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2009 Victorian Bushfires Royal Commission
GPO Box 4358
Melbourne VIC 3001
Australia

Re: Submission of Joseph W. Mitchell, Ph. D in the matter of the ignition of bushfires by power lines under extreme weather conditions

Dear Commissioners;

I recently learned that your Commission was investigating the possibility that electrical infrastructure was involved in the ignition of some of the February 2009 bushfires. This is a field of study of mine, and is currently a subject of considerable interest in the state of California. In October 2007, extreme weather conditions of low humidity and high winds caused the ignition of 20 bushfires (or wildland fires) throughout Southern California. Involvement of electric distribution or transmission infrastructure was attributed in 9 of these fires. In response, the California Public Utilities Commission (CPUC), which is the state regulatory agency that oversees electric utilities, has taken a number of measures to discover and address the causes of power line fires.

I am an expert witness for a citizen's group that is involved in a number of the CPUC proceedings, and have submitted testimony and reports on the subject of power line ignitions of wildland fires. Additionally, I've presented one academic paper on the subject, presented at a conference in San Francisco in late January 2009, one week before the Victoria bushfires. Some of this material may be relevant to your own investigation, and so I am submitting associated documents in addition to a summary of current findings and activities.

There is a common interest shared in both Australia and California in reducing the potential for catastrophic bushfires, including those caused by electric infrastructure. I would urge your Commission, therefore, to contact our own Public Utilities Commission for the purposes of information sharing regarding power line fire causes and prevention. Our organization would be happy to assist your office with this if you believe that this type of communication would be beneficial.

On a more personal note, we are very familiar with the impacts of bushfires on lives and communities, having lived through the largest recorded fire in California history (the Cedar fire) in 2003, and then again the Witch Fire in 2007. The latter – the fourth largest in California history – was the largest fire of the October 2007 firestorm and has been attributed to the clashing of power lines under high wind conditions. Ironically, it surrounded us on three sides as we were preparing a submission to the CPUC on power line fire hazards.

I was saddened by news of the 2009 Victorian bushfires, the more so because of the admiration I have for the Australian fire services based on their admirable record and the advice and support they've provided me in my previous work. It is essential to prevent the reoccurrence of such a

tragedy, and the prevention of power line fires is absolutely critical in this regard. One of the key results of my research is that one should expect the number of ignitions from power line fires to rise rapidly with wind speed – hence our electric grids must be hardened against foreseeable weather conditions in order to prevent multiple simultaneous ignitions from occurring.

In order to assist your work, I will be providing an overview of current work being undertaken by the CPUC as well as research papers and reports I've authored in this area. The great majority of documents entered into the CPUC proceedings are public record, and are available through the CPUC's website. I have provided hyperlinks to these documents in this report. If there is any further assistance I can provide to your Commission do not hesitate to contact me.

Sincerely,

/s/

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Submission of Joseph W. Mitchell, Ph. D in the matter of the ignition of bushfires by power lines under extreme weather conditions

I. INTRODUCTION

In late October 2007, Southern California experienced an extreme weather event characterized by unusually high winds and low humidity. This event caused the spread of a number of large bushfires which caused loss of life and extensive property damage. While wind-driven catastrophic bushfires are not unusual in Southern California, what made this temporal cluster of fires unique is the significant role that electric power infrastructure had to play in the ignition of fires. Nearly half of the 20 fires were due or related to electrical infrastructure failures under high wind conditions. I recently learned that five of the eleven ignitions being investigated by the 2009 Victorian Bushfires Royal Commission may have been related to electrical infrastructure as well, and so I am submitting information related to the general problem of vegetation ignitions by power lines under extreme weather conditions.

In addition to having personally experienced one of these fires myself, I have been conducting research in the area of wildland fires (bushfires) ignited by power lines since 2006. So far, this has resulted in one presentation at the Fire & Materials conference in late January 2009 as well as numerous contributions to regulatory proceedings before the California Public Utilities Commission (CPUC). In response to the 2007 fires, a number of proceedings before the CPUC related to utilities and wildland fire have been initiated, and I have been contributing to these as an expert witness for a community group. I am a physicist by training, and became involved in bushfire studies in 2002, specifically in the area of water spray systems for structure defense.

