Final Decision

APPLICATIONS FOR EXCLUSION FROM THE VICTORIAN SERVICE INCENTIVES FOR SUPPLY RELIABILITY

SUPPLY INTERRUPTION EVENTS
January–June 2010

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AUSTRALIAN ENERGY REGULATOR

Contents

1 Introduction

CitiPower, Powercor and United Energy applied to the AER to exclude three supply interruption events that occurred between January and June 2010 from the supply reliability service incentive scheme under the Essential Services Commission of Victoria's (ESCV) *Electricity Distribution Price Review 2006–10* (Price Review).

The AER published the draft decisions on 2 September 2010 proposing to approve all the applications and invited stakeholders to provide submissions in response to the draft decisions. Two submissions were received by the AER. This paper presents the AER's final decision regarding the supply interruption events, as listed below:

- application by United Energy regarding an outage event at Malvern Terminal Station on 13 January 2010
- application by CitiPower regarding wide-scale supply interruptions on 23 March 2010—under the exclusion criterion for excluding exceptional events, where the level of supply interruptions exceeded the threshold for exclusion set out by the ESCV[1]
- application by Powercor regarding an outage event at Brooklyn Terminal Station on 10 May 2010.

1.1 The role of the AER

As part of the transition to national regulation of energy markets, the AER is exercising certain powers and functions previously undertaken by the ESCV. The new responsibilities are conferred on the AER by the operation of the *National Electricity (Victoria) Act 2005* (NEVA) in accordance with the *Trade Practices Act 1974* and the Australian Energy Market Agreement. The NEVA specifically confers economic regulatory functions, powers and duties on the AER.

The AER is making this draft decision under the ESCV's 2006–10 Price Review and *Electricity Distribution Code* provisions for approving exclusions from the calculation of the S factor and the obligation to make supply reliability guaranteed service level (GSL) payments respectively.

1.2 The ESCV's service (reliability) incentive scheme

The ESCV incorporated a service incentive scheme in the 2006–10 Price Review. The incentives of the scheme are in the form of:

- A service term (S factor) in the price control formula, giving it the form of (1+CPI)(1-X)S

  If a distributor provides an average level of reliability above the target levels, then its distribution tariffs will rise in subsequent years. If reliability is worse than the target levels, the tariffs will fall.

[1] Refer to the *Electricity Distribution Code*, clause 6.3.4 and Table 2.1 of the *Price Review – Volume 2 Price Determination.*

- Guaranteed service level payments to customers for low reliability.

  Customers are entitled to receive a credit if they experience more than the specified number of sustained or momentary interruptions[2] in a calendar year, or if they experience a cumulative supply interruption time longer than the specified number of hours.

Further information on the service incentive scheme is contained in the 2006–10 Price Review final decision papers available from the ESCV's website.[3]

1.3 Exclusion from the service incentive scheme

On application by distributors, the AER may approve exclusions from the calculation of the S factor and from the requirement to make certain GSL payments for supply interruptions due to the following events:

- supply interruptions made at the request of the affected distribution customer
- load shedding due to a shortfall in generation, but not a shortfall in embedded generation that has been contracted to provide network support except where prior approval has been obtained from the ESCV or AER, where relevant
- supply interruptions caused by a failure of the shared transmission network
- supply interruptions caused by a failure of transmission connection assets, to the extent that the interruptions were not due to inadequate planning of transmission connections
- where prior written approval has been obtained from the ESCV or AER, load shedding due to a shortfall from demand side response initiatives
- exceptional supply interruption events where the level of supply interruptions exceeds the threshold for exclusion set by the ESCV, as specified in Table 2.1 of the Price Review – *Volume 2 Price Determination*

The Price Review requires that distributors apply to the AER for such exclusions within 30 business days of an event occurring, identifying:

- the relevant event
- the impact of the event on the distribution business's reliability performance
- the proposed extent of the exclusions
- reasons for the exclusions.

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[2] Supply interruptions shorter than one minute are classified as momentary interruptions.

[3] At http://www.esc.vic.gov.au/public/Energy/Regulation+and+Compliance/Decisions+and+Determinations/Electricity+Distribution+Price+Review+2006-10/Electricity+Distribution+Price+Review+2006-10.htm.

The Price Review also requires the AER to provide a statement of reasons on whether it proposes to approve the applications by the distributors, and to consult with stakeholders before making a final decision.

There are no specific time requirements for approval of the applications The AER prefers to process straight forward (clear-cut) events in batches for administrative efficiency.

1.4 Structure of this paper

Chapter 2 provides an overview of the supply interruption events.

