading to safer, vastly more expensive, technologies". Ebdon hinted strongly that my concerns

3 The Public Benefit Test in the TPA 1974 <http://www.accc.gov.au/content/index.phtml/itemId/255465>

4 **Coleraine:** <http://www.royalcommission.vic.gov.au/getdoc/2d57334a-d7a3-41fd-a469-04891009875e/SUBM-202-006-0001>

Horsham: <http://www.royalcommission.vic.gov.au/getdoc/700d1837-4df5-4c74-b4d8-49f9baade3d7/SUBM-202-005-0001>

Weerite-Pomborneit: <http://www.royalcommission.vic.gov.au/getdoc/fd521673-e257-4c76-9405-8acdd4c13066/SUBM-202-007-0001>

Kilmore East: <http://www.royalcommission.vic.gov.au/getdoc/9ec06c8f-7412-4f63-a518-6420309cf134/SUBM-202-004-0001> and **most shockingly**, the official expert report to **Victoria Police** on the appalling state of the failed span: <http://royalcommission.vic.gov.au/Documents/Document-files/Exhibits/VPO-001-039-0016.pdf>

amounted to semantics. I reject that. The 2009 Victorian Bushfires Royal Commission (VBRC) heard many industry engineers and technicians give evidence of "replacing like-with-like", and that is how I believe ESV should honestly portray the wholesale replacement of very old, worn-out power lines with identical new lines.

8. SNAFU = Regulatory Failure. If the industry's business models and fragmented OCEI/ESCoV/AER/ACCC/ESV's regulatory regimes had required the replacement of worn-out lines — "like-for-like" — as they reached their end of their service life, then VBRC evidence — as objectively summarised in Counsel Assisting's submissions (*see footnote 4, above*) — clearly shows that the Coleraine SWER line failure, the Horsham SWER line failure, "probably" the Colac-Camperdown 66+22kV co-located feeder line failure (clash) at Weerite, and most definitely the failure of the Pentadeen SWER span across Nanny's Gully (poles 38-39) at Kilmore East would not have happened. It is called RCM reliability centred maintenance, and although it would have prevented these firestorms and 119 deaths, has yet to be forced on the industry by a seemingly ineffectual safety regulator. It involves modest recurrent capital expenditure which should have been spent regularly, based on mandated safety requirements in non-ideologically based 5-year regulatory price reviews since privatisation in 1994. "Thanks for nothing", Jeff Kennett and Alan Stockdale.

9. I believe that after the Black Saturday disaster, it is arguably in the interests of ACCC/AER, of the electricity safety authority ESV and of their subservient, licence-dependent distribution companies to deliberately misrepresent the word "replace" at this time so as to confuse the public. Your use of "replace" when you really mean "upgrade" or "substitute" deflects attention from all the cost-effective infrastructure replacement activities studiously avoided by regulators and industry since 1994, so as to minimise guilt feelings for the preventable stuff-up failures on Black Saturday: a genuine case of hand-in-glove corporate/regulatory "SNAFU". This is what regulation law expert Professor Graeme Hodge accurately referred to during VBRC hearings as regulatory failure.

10. Where did the money go? In theory, wholesale like-for-like replacement of ageing infrastructure was allowed for in ESCoV price reviews and determinations. Documents still on the esc.vic.gov.au website show that there was a habitual underspend of about 25% every five years, below what the distributors said they would spend. Capital expenditure is for augmenting in areas of significant load growth, but also for replacing rusty old SWER lines in stagnant rural areas. It is

imperative pursuant to S.75 of the Electricity Safety Act to ensure lines remain safe at all times, even during 100 km/hr windstorms. If that 25% underspend had been spent as promised, “maintaining” SWER lines by scheduled like-for-like line replacement/renewal, then Black Saturday's fires would very likely have been avoided. Instead the so-called efficiency gains disappeared into shareholder bank accounts. Financial markets, politicians from the left and the right, economic regulators and the current owners are all seemingly enthusiastic adherents to the neoliberal economic theory that led to this outcome, and in my opinion should all share the blame. It is by no means certain, but I contend much more likely, that the SECV would have consulted with the CFA and acceded to an order from the CFA Chief Officer to shut down rural lines on Black Saturday. Or consulted with their insurers and made the decision themselves. In late 1983 they were drawing up plans for such planned outages.^[5]