This report will summarize what we have learned about power line fires and what California's regulatory response to date has been. I am attaching key publications, presentations, and submissions to the CPUC. The California Public Utilities Commission's records are voluminous, however, and so I will also provide a reference guide to these public documents to aid your Commission in further research.

II. TERMS OF REFERENCE

As per the Terms of Reference published on the 16th of February 2009, all submissions to the Commission must contain materials related to at least one of the terms specified therein. The materials contained in this submission relate to the following terms of reference:

Term 1: *The causes and circumstances of the bushfires which burned in various parts of Victoria in late January and in February 2009 ("2009 Bushfires").*

Electrical power infrastructure appears to be responsible for a number of bushfire ignitions during the 2009 Bushfires, and is currently under investigation by this Commission[1]. Other clusters of power line ignitions were also observed in Australia in 1969 and 1977[2]. A remarkably similar pattern of ignitions occurred in October 2007 in the state of California in the United States. This suggests the possibility a common causal origin. The causes of the California fires have been investigated and their origins may provide illumination into the processes that led to the ignitions of significant Victorian bushfires. Additionally, I have developed a conceptual framework and description of the California fires that may be useful in understanding the origins of the Victorian Bushfires as well.

Term 4: *The measures taken to prevent or minimize disruption to the supply of essential services such as power and water during the 2009 Bushfires.*

One controversial measure that has been under review in San Diego would involve the removal of electric power to hazard areas under conditions favorable to the growth of large bushfires. This proposal was denied due to the potential for exposing the public to significant risk arising from the lack of essential services, including greater dangers from bushfires due to delayed reporting, hampering evacuations, and threatening water supply necessary for structure defense. It may be resubmitted, however, after negotiations with key stakeholder groups have been completed.

Term 6: *The preparation and planning for future bushfire threats and risks, particularly the prevention of loss of life.*

The 2007 California fires have resulted in a number of proceedings before the California Public Utilities Commission, including currently ongoing review and revision of the safety regulations affecting utilities. Some of the results of these proceedings may be of use to the Victorian

[1] See transcripts of the hearings of the 2009 Victorian Bushfires Royal Commission; December 11th, cross examination of Patrick Griffith and Paul Francis Faeron; December 15th, cross examination of Chris Pattas and Professor Hodge.
[2] December 11th transcripts; p. 13224.

Bushfires Commission as they identify measures to prevent ignition of bushfires by electrical infrastructure.

III. REASON FOR SUBMISSION

I am a physicist by training, have been involved in bushfire research since 2002, and more specifically have been involved in the issue of power lines and wildland fires (bushfires) since 2006. My results regarding power line fires have resulted in one paper (presented at the Fire and Materials Conference, San Francisco, January 26th 2009) and numerous submissions of testimony, comment, reports, and argument to the California Public Utility Commission in the course of several proceedings. These results are likely to be of direct relevance to the 2009 Bushfires, since they relate generally to the causes of catastrophic power line fires.

Additionally, I personally and the neighborhood organization I support have been impacted by two historically large wildland fires both in 2003 (the Cedar fire, which destroyed two-thirds of the structures in our neighborhood) and again in 2007 (the Witch fire, which was ignited by power lines), so I am intimately familiar with the effects that such tragedies have on families, communities, and the natural world. I believe that the problem of catastrophic power line fires is solvable, and that it is possible to avert future tragedies such as the 2009 Bushfires. I am happy to do whatever I can to assist the Commission in this area.

IV. SUMMARY OF SUBMITTED MATERIALS

I began research into the potential for catastrophic power line fires as part of an application process by our local electric utility (San Diego Gas and Electric, or SDG&E) for a new transmission line project. This gave me access to fire and outage records by this utility. Additionally, I analyzed historical fire data kept by the California state fire agency, Cal Fire (formerly CDF). Initially, this analysis was constrained to San Diego County, but in the wake of the October 2007 fires – in which power line fires were implicated in at least eight of the twenty fires I expanded it to include all of Southern California. After refining the analysis, I presented it at the 2009 Fire and Materials Conference. Both this paper and the presentation are attached to this submission.