Chapter 3 provides a summary of the AER's draft decision and the submissions received by the AER.

Chapter 4 states the AER's final decisions regarding the distributors' applications.

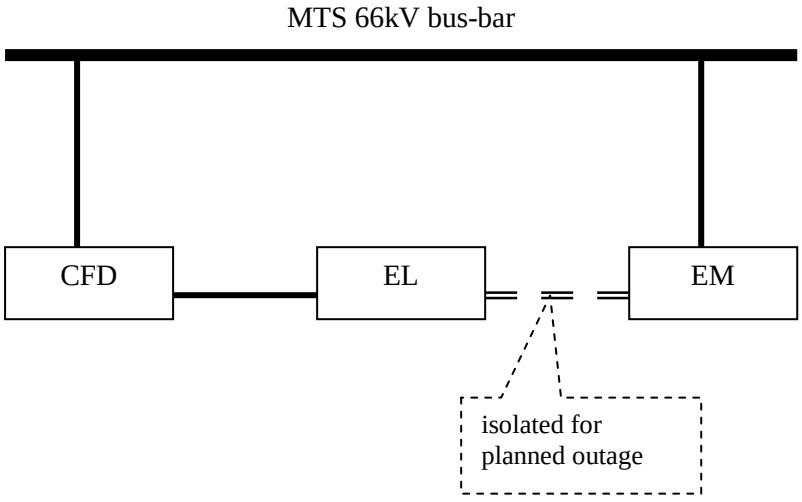
2 Summary of the supply interruption events and the AER's draft decision

2.1 Outage event at Malvern Terminal Station on 13 January 2010

United Energy advised that its Caulfield (CFD), Elsternwick (EL) and East Malvern (EM) Zone Substations are supplied from MTS via a 66 kV sub-transmission loop.

According to United Energy:

> At the time of the event, the EL-EM leg of the loop was isolated for planned work, leaving the three zone substations on a single supply arrangement, on the basis that the controlling 66 kV circuit breakers of the 66 kV loop at MTS are designed to reclose following non-sustain faults. The supply arrangement is shown in the diagram below.



> At approximately 1.22 pm on 13 January 2010, helium balloons came into contact with the dual 66 kV sub-transmission lines, MTS-CFD line and HTS-NB (Heatherton to North Brighton) line, in North Road at the corner of Tucker Road. As a result, both MTS-CFD and HTS-NB lines' protection equipment operated and tripped the sub-transmission lines.
>
> The HTS-NB line's protection equipment initiated auto-reclose action and returned this line to service. However, the controlling circuit breaker of MTS-CFD line at MTS failed to reclose.
>
> Since the EL-EM leg of the 66 kV loop was previously isolated for planned works, the supply to CFD and EL Zone Substations were lost, resulting in loss of supply to the 23,788 customers supplied by these two zone substations.
>
> The controlling circuit breakers at MTS are designed to reclose following an initial protection operation. Should the reclose operation be successful, the

customers would have experienced a momentary interruption of three seconds, instead of a sustained outage.

At the time of the incident, the planned work of the EL-EM line was completed and the line was being restored. Hence, the network control centre was able to restore supply by returning this line to service at 1:24 pm (two minutes after the event).

SPI PowerNet, the transmission network service provider, investigated the protection equipment of MTS-CFD line and found that the protection equipment at MTS was incorrectly set, which resulted in the controlling circuit breaker failed to reclose. The protection setting has since been corrected by SPI PowerNet.

A report from SPI PowerNet was supplied by United Energy.

The impact of the event on United Energy's performance indicators was:

- Urban SAIFI 0.038 interruption
- Urban SAIDI 0.080 minute.

2.2 Wide-scale supply interruptions on 23 March 2010 in CitiPower's supply area

CitiPower advised that:

On Tuesday 23 March 2010, at 11:35am, a contractor to the City of Boorondara for installing irrigation equipment damaged an underground supervisory cable near the corner of Balwyn Road and Winmallee Road, Balwyn.

The cable contains supervisory and control circuits associated with the TSTS (Templestowe Terminal Station) – HB (Heidelberg) – Q (Kew) – L (Deepdene) – TSTS 66kV sub-transmission loop, which is shared with Jemena. CitiPower owns and operates zone substations Q and L and the 66kV lines supplying those stations between Q and L.

The cable was completely severed, resulting in major disruption to the protection and control circuits for this sub-transmission loop. The effect of the damage to the supervisory cable caused auto opening of:

- TTS – L 66kV feeder at TTS
- 66 kV No1-2 bus tie circuit breaker at zone substation Q
- 66 kV No.1-2 bus tie circuit breaker at zone substation HB (Jemena asset).

