

POWERLINE BUSHFIRE SAFETY COMMITTEE

MINUTES OF MEETING No. 08

Held: Tuesday 11 September 2018, at 10:00 am

Location: Level 5, Building 2, 4 Riverside Quay, Southbank

Attendees:	Status	
David Harris	Member	Chairman
Gaye Francis	Member	Director, R2A Pty Ltd
Tony Marxsen	Member	Director, Marxsen Consulting Pty Ltd
Gail Moody	Member	Director, Wilmin Consulting
Claire Noone	Member	Principal, Nous Group
Gary Towns	Member	Director, Facio Pty Ltd
Paul Fearon	Observer	Director of Energy Safety, ESV
Ian Burgwin	Observer	General Manager Electrical Safety & Technical Regulation, ESV
Tom Hallam	Observer	General Manager Regulation and Network Strategy, AusNet Services
Hana Williams	Observer	Program Director REFCL, AusNet Services
Steven Neave	Observer	General Manager Electricity Networks, CitiPower and Powercor
Andrew Bailey	Observer	REFCL Technical Director, Electricity Networks, CitiPower and Powercor
Tiah Monahan		A/Senior Program Manager, Energy Commercial Projects and Programs, Energy, Environment and Climate Change, DELWP
Robert Skene	Secretariat	Senior Technical Advisor, ESV
Apologies:		
Steve MacDonald	Member	General Manager Infrastructure, Orion NZ Ltd
Georgie Foster	Observer	Acting Director, Energy Safety and Security, Energy, Environment and Climate Change, DELWP
Lorna Mathieson	Observer	A/Project Director Energy Programs, Energy, Environment and Climate Change, DELWP

Agenda item Discussed:

Item	Matter	
Part A	Committee Members and secretariat only	
1	Committee Discussion	David Harris
Part B	Committee Members and Observers	
2	Introduction	David Harris
3	DB progress to-date	Steve Neave/ Tom Hallam
4	Discussion	David Harris
5	Future meetings	David Harris

Part A - Committee members, the secretariat and the Director of Energy Safety. The DELWP observer was invited to join the discussion for Agenda items 1.6, 1.7 and 1.8.

1. Committee Discussion

1.1. Committee procedural

There was a brief discussion on the conduct and the content of the minutes of these meetings.

1.2. Register of Engagements – Committee Members

No further declarations of engagements were reported by Members.

Standing Action: Members to provide advice to the Secretariat by email on matters where there may be a perceived conflict of interest.

1.3. Committee Charter

A discussion was held regarding the committee's charter subsequent to the release of the Independent Review of Victoria's Electricity and Gas Safety Framework - Final Report, and its recommendations.

In the light of the review it was agreed that an amendment to the charter be drafted to broaden the current scope to expand the coverage from the regulations only to the broader bushfire mitigation legislation associated with the introduction of REFCLs, powerline replacement and SWER ACRs, and matters that impact on carrying out these initiatives. Discussion was also held on the merits of the committee providing pro-active advice to the DoES.

There was a detailed discussion regarding the Final Report recommendation 27 which requires the committee to annually report on the costs and risk reduction benefits in the light of actual experience in the deployment of REFCL technology, with the first report to be provided by 1 May 2019. The discussion was framed by the rapid development and changes in knowledge taking place in this first deployment of REFCLs.

It was agreed that changes to the committee's charter regarding the cost benefit be deferred until the government's position was articulated.

Action: Secretariat to draft for the committee and DoES's consideration a revision to the committee charter to broaden its scope in so far as legislative coverage and the provision of pro-active advice.

1.4. PBSC Advice Process

The Secretariat confirmed that a revised draft flow diagram of the process for the provision of advice, including agreed footnotes, had been circulated to members prior to the meeting.

The Chair reflected that the principles of this process had formed the basis for the provision of advice to date and had been a useful guide.

1.5. REFCL Program - Future exemption requests

Both AusNet Services and Powercor have indicated that they may seek extensions to the Tranche 1 dates for REFCLs, as recorded in the meeting agenda.