11. Important information is missing: A senior Victorian power engineering consultant told VBRC that he could not recall the year when he first joined the SECV as a fresh university graduate, specifically tasked with investigating how power lines were igniting fatal Victorian bushfires and firestorms. Exhibit 279, from Sir Esler Barber's 1977 inquiry, is a document which would have been able to refresh his memory, because it was a report on the results of tests that the SECV performed in 1969^[6]. Inexplicably this crucial document has recently gone missing from the Victorian Public Records Office, apparently during a time when all Sir Esler's 1977 inquiry's records were held by the Department of Justice: it is reasonable to presume DOJ recalled Sir Esler's full inquiry documentation (VPRS 13230) from storage at PROV in 2009 in order to discover what was known of any causal connection between power lines and bushfires, and when the industry first knew. It is of considerable concern that Exhibit 279 has now gone missing, only to be replaced with a high-tech (modern) translucent blue adhesive marker in VPRS 13230/P0001/10/ “Exhibits : Folder 11, No. 270 – 280”

12. Important information partially revealed: Power line fires enter the Victorian historical record in 1968 when the 50,000 acre Myrtleford fire was ignited by a very long SWER line sagging into tree foliage. All records prior to 1967 were destroyed according to the SECV's official statistical report to the 1977 inquiry^[7], without reason or explanation being given. On 8th January 1969 there were many fires, not investigated by the Bolte government of the day, but known to

5 Out-of-focus sample [here](#) (unofficial) – note that even then SECV was using the pejorative term “disconnection” !!

6 Cited in VPRS.9823/P0002/13 “List of exhibits. List of witnesses” - a public document at PROV. The citation is “279 Photostat copy of S.E.C. file relating to experiments carried out on conductors clashing in 1969. [transcript page] 2332”. Unofficial copy available [here](#).

7 See PDF page 4 of <http://www.voltscommissar.net/bushfires/Electricity.Fires.Pt2.SEC.data.pdf>

SECV, because that is when SECV began investigating internally their role in bushfire ignition. On 21st December 1973 there was another string of fires, for which there was a large unresolved discrepancy between the CFA's and SECV's statistics about how many fires had been ignited by power lines. An internal CFA memo indicates at least twenty-four fires⁸. In 1977, all six deaths on 12th February were traced back to fires ignited by power lines, though that fact was never stated in Sir Esler Barber's report to the minister. However, and most importantly, the transcript of the 1977 inquiry clearly shows that SECV was repeatedly being chastised by Sir Esler for its historical culture of denial, going back at least as far as 1969⁹.

13. The terms of reference for the 1983 inquiry into Ash Wednesday's killer firestorms excluded determination of cause. The inquiry singularly failed to address prevention strategies¹⁰. However, coronial inquests eventually revealed that the Cudjee-Ballangeich fire (nine deaths), the East Trentham fire (seven deaths) and the Branxholme fire (one death) were started from power lines. Twenty seven people died from the Cockatoo and Upper Beaconsfield fires, where cause was not definitively determined, but it is possible that one or both of these fires may have started from power lines too. After 1983, SECV continued to re-educate its staff and perform safety improvements up until its dissolution in 1994. I do not know if SECV ever deemed a whole SWER line or spur to be worn out on explicit safety criteria, and replaced it like-for-like with identical hardware.

14. Recent Incomplete Disclosure: If the 2009 Victorian Bushfires Royal Commission had been as thorough as Sir Esler Barber, the Commissioners would have demanded that the cause of each of Black Saturday's many fire outbreaks be revealed by the CFA, by Energy Safe Victoria, and by the power companies' grass-roots first attenders at all electrical fault locations. To the extent that this data was not revealed at VBRC, it again is a "cover up" relative to the full disclosure achieved by Sir Esler Barber's 1977 inquiry. As part of the process of the Taskforce's investigations and research, Energy Safe Victoria, and the Country Fire Authority should belatedly release their data sets for Black Saturday – without comparing notes – so that Victorians may finally know the full extent of the problem we are now being asked to fix via increases to our electricity bills.