These sub-transmission asset outages resulted in a total loss of supply to CitiPower zone substations Q and L and interruption to supply to CitiPower customers. The number of customer supply interruptions exceeded the threshold for exclusion set by the ESCV.

Following the dispatch of resources to identify and isolate the faulted protection and control circuits in the damaged cables, supply was progressively restored to all affected customers as follows:

Interrupt start time	Restoration Time	Number of Customers
11:35 am	12:17 pm	6,316
	12:19 pm	4,926
	12:20 pm	2,999
	12:24 pm	13,865
Total customers		28,106

2.3 Outage event at Brooklyn Terminal Station on 10 May 2010

Powercor advised that:

> At 07:23 am on Monday 10 May 2010, a vehicle hit a power pole on the Altona Terminal Station (ATS) to Altona Chemical (AC) 66 kV line in Kororoit Creek Road, Altona. This resulted in the tripping of the ATS-AC 66 kV line.
>
> The fault current experienced on the 66 kV sub-transmission loop caused clashing of the overhead conductors of the BLTS - Altona Zone substation (AL) 66 kV feeder,[4] hence, the tripping of the BLTS–AL 66 kV Feeder circuit breaker at BLTS.
>
> The protection system sent a signal to the BLTS–AL 66 kV Feeder control circuit breaker at BLTS (SPI PowerNet asset) to reclose. However, the circuit breaker failed to close.
>
> According to Powercor, the auto reclose control system on the BLTS-AL 66 kV Feeder circuit breaker was suppressed due to earlier maintenance works and not restored. This resulted in a sustained interruption to the complete 66 kV sub-transmission loop.
>
> Subsequent attempts to restore supply were hindered by the combination of remote control being inoperative on the SPI PowerNet's BLTS-AL 66kV Feeder circuit breaker and a delay by SPI PowerNet personnel to attend BLTS to allow Powercor operators to manually close the circuit breaker. The failure of the remote control of the BLTS –AL 66kV Feeder CB was later attributed to dirty control relay contacts.

[4] This is due to the electromagnetic force generated by the high current flowing through the conductors.

Powercor's system configuration before the event on Monday 10 May 2010 was normal and loading across the network was within the system rating limits at the time of the event. Powercor was not aware that the auto-reclose scheme at BLTS had previously been suppressed by SP AusNet and had not been re-instated to normal.

The Zone Substations impacted by the sustained interruption were:

- Altona Chemicals (AC) for 59 minutes
- Compol (CPL) customer zone substation for 57 minutes
- Altona (AL) for various durations between 45 and 47 minutes.

The impact of the event on Powercor's performance indicators was:

- urban SAIFI 0.016
- urban SAIDI 0.97
- rural SAIFI 0.005
- rural SAIDI 0.22
- network SAIFI 0.009
- network SAIDI 0.50.

3 AER’s drat decision and submissions

3.1 AER’s draft decision

After reviewing the applications and satisfied that all applications met the relevant exclusion criterion, the AER proposed in its draft decisions to approve all the applications by the distributors to exclude the supply interruption events, as outlined in chapter 2, from the calculation of the S factor and the obligation to make supply reliability GSL payments. The draft decisions can be found on the AER’s website.

3.2 Submissions

Two submissions were received from stakeholders:

- CitiPower and Powercor advised that they supported the AER's draft decisions to approve the applications made by:
    - Powercor in relation to supply interruptions caused by an outage at the Brooklyn Terminal Station on 10 May 2010
    - CitiPower in relation to the supply interruptions on 23 March 2010 when the unplanned interruption frequency exceeded the threshold for exclusion.

Ms Christine May, a member of the ESCV’s Customer Consultative Committee, advised that she supported the exemption of all three applications.

4 Final decision

The AER has not received any information that would lead it to amend its draft decisions. The AER therefore confirms its draft decisions to approve the applications:

- by United Energy regarding an outage event at Malvern Terminal Station on 13 January 2010
- by CitiPower regarding wide-scale supply interruptions on 23 March 2010—under the exclusion criterion for excluding exceptional events, where the level of supply interruptions exceeded the threshold for exclusion set out by the ESCV[5]
- by Powercor regarding an outage event at Brooklyn Terminal Station on 10 May 2010.

[5] Refer to the *Electricity Distribution Code*, clause 6.3.4 and Table 2.1 of the *Price Review – Volume 2 Price Determination.*