AusNet Services has specifically flagged their intention to apply for a time exemption relating to achieving the required capacity at Woori Yallock, with network harmonics being said to be an issue preventing the achievement of the voltage collapse specified in the legislation. This matter was discussed at length by the committee.

Powercor have signaled that they are considering applying for an exemption associated with two of their specified zone substations were they to reallocate those substation high risk feeders to a newly created zone substation. Powercor have indicated that this would reduce the project cost as only one zone substation would require a REFCL and seven HV customers would no longer need to have their installations hardened or isolated.

The committee discussed the REFCL deployment progress to date and the potential challenges posed in the deployment of REFCLs in more difficult zone substations, including those attached to terminal stations. The committee expressed an interest in hearing from the electricity businesses on their deployment plans for these different zone substations.

1.6. REFCL Required Capacity

Tony Marxsen gave a presentation on the current challenges associated with the achievement of the required capacity at certain zone substations where large harmonic currents are present. The presentation also included discussions on the 2015 Kilmore REFCL testing published material regarding harmonics and the recorded recommendations for their treatment.

1.7. REFCL Program - Exemption Applications to DoES

The DoES wrote to the Chair on 4 September 2018 requesting advice be provided by 21 September 2018 regarding one application from AusNet Services and four applications from Powercor to exempt parts of a polyphase line, emanating from complying substations, from the required capacity. Copies of this letter were provided to members on 5 September 2018.

The Chair tasked certain members to develop a draft advice and the Secretariat provided copies of the electricity businesses' exemption applications, the ESV internal assessments of those applications, and the ESV Position Paper: *Installing Isolating Transformer(s) on Polyphase Electric Lines with required Capacity*.

A draft of the advice was produced and circulated to members on 10 September 2018, in preparation for the 11 September 2018 committee meeting.

The circulated draft advice was discussed by members and certain edits to the draft were agreed including those associated with the risks posed by any exposed uninsulated components, were they to exist, in the electricity businesses exempted network. It was further agreed that these changes be made following the meeting with the revised advice to be forwarded to members for final consideration, with the view of providing the advice to the DoES later this day.

Action: Chair to provide the committee's advice on the one AusNet

Services and four Powercor exemption applications to the DoES by 12 September 2018.

1.8. Other business

The Chair drew the attention of the committee to the recent changes made by the Essential Services to the Electricity Distribution Code, and reflected that those changes largely reflected the advice provided by the committee. The Chair thanked the committee for their work in providing that advice.

Part B - Committee Members and Observers

2. Introduction

2.1. Attendance and apologies

The Chair advised that member Steve MacDonald would also not be attending this meeting.

The Chair also informed the meeting that as both of the DELWP observers, Georgie Foster and Lorna Mathieson, would not be attending the meeting, that Tiah Monahan (A/Senior Program Manager, Energy Commercial Projects and Programs, Energy, Environment and Climate Change) had been invited to the meeting so that DELWP could be kept up to date on the progress and issues relating to the bushfire mitigation initiatives.

2.2. Previous meeting minutes

Minutes of the previous meeting were circulated out of session.

The Chair invited the observers from the electricity businesses to comment on the level of reporting of the proceedings in the minutes on meeting. There was a brief discussion and with the electricity businesses observers expressing comfort in the level of reporting to date as it largely reflected the information contained in their printed presentations.

The Chair suggested to the observers from the electricity businesses that if anytime they would like to discuss matters which were confidential, and not to be detailed in the minutes, that he would encourage them to advise the committee Secretariat.

The Chair requested Members approve the revised minutes as a record of the meeting held on 12 June 2018.

Committee decision: Passed without dissent.

Action Secretariat to post the minutes on the ESV PBSC web page.

2.3. Outstanding actions from previous meetings

The Secretariat advised that all outstanding items from previous meetings have been closed.

Meeting date	Matter	Action	Status

Meeting date	Matter	Action	Status
Outcome legend			Open
			Closed

Standing Action: Secretariat to provide Members a list of matters where the industry is likely to seek relief from requirements with each meeting agenda.