8 Exhibit 260 contained in VPRS 13230/P0001/8 "Exhibits: Folder 10 No. 250-269" at PROV. See Annexure A in this document: <http://www.voltscommissar.net/bushfires/Electricity.Fires.Pt3.CFA.Fire.Statistics.1969-1977.pdf>

9 See a feisty example on transcript pages 2325-2331:

http://www.voltscommissar.net/research_purposes_only/VPRS.9823.P0002.13.Transcript.pp2317-2332.witness.Hill.%5bExhibit.279.mentioned%5d.pdf

10 <http://www.slv.vic.gov.au/miscreports/0/0/0/pdf/zz0005.pdf>

15. There is relevant supporting material in relation to the history of power lines igniting bushfires on my web page^[11].

16. Real Risk of Death must be Neutralized. I put the Victorian electricity distributors and their AER/ESV regulators on notice that I will do all in my power to organise a mandamus writ against the CFA's Chief Officer and/or the Victorian Fire Commissioner if they allow a repeat of Black Saturday. I argue that the South Australian idea of planned outages is the only cost-effective way for responsible fire agencies to prevent firestorm ignition from power lines during extreme FFDI/GFDI events and thus prevent deaths, prevent billions in property damage, and prevent commercial risk to the distributors' self-insurance pool or the external insurers coffers. It is OK that the industry, its insurers, the safety regulator and state politicians hold the public position of denial on this issue, as long as they privately recognise amongst themselves that the Country Fire Authority Act 1958, Section 30(1)(i) gives Chief Officer Euan Ferguson the power to order rural blackouts ("planned outages") in order to adequately discharge his onerous duty to prevent firestorms. Common sense suggests you should plan for being ordered to shut down the rural network. If we were all a bit more grown up about this we would admit it publicly, and debate it publicly!! Legislation for the powers of the new Fire Commissioner should also say something about preventing firestorm disasters, but sadly it takes an "after the event" approach^[12].

17. If Russell Rees had had the foresight, courage and initiative to fully exercise his legislated prevention powers 48 hours before Black Saturday, he would have ordered rolling blackouts based on BoM's regional wind/FDI predictions: rural lines would have been de-energised progressively from 10am, and the Coleraine, Horsham, Weerite and Kilmore East firestorms would not have happened. At the very time on Black Saturday when the electricity market was in overdrive, with all the market growth signals going to future distribution augmentation and giving the green light to new generation, the risk this market's mode of operation was posing to Victorian's lives was a consideration completely isolated, ring-fenced and deliberately excised from any operational considerations of the market's participants and their economic regulators.

18. TECHNICAL AND OTHER ISSUES

a) Many of the answers sought in the Taskforce's Consultation Paper are not easily answered unless

11 http://www.voltscommissar.net/bushfires/#electricity_fires

12 http://www.austlii.edu.au/au/legis/vic/num_act/fsca201073o2010333/s10.html

Victorians have access to full details of the **survey questionnaire** put to 2,000 electricity customers. Mr Ebdon refused my request for access to the questionnaire.

b) Arc faults and conductor clashing are highly likely to ignite firestorms under extreme weather conditions, even if all auto-reclose functions are disabled in the distribution network. It is very likely, based on the Taskforce's commissioned research now underway, that the research results will prove this. The research results should therefore be subject to full public disclosure. ~~The loud bang which was reported at Murrindindi Mill zone substation (MDI) may well have been due to flashover on the 66kV circuit breakers when the transformer was being isolated. This raises the question as to whether any arc-generating maintenance work should be done on the distribution network in such dangerously extreme weather conditions. At 1445hrs there was a wind of 90km/hr., single digit humidity and a temperature over 40 degrees: any airborne debris could theoretically have been set alight by the arc. The cause of the Murrindindi fire is still subject to ongoing investigations.~~^{13]}

c) Copper conductors clashing can still emit hot metal particles hot enough to ignite dry fuel on the ground, but the risk is substantially reduced compared to aluminium. Arc and clash tests should be set up to determine if the magnesium content of AAC alloy conductors increases the flame temperature and/or burn duration of arc root or clash particles, when compared to pure aluminium conductor strands in ACSR conductors. If AAC is found to be riskier, then it should be withdrawn from high fire danger areas, and substituted with safer conductor technology, even if redesign and more frequent poles are required. If the relative ignition risk of clashing copper conductors can be quantified, it should be workshopped to determine if copper substitution can be economically justified in high fire danger areas currently served by aluminium feeders, perhaps in conjunction with longer cross-arms:

d) The cheapest effective way to reduce the risk of conductor clashing in free air (flying debris, willy-willy or turbulent windstorm) may well be to **increase cross-arm length and conductor spacing** above the regulated minimum. Expert opinion should be sought from power distribution engineers interstate, and from retired SECV power distribution design engineers.

e) Cat out of the bag: the Taskforce Consultation Paper admits that substituting off-grid solar-diesel hybrids for dangerous unsafe SWER lines is “cost effective”^{14]} compared to making many

13 [v2 edit, strikethrough] this information is incorrect. The 66kV ACR at MDI is fully enclosed in oil. The loud bang probably emanated from other man-made objects nearby.