Salient results of this analysis found that in Southern California wildland fires ignited by power lines tend to be much larger – by a factor of 10, on the average – than the typical wildland fire. The underlying cause for this effect is that the timing of power line fire ignitions is

correlated with extreme fire hazard conditions, with low humidity and high winds. Under such conditions, any ignition will be much more likely to result in a large fire, since it is much more difficult for fire agencies to mount a successful initial attack due to the rapid fire growth. Using weather data and fire ignition data from Cal Fire, I studied the effectiveness of initial attack as a function of local wind speed and found that it drops from 97% averaged over all ignitions down to 80% under low humidity conditions with wind gusts over 48 kph. The size distribution for fires occurring under such conditions is apparently independent of whether or not power lines are the source. However, the *number* of power line ignitions increases with wind speed, and the paper discusses several physical mechanisms that account for this observation. One thing that all of these mechanisms have in common is that the number of ignitions expected increases very rapidly with wind speed – with a much greater than linear dependence. This begs the question of how strong we can expect winds to be under high fire risk conditions, since the near-simultaneous ignition of a large number of fires under extreme conditions would inevitably lead to a catastrophic fire-storm.

Among the suggestions made in the aftermath of the 2007 fires was a proposal by SDG&E to turn off power to high-risk areas once certain trigger criteria had been reached. This suggestion, put forward as an application before the CPUC, was very controversial and was rejected by the Commission. While this tactic would be expected to eliminate the catastrophic fire scenario just described, it also creates additional risks, such as delays in reporting fires, lack of emergency communications, lack of power to pump water to defend homes, etc. I laid out a general outline of how overall public risk might be minimized in a submission to the CPUC entitled *WHEN TO TURN OFF THE POWER? COST/BENEFIT OUTLINE FOR PROACTIVE DE-ENERGIZATION*, which I have included in this submission. This document also provides results of a study by Quanta Technologies that uses hurricane data to show the increase in the number of failures and faults with wind speed, which we would expect to also apply to winds during fire weather as well.

Our organization was only one of many involved in the various proceedings related to power line fires at the CPUC. The next section describes the various proceedings and the results that may be of relevance to this Commission, and provides links to the key documents.

V. CALIFORNIA PUBLIC UTILITIES COMMISSION ACTIVITIES REGARDING POWER LINES AND WILDLAND FIRES

The California Public Utilities Commission is the regulatory agency responsible for overseeing electric utilities as well as communications utilities in California. It originated as a railroad commission in 1911, expanding its authority in 1912 to cover electricity, water, telephone, and marine transportation. It consists of five Commissioners, appointed by the Governor and approved by the state senate; their staff, and divisions which include the Division of Ratepayers (DRA) and Customer Protection and Safety Division (CPSD), which advocate on the behalf of California ratepayers. There are three types of Commission proceeding: rate-setting, rule-making and investigatory. Any person, group, or company having an interest in the outcome of a proceeding may become a party to it. California has three major electric utilities and a number of smaller electric utilities. Pacific Gas and Electric (PG&E) operates in the northern part of the state, Southern California Edison (SCE) operates in the southern part of the state, and San Diego Gas and Electric (SDG&E), a division of Sempra Energy, operates in San Diego County in the southwest corner of California. To facilitate participation by non-utility entities, the Commission provides compensation to organizations or individuals who are able to show that they have made a substantive contribution to the CPUC process. This has allowed the creation of two self-sustaining consumer advocacy groups, TURN (The Utility Reform Network) and UCAN (Utilities Consumer Action Network). The organization I am expert witness for (and also am a board member of), the Mussey Grade Road Alliance (MGRA), is a neighborhood organization that became involved in several recent CPUC proceedings because of its interest in wildland fire issues. I list and describe recent CPUC proceedings that may be relevant to the work of the 2009 Victorian Bushfires Commission in the subsequent sections.