Standing Action: Presenters to send the Secretariat a copy of their presentation a clear two business days before the meeting for distribution to members.

3. Electricity Distribution Business - progress to-date

Both AusNet Services and Powercor provided the Secretariat copies of their update on progress in implementation of the requirements contained in the Electricity Safety (Bushfire Mitigation) Amendment Regulations prior to the meeting. Copies of these updates were made available to members for their study prior to the meeting.

The updates were taken as read with a page turn not undertaken at this meeting, with discussion limited to specific items.

3.1. AusNet Services

A PowerPoint presentation was provided by AusNet Services on their REFCL and other bushfire mitigation programs.

3.1.1. REFCL Tranche 1A commissioning

AusNet Services advised that delivery was on track and that they expect six zone substations will have REFCLs operating over the coming summer period.

3.1.2. GFN technical issues- update

AusNet Services advised that the majority of the REFCL performance issues reported at the last meeting had been resolved, with some of the GFN Human Machine Interface (NMTerm) bugs remaining to be resolved.

Some new issues have emerged during compliance testing which have prevented achieving compliance at Woori Yallock (WYK) and Rubicon A (RUBA).

Specific examples of issues raised by AusNet Services were the inconsistent Arc Suppression Coil tuning at RUBA, and unreliable identification of a faulted feeder at WYK which was believed to be associated with limitations of the existing current transformers.

3.1.3. Network Harmonics

The high level of voltage harmonic distortions on the WYK network was reported to be preventing the required capacity being achieved at WYK. AusNet Services expressed the view that they did not see any short term solution for dealing with these high levels of voltage harmonics, and suggested that a substantial amount of research and development would be required to address the harmonics issue.

AusNet Services advised that a clearer picture of the impact of voltage harmonics will result from the commissioning testing at the other Tranche 1 zone substations. Work was said to have progressed in measuring and determining the impact of voltage harmonics at the other zone substations in Tranche 1.

AusNet Services further advised that whilst the REFCLs at WYK were not currently able to achieve the required capacity, a substantial reduction in fire ignition capability was still expected to be delivered from the station.

3.1.4. Tranche 1 REFCL exemption application

AusNet Services advised that they understood that six of the initial exemption applications had been submitted by the Minister to the Governor-In-Council for the publication of an Order-In-Council, and that one other exemption associated with the Seymour zone substation had been resubmitted to ESV for consideration following feedback from ESV.

AusNet Services further advised that it was their intension to lodge a further application associated with the voltage harmonics (in achieving the 250V requirement) and for current transformer (from the 0.5A fault detection sensitivity and the 0.1 i²t value).

AusNet Services expressed the view that it was their intention that an initial application associated with voltage harmonics would be for WYK and then subsequent applications would be on a case by case basis.

3.1.5. Tranche 2 REFCL exemption application

AusNet Services discussed the likelihood of seeking an exemption for the Bairnsdale zone substation, associated with isolating a large underground section of the network which is said to be fully insulated with no exposed electrical infrastructure. The isolation of this part of the network was said to achieve a reduction in the network capacitance and avoid the need to install a third REFCL. The resultant saving was said to be in the order of \$5M.

AusNet Service's stated that they expected that an exemption associated with Bairnsdale would be lodged in October 2018.

3.1.6. REFCLs in service for the 2018/19 summer

AusNet Services advised that they expect six zone substations will have REFCLs operating over the coming summer period, operating at the maximum capacity possible, albeit that this may be less than the legislated performance.

3.1.7. REFCL operating mode policy

AusNet Services provided a slide covering their policy and there was a brief conversation regarding the adoption of the different REFCL sensitivities for different periods of the year and how the 2.5 amp sensitivity was determined, with the observation that this current was higher than the European standards. AusNet Services agreed to members request that they provide the logic used to derive the 2.5 amp sensitivity setting adopted in the operating modes policy.