14 Page 17, Section 5.4, paragraph 2 of the Consultation Paper – see hyperlink in footnote 1

kilometres of unsafe “end-of-service-life” SWER lines safe again. So on this basis there can be absolutely no justification for the distributor to seek to get paid twice, by expecting to fund the off-grid systems from a price increase for all its customers. This is fairly basic stuff, please ensure that the independent costing consultants and economic regulators are aware of this blatant ambit claim.

f) Customer minutes off line is a valid measure of distributor performance. Just to reiterate what I said at Healseville: when a power line firestorm kills an infant child, that customer is “offline” for the rest of their life expectancy. 60x24x365x80 is over 40 million customer minutes. Incorporating this penalty into distributor's calculations of customers denied the benefits of electricity supply for a whole lifetime might at last focus the minds of economic regulators and industry on making investments as if human lives actually mattered.

g) Erosion of monopoly power. Planned outages have been recognised as a necessary option in South Australia, and were requested by SCE in California in 2007, both being regions of lesser firestorm risk than Victoria. Planned outages involve rural households and businesses making alternative energy service delivery arrangements for water pumping, communications and survival in extreme heat conditions, so would not be without cost. One very positive spinoff of rural communities having to pro-actively plan for mains power blackouts during heatwaves will be that they develop failsafe fire plans that do not rely at all upon mains electricity: *this is already a very strong recommendation of the CFA*. All of the above are activities that will lessen electricity customers' abject dependence on monopoly mains electricity supply, and therefore represent a threat to the status quo. Yesterday's NBN deal means that *everyone* will soon require an off-grid power supply to run their telephone during a blackout, so it seems backup power is about to hit the bigtime and will soon be universal. By rejecting planned outages, the Taskforce has adopted a position apparently designed to defend the industry's monopoly power, and to preserve and augment toxic carbon pollution emissions forever. Erosion of monopoly power is competition by another name, and therefore should be strongly endorsed by COAG, by the ACCC and by the AER, if competition policy is worth the paper it is written on.

CONCLUDING REMARKS (next page)...

CONCLUDING REMARKS

19. A Safe Electricity Distribution System is a system that *never* ignites firestorms. 2009 VBRC was about monster killer pyrocumulonimbus blowup fires, not about average bushfires on average summer days. So the response to VBRC must be to implement effective prevention strategies on the worst possible catastrophic days, and let the average summer day's non-fatal bushfires be put out by competent CFA volunteers. No effective public safety remedies against firestorm ignition have been proposed in the Consultation Paper, or in the six public meetings that I attended at Colac, Ararat, Macedon, Whittlesea, Healesville and Bairnsdale. Without the last-ditch public safety option of *very rarely implemented* planned outages, there will inevitably be more "unprecedented" and "unforeseen" Black Saturday type firestorms triggered by power lines.

Michael Gunter
North Melbourne
24 June 2011

Annexure A – Recent related email correspondence to Energy Safe Victoria

----- Original Message -----

Subject: Technical References as requested

Date: Wed, 25 May 2011 17:35:06 +1000

From: Michael Gunter <mickgg@suburbia.com.au>

To: Powerline Bushfire Safety Taskforce via <glistro@esv.vic.gov.au>

Mike, Marianne, Tim and Colleagues,

In Colac I mentioned that Tasmania has higher standards for conductor separation, but I have been unable to locate the references in Aurora.com.au web pages or via general Google searches. Perhaps if you make a direct approach to Aurora distribution engineers, they may be able to let you know their optimal/preferred separation and the regulated minimum, which in a responsible industry may be different so as to improve safety margins.