Information on the CPUC may be found at its website:
http://www.cpuc.ca.gov

Most documents are available through the CPUC website, and can be found via its search engine:
http://docs.cpuc.ca.gov/cyberdocs/Libraries/WEBPUB/Common/searchDsp.asp

To search for documents, including rulings, memos, and decisions by the CPUC as well as all filings by parties, enter the proceeding number (without punctuation; for example A.06-08-010 would be entered as A0608010) and select 'Search'. This will produce a list of all relevant documents for that proceeding.

A. A.06-08-010 – The Sunrise Powerlink Application

San Diego Gas and Electric Company proposed a transmission line project which it calls Sunrise Powerlink in 2005, resubmitting its application in 2006. This project was and continues to be opposed by consumer and neighborhood groups and some jurisdictions, which believe it is unnecessary and is a ploy to import inexpensive power from Mexico rather than its claimed purpose of renewable energy. Our organization, the Mussey Grade Road Alliance (MGRA) was one of these neighborhood groups. Our primary contribution to the proceeding was in the area of wildland fire (bushfire) threat from power lines.

Applications before the CPUC are quasi-judicial: a Commissioner is assigned to each proceeding, it is officiated by an Administrative Law Judge (ALJ), all Parties are subject to discovery (legally required to provide information and documents on request), testimony may be sworn and witnesses are subject to cross-examination. Proposed Decisions are authored by the Assigned Commissioner and the Administrative Law Judge (Alternative Decisions may also be proffered by other Commissioners), and the final Decision is determined by a vote of the five-member Commission.

Before the Sunrise Powerlink application, the subject of power line fires had never figured prominently in a transmission line case before the Commission. In response to evidence brought forward by MGRA and others, the Environmental Impact Report (EIR) produced by an independently contracted organization, contained over three hundred pages of analysis related to bushfires as both a threat to and a threat from transmission infrastructure. Key contributions and findings of the MGRA were based primarily on 1) data available from Cal Fire (the California state fire agency) 2) published academic work regarding wildland fire and Southern California vegetation, and 3) fire history and historical outage data from SDG&E, obtained through the discovery process. Among these results were:

- Lower voltage distribution lines had higher rates of ignition than transmission lines (roughly 3X), but ignitions had been observed even for high voltage (230 kV) transmission lines.
- While power lines were responsible for only 1% of fires in San Diego County, and 3% in California overall, they represent 10% of the area burned.

- The majority of life and property losses due to wildland fires occur during rare, catastrophic wind events.
- These fires present an environmental threat in that fires that occur too frequently (more often than 10-20 years) in Southern California cause the loss of native species and their replacement by invasive weeds and grasses.
- Separation of electric transmission paths to reduce simultaneous outages is not completely effective because multiple large fires often occur during extreme wind events, and these can threaten or overrun multiple transmission paths simultaneously.

The Sunrise Powerlink Application was approved by the Commission. MGRA was found to have made substantive contributions to the proceedings and was awarded compensation based on these contributions.

Current status: Approved.

MGRA Phase 1 and Phase 2 testimony may be found here:
http://www.mbartek.com/cpucspl/cpuc_index.html

Discovery requests made to SDG&E and its responses may be found here:
http://www.sdge.com/sunrisepowerlink/discovery.html

The Environmental Impact Report may be found here:
http://www.cpuc.ca.gov/environment/info/aspen/sunrise/toc-feir.htm

B. Proceedings relating to the October 2007 fires

In late October 2007, California experienced an extreme weather event that led to the spread of numerous large fires, resulting in a number of deaths and over 1.6 billion US dollars in property damage. Electric power infrastructure was involved in the ignition of at least eight of the twenty fires that occurred at this time. The response of the CPUC was both regulatory (the initiation of rulemaking) and investigatory (determining whether regulations had been violated).

Not only electric utilities, but also wireless and cable providers were drawn into these proceedings because some of their equipment has been found to have been involved in some of the fires.

