



Department of Environment, Land, Water and Planning

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Ms Paula Conboy
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Ref: DELWPAER11082017

Dear Ms Conboy

TRANCHE 1 REFCL CONTINGENT PROJECT APPLICATIONS – VICTORIAN GOVERNMENT VIEWS REGARDING REASONABLE ALLOWANCE (HV CUSTOMERS)

The Department of Environment, Land, Water and Planning (the department) wishes to thank the Board of the Australian Energy Regulator (AER) for the opportunity to participate in the 3 August 2017 round table discussion with representatives of AusNet Services, Powercor Australia and Energy Safe Victoria (ESV). I would like to acknowledge that it was a very constructive exercise. In our view, it would have benefited further with representation from the Essential Services Commission (ESC), as noted by the AER Board.

The AER has advised that on 21 August 2017 it proposes to make its final determination on the April 2017 Rapid Earth Fault Current Limiter (REFCL) contingent project applications submitted by AusNet Services and Powercor Australia. Part of this determination involves setting a reasonable allowance for both electricity distribution businesses to integrate the sub-networks owned by 35 high-voltage customers (HV customers) into REFCL operated zone substation networks for tranche one.

As permitted by you as the Chair of the AER Board, the department is providing this written statement to clarify and further explain the Victorian Government's views on this issue.

As emphasised by the Minister for Energy, Environment and Climate Change in her 8 May 2017 submission, the AER must ensure that all necessary due diligence investigations have been undertaken by AusNet Services and Powercor Australia before committing Victorian consumers to significant additional expense in relation to the sub-networks of 35 tranche one HV customers.

The department maintains that a correct solution for the allowance is one which:

- responds in a measured and informed way to the risk posed to each of the distribution businesses and each HV customer;
- does not commit to high cost and potentially redundant technology that imposes unnecessary additional expense on Victorian consumers;
- provides maximum protection to the distribution network and HV sub-networks;
- does not exclude HV sub-networks from the full benefit of REFCL protection;
- is compliant with relevant legislative obligations and reflects a fully informed view of the interplay of related legislative/regulatory instruments; and
- does not unduly delay the installation of REFCLs and recognises the mechanisms that the Victorian Government has put in place to accommodate justified delays in delivery of REFCL protection.

Accordingly, it is our view that the AER should not agree to fund a long-term isolation solution where other viable alternative approaches are available but have not yet been fully explored.

ELECTRICITY DISTRIBUTION CODE

The department acknowledges that the potential inconsistency of REFCL operation with the Electricity Distribution Code (the Code) remains a chief concern for the AER, AusNet Services and Powercor. It is our understanding that the Code must change so it aligns with the heightened powerline bushfire safety standards in the regulations.

To understand the actual temporary risk exposure to the electricity distribution businesses, it is vital that the AER continues to engage with the ESC to explore the likely application of sections 4.2.2 and 4.2.7 of the Code, how these sections interact with REFCL operation, and the timing of the ESC's review.

TECHNICAL SOLUTIONS

The department understands that there are two ways that potential REFCL related risks to HV customer sub-networks may be controlled.

The first approach is sub-network hardening. Under this solution, the HV customer will undertake targeted testing and replacement of common sub-network assets such as surge diverters, circuit-voltage transformers and cabling.

The 21 June 2017 independent report conducted by Dr Tony Marxsen for ESV, *Customer Assets Directly Connected to REFCL Networks*, demonstrated that for most HV customers such sub-network hardening is likely scalable and manageable. The report shows that:

- a hardening solution would be cheaper overall than an isolation solution, and will have no cost impacts on electricity consumers; and
- not one of the 12 surveyed sties warrant the use of isolation transformers on cost grounds.

This solution is not only likely to be the most cost-effective, it is also the only one that allows the sub-networks to be protected by REFCLs.

The second approach is to install a permanent isolation device which will prevent sub-networks being exposed to distribution network over-voltage events.

This option is sub-optimal as:

- it likely to be more expensive than sub-network hardening in most cases;
- many isolation devices (such as isolations transformers) are untried items which must be developed bespoke for each high-voltage customer in tranche one;
- it is an expensive permanent solution which will quickly become redundant when the Code is updated later this year and;
- it will preclude the sub-networks from the benefit of REFCL protection.

A permanent isolation solution will therefore impose a significant cost on consumers that may not be required.

If the AER does support funding for an isolation solution, however, the department encourages the AER to seek the most cost efficient solution. The department notes that the AER's High Voltage Regulator Transformer option will cost around 40 per cent less than the total cost of isolation transformers which were requested by AusNet Services and Powercor. It is also noted that the electricity distribution businesses did not object to this cost reduction, nor did they object to the alternative isolation device on technical grounds. The scope should remain open for the AER and the electricity distribution businesses to explore other technical options.

A potential cost-effective temporary isolation option

From discussion with industry, the department is given to understand that a temporary technical solution may be available. The use of a remotely adjustable device, such as an automatic circuit recloser (ACR), could be configured to detect and respond to REFCL over voltage events. This action would prevent damage to sub-networks and allow the rollout of REFCLs to proceed unimpeded.

The department also understands that if the REFCLs are configured for fast fault compensation, the risk of transient faults interrupting supply on ACR-protected sub-networks will be reduced. Accordingly, it is likely that such a temporary isolation device would likely expose HV customers to no greater level of outages than already occurs with the use of existing network protection systems, such as distribution network ACRs, fuses and Neutral Earthing Resistors.

The cost of such a device is likely to be around \$50,000 per unit (\$1.9 million for tranche one), and does not represent the same barrier to future sub-network hardening as the permanent isolation solutions.

Though not advocating any approach which imposes additional supply interruptions, the department wishes to stress that the AER should consider all solutions, including temporary ones, which will avoid causing damage to HV sub-networks, allow HV customers further time to harden their networks, and support the first REFCL delivery date of 1 May 2019.

FURTHER DUE DILIGENCE WORK REQUIRED

The department regards it as imperative that the AER require AusNet Services and Powercor to thoroughly explore solution alternatives to ensure that an excessive cost is not imposed on Victorian consumers. As noted in the 8 May 2017 submission to the AER, the AER already awarded \$12.8 million in funding to SP AusNet (now AusNet Services) in October 2012 to ensure the integration of REFCLs onto the network is properly understood through the incomplete trial at Woori Yallock Zone substation.

In reaching its determination for this trial, the AER determination stated that:

*"The AER does not agree that customers should be required to fund assets that may never be required."*¹

*"The trial ... will explore the adaptations necessary in a network to make the technology effective in a Victorian context. This knowledge will be important in minimising the future cost of implementing these bushfire risk mitigation measures."*²

While the Victorian Government notes that this trial did not proceed at the time, the principles provided in the earlier determination remain relevant to the current determination. The department therefore regards it as imperative that the AER require AusNet Services and Powercor to thoroughly explore solution alternatives to ensure that an excessive cost is not imposed on Victorian consumers.

In conclusion, it is apparent to the Victorian Government that the AusNet Services and Powercor due diligence investigations of deployment options for REFCL tranche one are incomplete, potentially exposing Victorian electricity consumers to an unnecessary additional financial burden.

If you would like to discuss any of the points made in this letter further, please contact me on 03 9637 8235 or paul.murfitt@delwp.vic.gov.au.

Yours sincerely



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Department of Environment, Land, Water and Planning

15/1/2017

¹ Final Decision: SP AusNet cost pass through application of 31 July 2012 for costs arising from the Victorian Bushfire Royal Commission, 19 October 2012, pg. 37.

² Ibid, pg. 40.