I was instrumental in tracking down the 1977 Pleasance and Hart research paper at HRL Ltd. during the 2009 VBRC hearings. My actions were in response to Jack Rush telling the Commissioners, that "we are looking for the research paper". This was at a time when all the papers for the 1977 Esler Barber Inquiry had already been removed from the State Archive by DOJ, so it is surprising that DOJ was unable to locate something that Jack Rush had publicly stated he was seeking. It seems OBVIOUS to me that DOJ took possession of the 1977 inquiry documents, because they knew all the papers in it were highly relevant to the 2009 disaster: those who ignore history are doomed to repeat it. IMO there was a programmed and calculated "forgetting" from 1994 to 2009 of all the SECV's experience by virtue of the privatization process and its ideological blind-spots.

In my opinion Pleasance and Hart's research is a classic case of reductionist approach leading to a skewed result: instead of placing the hot dry grass under clashing conductors, they devised a strategy to drip molten aluminium into dessicated grasses, and so concluded that it was "unlikely" for aluminium particles to ignite their grass hay stems. If the experiment had been more "honest" they would have dropped BURNING aluminium particles into dessicated grass. See attached, "FM-1 1977 secure.pdf" which is a public document, being an exhibit at State Records Office Series VPRS 13230 - all the documents related to the 1977 Sir Esler Barber Board of Inquiry.

Just for starters at 2009 VBRC public submissions, please source the submissions of USA Expert Joseph W Mitchell, regarding "line slap" issues in California related to Santa Ana winds (line slap = conductor clashing in their terminology). His formulas demonstrate how small increases in wind gust speed can rapidly escalate the risk of conductor clashing, and also relates it to conductor separation distance.

Then there is the public submission of the late WA power engineer Mr Gammon, who apparently dictated his submission from his death bed in order that the 2009 VBRC should get the benefit of his professional knowledge; Gammon and his colleague George Jamieson state that all conductor clashing (including pure copper conductors: Jamieson, personal communication with me by phone) can generate molten particles hot enough to ignite grass, in their lifetime of experience in SECWA as it then was.

If you look at the VBRC exhibits related to Powercor's Mr [Xxxxxxxx], you will see a research paper by Tse and Fernandez-Pello. IMO it suffers from similar type of bias to the Pleasance and Hart paper, but in this case theoretical analysis was based on unreasonable assumptions ("initial conditions") in order to underestimate the distance sparks can travel. This is a situation that cries

out for honest empirical tests rather than armchair theorizing with dubious mathematical models. I felt sorry for Mr [Xxxxxxx] and the things he was apparently prepared to say under oath to Jack Rush. It might be understandable in the context of a class action writ, but I just hate to see scientific method being trashed by powerful corporations with a clear commercial motive to prove that black is white. It was my anger at [Xxxxxxx]'s evidence which has provided much of the motivation to pursue the powerline problem so vigorously and persistently.

In Ararat NERs (neutral earth resistors) were mentioned. If these still form any part of DistCo Bushfire Mitigation Plans, they will have to go, because there is absolutely no scientific basis for their inclusion in such plans, as Counsel Assisting Dr Donaghue clearly demonstrated in the Myrtleford hearings (more details in my forthcoming submission). NERs are all about limiting fault currents close to zone subs to protect assets from destructive electromagnetic/electro-mechanical and heating forces. The energies involved are orders of magnitude greater than the amount of spark energy required to fling burning aluminium incendiaries off a conductor, or to ignite a contacting gum leaf.

The arc fault expert at VBRC was Professor Trevor Blackburn from UNSW, not David Sweeting. The transcript of his examination and his expert report are both online at VBRC: <http://www.royalcommission.vic.gov.au/transcript/Day-071.htm> and <http://royalcommission.vic.gov.au/Exhibits/Exhibit-Document-List?eid=0437>

Please ask the CFA for the results of all fire investigations of Black Saturday fires. Electricity-related was clearly more than five. Twenty five, fifty-five, seventy-five? Victorians surveyed cannot be expected to make informed decisions about how to fix the powerline-firestorm problem if ESV cannot tell us (and apparently does not know, or see the need to know) how many power asset fire starts happened on 7th February 2009. It would be of great concern to me if the proportion of fires started by electricity was more than a few percent off the VBRC figure of 42% (5/12). Though as Tim said, the powerline fires tend to be bigger and more deadly, because their ignition coincides so perfectly with FFDI/GFDI extremes.

So far we can merely agree on "more than four percent." Any fire start on Black Saturday had the potential to become a firestorm, even perhaps an urban-Melbourne firestorm if a fire had started at Rockbank or Toolern Vale.