Generally, utilities accused of having allowed the ignition of wildland fires will not admit fault regardless of the outcome of a CPUC investigation. Civil liability for losses can potentially be several times actual losses, and the companies adopt a defensive position from the outset in order to minimize their potential costs. While the utilities are insured against catastrophic loss, the recent fires have exceeded their policy limits and have made it difficult for them to obtain coverage. The utilities have preferred to reach negotiated settlements with both the CPUC and civil litigants (particularly insurers), which results in the payout of large sums in fines and compensation, though this is not acceptable to many litigants because it is not equal to the harm done. In the 2007 fire investigations, the CPUC has maintained that the utilities did not follow existing regulations, while the utilities argue that they were in compliance, and that instead the weather event of October 2007 was sufficiently extreme to be considered a natural disaster that exceeded required design limits.

1. P.07-11-007 – SDG&E petition for Rulemaking

In the immediate aftermath of the 2007 fires, San Diego Gas & Electric Company (SDG&E) issued a petition to the CPUC to begin a review of the Commission's safety rules regarding wildland fire. This petition was supported by SCE and also by MGRA, which maintained that current safety codes were inadequate to protect against extreme weather events such that which occurred in October 2007. However, this petition was denied by the CPUC, on the grounds that initial investigations by the Consumer Protection and Safety Division (CPSD) should be completed before rule revisions could be contemplated.

Current Status: Denied without prejudice

2. I.08-11-006 – Investigation of SDG&E for Witch & Rice fires

The Witch fire was the largest and most expensive of the 2007 fires, resulting in two deaths, 40 injuries and the loss of 1,141 structures. Merging with the Guejito fire, it became the

fourth largest historically recorded fire in California, burning over 80,000 ha[3]. The Rice fire resulted in the loss of 206 homes. Initial investigation by the CPSD attributed the causes of both fires to power lines.

In the case of the Witch fire, the cause was attributed to line slap between the conductors of a 96 kV transmission line operated by SDG&E. This resulted in the ejection of hot material which ignited nearby vegetation. Arcing, ejection of materials and ignitions were observed by a Cal Fire pilot on his way to make a water drop on the nearby Harris fire.

The Rice fire was caused by a tree limb falling onto a distribution line. SDG&E was cited as being at fault in this case, since an inspection in July had required that the branch in question be trimmed away from the line within three months.

Status: Ongoing, reaching settlement agreement. SDG&E has agreed to pay out $US 14.3 million to the state of California and $US 683 million to insurers[4].

3. I.08-11-007 – Investigation of Cox Communications for Guejito fire

The Guejito fire, which merged with the Witch fire, was started when a binding wire used to hold fiber optic cables in place came unraveled and was blown into the conductor under high wind conditions, according to the CPSD's investigation.

Cox Communications contests this account and maintains that the winds exceeded required design limitations and that its wire was not the cause of the ignition.

Status: Ongoing, reaching settlement. Cox has agreed to pay a fine of $US 2 million to the state of California[5].

4. I.09-01-018 – Investigation of Malibu fire

The Malibu, or Canyon fire, was ignited when three utility poles that were jointly owned by Southern California Edison (SCE) and a number of communications providers broke under

[3] P.07-11-007; REPORT OF THE CONSUMER PROTECTION AND SAFETY DIVISION REGARDING THE GUEJITO, WITCH AND RICE FIRES; Sep. 8, 2008.
[4] Perry, Tony; Los Angeles Times; Nov. 1, 2009; "SDG&E to pay the state $14.3 million after brush fires in 2007"; http://articles.latimes.com/2009/nov/01/local/me-settlement1.
[5] Ibid.

high wind conditions. The investigation revealed that there was insufficient coordination between the owners with regard to pole loading, which resulted in the poles being overloaded beyond the safety margin.

Status: Ongoing.

5. R.08-11-005 – Rulemaking Proceeding

After receiving the CPSD report on the Witch, Rice and Guejito fires, the Commission opened its own rulemaking process. During a rulemaking process, the CPUC and other parties propose changes to current regulations. These proposed changes are vetted at workshops, and parties may file comments, responses, and briefs either supporting or opposing the changes.