Action: AusNet Services to provide the logic used to derive the 2.5 amp sensitivity setting adopted in the operating modes policy.

Action: Copy of AusNet Services Power Point updated presentation to be distributed to Members and Observers and made available on the ESV PBSC web

3.2. Powercor

A PowerPoint presentation was provided on Powercor's REFCL and other bushfire mitigation programs.

3.2.1. REFCL Timetable

A slide showing the current REFCL deployment plan, by tranche, was presented and discussed.

Tranche 1

Members' attention was drawn to the achievement of the first compliant zone substation at Gisborne and the commissioning of four additional zone substations.

Powercor also advised that compliance testing was currently being undertaken at the Camperdown zone substation.

Powercor drew Member's attention to the intent to achieve a REFCL deployment point score of 35 points in Tranche 1, compared to the minimum regulatory requirement of 30 points, to provide some capacity to deal with un-anticipated problems at any of the Tranche 1 zone substations.

Tranche 2 & 3

Powercor advised they had reallocated the Geelong zone substation from Tranche 2 into Tranche 3, and both the Terang and Ararat zone substations from Tranche 3 into Tranche 2. The moving of Terang and Ararat into Tranche 2 was to achieve the required deployment point score resulting from the reallocation of Geelong.

The moving of Geelong into Tranche 3 was said to provide additional time to explore the construction of a new zone substation in the Geelong area which would acquire the highest bushfire risk feeders from both Geelong (two feeders) and Corio (one feeder) zone substations. Powercor suggested that the building of this new zone substation would be a lower cost solution, with Geelong being a complex station and Corio and Geelong having seven HV customers, none of which are on the high bushfire risk feeders.

3.2.2. REFCL performance issues

Powercor advised that as with AusNet Services they have been working hard with Swedish Neutral to resolve REFCL software and hardware performance issues.

At the time of the meeting Powercor reported that they do not have any outstanding GFN technical issues impeding the deployment of REFCLs, but were aware of the voltage harmonics issues and advised that this could impact on some of the Tranche1 zone substations. Powercor were confident that they had a solution for current transformer issues in their zone substations.

3.2.3. REFCL Tranche 1 - HV Customers.

Powercor produced and discussed a slide showing one of the first isolating transformers to be deployed at the point of supply for George Weston Foods at Castlemaine.

There was a brief discussion on Powercor's HV customer forum held on September 5, 2018 where presentations were given by Powercor on their

REFCL deployment plans, ESV on technical requirements and DELWP on the HCAP program.

3.2.4. Powerline Replacement – Electric Line Construction Areas.

There was a brief discussion regarding Powercor confirming they would not be proceeding with the LoSag conductor as a solution as a result of the difficulties found in erecting the product.

Standing Action: Powercor's presentation to include updates on SWER ACR deployment and powerline replacement in Electric Line Construction Areas.

Action: Copy of Powercor's Power Point presentation to be distributed to Members and Observers and made available on the ESV PBSC web page.

3.3. Discussion

No further discussion was held than that recorded with the presentations above.

4. Discussion

4.1. Committee Member raised matters

None.

4.2. Other matters

The DELWP observer provided a brief update on the progress of obtaining the Order-In-Council associated with the first six AusNet Services exemptions. DELWP advised that they expected that an information pack associated with their drafted Order would be progressed from PBSP to the Executive Director by the end of this week, with sign off required by the Deputy Secretary before being sent to the Ministers office.

5. Meetings

5.1. Next meeting

Meeting scheduled for 11 December 2018, starting at 10:00am and finish at 12:30pm, preceded by a "meet and greet" at 9:30 am.

5.2. Subsequent meetings

Confirmation was given that subsequent meetings are scheduled for;
12 March 2019, 11 June 2019, and 10 September 2019.

The Chair thanked the presenters for interesting and informative papers, and the members and observers for their endeavors to ensure the meeting was productive.

The Chair then closed the meeting.

Meeting closed at 12:00 pm.

List of Attachments

- A. Powercor presentation,
- B. AusNet Services presentation