These few items mentioned above are the ones which immediately spring to mind. I will review all my notes and emails in the next week or two and send through any other useful references I find. In addition there will be a formal submission by 24th June.

Best Regards,

Michael Gunter

P.S. If you trawl through the video clips at <http://www.youtube.com/user/voltscmissar>, you will see very many related to 2009VBRC, being mostly ABC news bulletins I captured. I have DVDs of SECV tests performed for the 1977 inquiry and can provide copies if Mike Ebdon does not have them readily to hand. (They reside at PROV but are very expensive to get converted from 16mm cine to DVD format) see samples at:

<http://www.youtube.com/watch?v=tvN1CqmvIY4>

<http://www.youtube.com/watch?v=oSIW30VTHR0>

PROV has SECV's old fire-start-related U-matic videos with soundtracks that ESV

should urgently get restored by video professionals and converted to DVD, because they are deteriorating very rapidly, and might soon be lost forever. No more of corporatist-inspired "forgetting" of the lessons of history, please! ACMI might be able to help, at modest cost to another govt funded entity.

----- Original Message -----

Subject: NERs do not do what distributors claim in BMPs

Date: Thu, 26 May 2011 15:33:21 +1000

From: Michael Gunter <mickgg@suburbia.com.au>

To: Powerline Bushfire Safety Taskforce via <glistro@esv.vic.gov.au>

Mike, Marianne, Tim and Colleagues,

Dr Donaghue's very important examination of Paul Lane, in relation to Neutral Earth Resistors (NERs), and their negligible effect on the sort of typical fault currents that start fires, is on VBRC Transcript pages 7013 to 7014. See <http://www.royalcommission.vic.gov.au/transcript/Day-050.htm> (Lane's full examination pages 6997 to 7055).

I regarded this witness examination as really important when I was sitting there in the Royal Commission Hearing room at Myrtleford. Essentially it is strong evidence that a Victorian electricity distributor touted ineffectual ideas and implemented ineffectual strategies as part of their approved bushfire plans.

I spoke to Dr Donaghue during the tea break on 14th September 2009: "How did you figure all that out?" "Do you hold a science degree?" No, it seems he's just a very smart cookie, and probably backed up by some very smart lawyers and paralegals at Corrs Chambers Westgarth. So if he, a non-engineer can figure all that out based on high-school-level general education, why did ESV allow this invalid plan to be written down, approved and implemented?

As I stated in yesterday's email, I think ESV should outlaw NERs from Bushfire Mitigation Plans as a matter of some urgency before the next fire season, and hold a thorough internal investigation of how power companies can (or did until recently) use ineffectual, scientifically invalid plans to create the mere impression that they are implementing effective fire safety strategies.

Please acknowledge receipt of this communication by return email

Yours sincerely,

Michael Gunter

-----Original Message-----

From: Michael Gunter [<mailto:mickgg@suburbia.com.au>]

Sent: Wednesday, 1 June 2011 3:33 PM

To: Livia <admin@cfaconnect.net.au>

Cc: Gabriela Listro

Subject: Fatal Firestorms started by power lines

Hi Livia,

Just to respond to what is written in Sharon Rainsbury's recent article:
<http://www.cfaconnect.net.au/news/options-to-cut-bushfire-risk.html>

In it Sharon says: [ESV will] "investigate the full range of options available to reduce the risks of catastrophic bushfires from electricity infrastructure"

But that is not true, because their Powerpoint presentation and what they said out loud at four meetings in Colac, Ararat, Macedon and Whittlesea is that they will not consider turning off rural lines no matter how dire the weather predictions for a given day might be. (See "NOT disconnection" on the tenth page of the Powerpoint slide show.)

So much for Euan Ferguson's announcement in the Herald-Sun some months ago when he floated the idea, which is on the statute books (or regulations) in South Australia.

This is a public safety issue, not an electricity consumer issue. Sometimes the public interest and the "consumer" interest in cheap unlimited energy actually diverge and this is such a case.

The electricity industry has no other interest except the short-term narrow commercial focus on growing their dirty cheap energy market, and are blind to the environmental catastrophes that spin off from their money-making schemes.

If Chief Officer Euan Ferguson still holds the view that planned, but very rare, power outages are worthy of public debate, he should come along to a meeting and put his views (once again) on the public record.

Best Regards,

Michael Gunter
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