This rulemaking was initiated in November, 2008. It was divided into two phases, with the goal of implementing non-controversial measures before the 2009 fire season. The first phase completed in August 2009, and the second phase is currently ongoing.

The regulations applicable to utility safety can be found in General Order 95 and General Order 165, both available at the CPUC website. While these documents deal with reporting and design requirements for utility infrastructure, prior to 2009 they did not deal explicitly with the potential for power line fires.

Revisions that were adopted during Phase 1 of the proceeding include:

- Explicit application of some safety and reporting requirements to communications providers as well as electric utilities
- More frequent inspections and improved reporting requirements
- Increase of vegetation clearance distances (tree trimming – increased from 18 inches (46 cm) to four feet (123 cm) for distribution lines in high-risk areas)
- Wider conductor separation in areas known to be subject to high winds
- New rules to address pole overloading

Phase 2 will address issues that were too complex or controversial to be handled in Phase 1. These will include revisions to Phase 1 decisions and may also include such issues as:

- Expanded reporting of fire incidents, hazards, and violations

- Measures to mitigate risk from high winds
- Jurisdictional issues – whether public utilities and transmission infrastructure (governed by federal law) is subject to these rules
- Measures facilitating utility access to private property for vegetation management purposes

Our organization, MGRA, has proposed four rules to be vetted in Phase 2:

- Mandate collection of fire data by electric utilities (resubmitted from Phase 1)
- Define a standard for 'reasonableness' with regard to tree-trimming
- Support the creation of wind intensity maps to be merged with vegetation maps in order to create maps that best identify hazard areas for power line fires
- Design electric systems to be able to handle extreme events with a 500 year return interval

Status: Phase 1, completed. Phase 2, ongoing. Workshops scheduled from January to May 2009.

Link to documents:
Link to General Order 95:
http://162.15.7.24/PUBLISHED/Graphics/93038.PDF

Link to General Order 165:
http://162.15.7.24/PUBLISHED/Graphics/617.PDF

Link to Phase 1 Decision:
http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/106128.PDF

Link to Phase 2 Scoping:
http://docs.cpuc.ca.gov/EFILE/RULC/109513.PDF

MGRA Proposed Phase 2 rules:
http://docs.cpuc.ca.gov/EFILE/MISC/111588.PDF

6. A.08-12-021 – SDG&E Shut-Off Plan

San Diego Gas and Electric Company (SDG&E) devised a plan that would have allowed the utility to cut off electric power to large areas of the "back-country" (as rural San Diego County is sometimes called) when trigger conditions were met with regard to humidity, vegetation water content, and wind. The purpose of this plan was to eliminate the potential for ignition of bushfires by its facilities.

This proposal was opposed by a wide coalition of parties, including water districts (public agencies responsible for water distribution), advocates for the disabled, school districts, and numerous cable television and wireless communications companies. Arguments against the plan were numerous and varied, but hinged on the common element that the plan would increase overall societal risk and costs by allowing shut-off under conditions under which increased ignition risk was not demonstrated but also under which essential services, such as water, power, communication, and fire protection were most critical. It was argued that SDG&E was simply trying to shift risks and cost from itself (since it can be held liable for power line ignitions) to the public.

MGRA was one of the opposing parties, but maintained that under sufficiently extreme conditions power shut-off might be desirable. It argued that the shut-off criteria suggested by SDG&E were set at too low a threshold and therefore likely to increase overall societal risk. It also suggested that a cost / benefit analysis be conducted in order to identify the shut-off criteria under which overall societal risk and costs might be minimized (the proposed outline for such a study is attached to this submission). This suggestion was adopted by the CPUC in its final Decision denying the SDG&E plan.

Status: Denied without prejudice. SDG&E and parties were directed to engage in facilitated discussions to see if a revised plan could be brought forward. SDG&E was ordered to conduct a cost/benefit analysis taking into account risk factors arising from the loss of electric power.

Links to documents:
Link to Final Decision:
http://docs.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/107143.PDF

7. A.09-08-020 – Application to recover uninsured fire costs from ratepayers

In August 2009, the three largest utilities in the state of California (PG&E, SCE and SDG&E) petitioned the Public Utilities Commission to allow them to recover the uninsured costs that they incur due to bushfires, including liability costs. They argued that in the wake of the October 2007 fires, which cost over 1.6 billion US dollars, they could no longer obtain sufficient insurance at a reasonable price to cover their risks, and that their solvency could be at stake in the event of future fires.

A number of parties, including MGRA, opposed this application. The primary argument was that shifting liability away from electric utilities and onto ratepayers would create a disincentive for safe operation of their systems, since utilities that spent less on preventative measures would see higher profits without a corresponding increase in risk.

The initial ruling by the ALJ has supported the opposing parties. The application will not go forward until the utilities meet and confer with opposing parties in order to come up with a proposal that satisfies their concerns.

Status: Ongoing; will not proceed until opposing party concerns are addressed.

Document Links:
Link to initial ruling:
http://docs.cpuc.ca.gov/EFILE/RULINGS/111549.PDF

VI. CONCLUSION

Wherever conditions exist under which high winds can cause the rapid spread of bushfires, and under which electric infrastructure is exposed to these high winds, the potential for catastrophic fires rises rapidly with the wind speed. Within the last three years, weather events causing multiple ignitions in which electric transmission and distribution infrastructure were involved occurred both in state of California in the United States and in the state of Victoria in Australia, causing deaths, injuries and massive property damage. Because such events tend to be historically rare occurrences, it is difficult to obtain statistically adequate information that would allow proper countermeasures to be taken. The reactive response is often to “fight the last war”, adopting measures that only address the specific causes of individual past fires, rather than making systemic changes that would address other potential ignition sources.

Pooling the information obtained through study of the 2009 Victoria and 2007 California conflagrations would allow a more complete picture of the "power line firestorm" event to be drawn, and would greatly aid those in both the US and Australia tasked with assuring the safety of citizens.

Therefore, I would urge the Victoria Bushfire Commission to make contact with the California Public Utilities Commission for the purposes of sharing information regarding wildland fires started by electrical equipment. Appropriate contacts would be Michael Peevey, President of the CPUC, Timothy Alan Simon, who is the Commissioner who has been assigned to fire issues, Richard Clark, head of the Consumer Protection and Safety Division, or their respective staff. If there is anything that I can do to facilitate this contact, I would be pleased to help.

The problem of power line ignited bushfires is both critical and solvable – critical because it is a situation that we expect to recur, possibly with greater severity than has been observed to date – and solvable because straightforward measures can prevent most of these ignitions at reasonable cost. I hope that your Commission finds our experiences in California as described in this submission useful as it formulates its own plans for protecting the Australian public.

Sincerely,

/s/

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VII.ACRONYMNS AND DEFINITIONS

ALJ – Administrative Law Judge, officiates CPUC proceedings.
Cal Fire – Also known as the California Department of Forestry and Fire Protection, the California agency responsible for fire protection.
CPSD – Consumer Protection and Safety Division, a division of the CPUC, responsible for public safety.
CPUC – The California Public Utilities Commission, regulates utilities in California.
Denied without Prejudice – A CPUC decision denying an application but that would allow the applicant to re-apply if key objections are remedied.
DRA – Division of Ratepayers, CPUC division responsible for advocating on behalf of the public in rate cases.
EIR – Environmental Impact Report, a study required by federal law to gauge environmental impacts of major projects.
GO – General Order, a CPUC document containing specific regulations.
MGRA – The Mussey Grade Road Alliance, a neighborhood organization that represents the interests of rural residents and landowners before the CPUC.
PG&E – Pacific Gas and Electric Company, electric utility whose service area covers much of northern California.
SCE – Southern California Edison, electric utility whose service area covers much of southern California.
SDG&E – San Diego Gas & Electric Company, a division of Sempra Energy, responsible for power distribution in San Diego County.
TURN – The Utilities Reform Network, a public advocacy group active before the CPUC.
UCAN – Utilities Consumer Action Network, a public advocacy group active before the CPUC.
Wildland fire – Bushfire. Also, *brush fire*, *wildfire.*