



Draft Decision

**APPLICATIONS FOR EXCLUSION FROM THE
VICTORIAN SERVICE INCENTIVES FOR
SUPPLY RELIABILITY**

**SUPPLY INTERRUPTION EVENTS
January–June 2010**

2 September 2010

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Request for submissions

Interested parties are invited to make written submissions to the Australian Energy Regulator (AER) regarding this paper by the close of business Friday 1 October 2010.

Submissions can be sent electronically to: aer inquiry@ aer.gov.au

Alternatively, submissions can be sent to:

Mr Chris Pattas
General Manager
Network Regulation South
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

The AER prefers that all submissions be publicly available to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested. Parties wishing to submit confidential information are requested to:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication.

All non-confidential submissions will be placed on the AER's website at <http://www.aer.gov.au>. For further information regarding the AER's use and disclosure of information provided to it, see the *ACCC/AER Information Policy*, October 2008 available on the AER's website.

Enquires about this paper, or about lodging submissions, should be directed to the Network Regulation South branch of the AER on (03) 9290 1444.

1 Introduction

CitiPower, Powercor and United Energy applied to the AER to exclude three supply interruption events that occurred between January and May 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). These supply intervention events are:

- 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 ESCV¹
- application by Powercor regarding an outage event at Brooklyn Terminal Station on 10 May 2010.

This paper presents the respective draft decisions on the distributor's applications.

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 interruptions² 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.

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

Chapters 2 to 4 cover the details of the distributor's applications and provide:

- a description of each supply interruption event
- the AER's analysis of each event
- the AER's draft decision on each event.

2 Application by United Energy regarding an outage event at Malvern Terminal Station on 13 January 2010

United Energy (application received 24 February 2010) applied to have the outage event at Malvern Terminal Station (MTS) on 13 January 2010, due to the incorrect setting of protection equipment of the terminal station, excluded from:

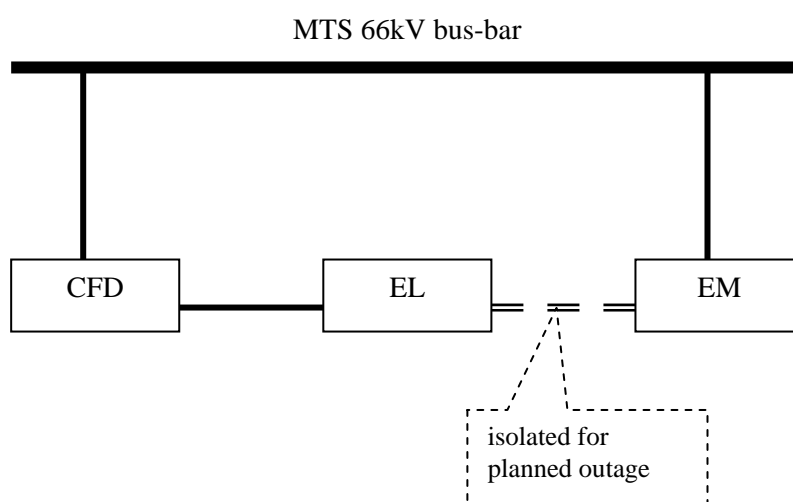
- the calculation of the S factor
- the obligation to make low reliability GSL payments.

The applications were made on the grounds that the supply interruptions were caused by a failure of a transmission connection asset. The applications were received within 30 business days of the supply interruption event.

2.1 Description of the event

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.

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.



According to United Energy:

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

- The cause of the loss of transmission system capacity — the event should not be excluded if the primary cause was due to any act or omission by the distributor
- Whether there should have been sufficient built in capacity redundancy to enable supply interruptions to be avoided.

The AER has examined the information provided by United Energy and considers that:

- The supply interruptions were caused by incorrect operation of a protection equipment at MTS, which forms part of the transmission connection assets at the terminal station.
- The event was outside the control of United Energy.
- The CFD-EL-EM 66 kV sub-transmission loop supply arrangement is consistent with industry standard practice in Victoria.
- The incident was not due to inadequate capacity of the connection assets at MTS.

The AER concludes that the supply interruptions were caused by a failure of the transmission connection assets and that these supply interruptions were not due to inadequate planning of the transmission connection assets at MTS.

2.3 Draft decision

The AER proposes to approve the application by United Energy for the supply interruptions at Malvern Terminal Station, due to incorrect setting of a protection equipment on 13 January 2010, to be excluded from the calculation of the S factor and the obligation to make low reliability GSL payments.

3 Application by CitiPower regarding the supply interruptions on 23 March 2010—unplanned interruption frequency exceeds the threshold for exclusion set by the ESCV

CitiPower (application received 30 April 2010) applied to have the wide-scale supply interruptions that occurred on 23 March 2010 excluded from:

- the calculation of the S factor
- the obligation to make low reliability GSL payments.

It also applied for the approval of its call centre performance on 3 March 2009 to be excluded from the calculation of the S factor.

The application was made on the grounds that the level of unplanned interruption frequency on that day exceeded the threshold set for exclusion set by the ESCV in Table 2.1 of the Price Review – *Volume 2 Price Determination*. The application was received within 30 business days of the supply interruption event.

3.1 Description of the event

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.

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

3.2 Impact of the event

The effect of this event resulted in sustained interruption of supply to 28,106 CitiPower customers, with a total customer-minutes-off-supply of 1,296,356 minutes. The Unplanned Sustained Interruption Frequency (SAIFI) for 23 March 2010 was 0.092, which exceeds the daily unplanned SAIFI exclusion threshold of 0.066 set out in Table 2.1 of the Price Review – *Volume 2 Price Determination*.

3.3 AER’s analysis

CitiPower sought exclusion on the basis that the unplanned sustained interruption frequency measures for the 24 hour period of 23 March 2010 exceeded its thresholds for exclusion set out by the Commission (refer to the *Electricity Distribution Code*, clause 6.3.4 and Table 2.1 of the *Electricity Distribution Price Review 2006-10 Final Decision — Volume 2 — Price Determination*).

Based on information provided by CitiPower, the AER accepts that the level of supply interruption exceeded the threshold set by the ESCV, hence met the exclusion criterion.

3.4 Draft decision

The AER proposes to approve CitiPower’s application for the supply interruption event on 23 March 2010 to be excluded from the calculation of the S factor and the obligation to make low reliability GSL payments.

4 Application by Powercor regarding an outage event at Brooklyn Terminal Station on 10 May 2010

On 18 June 2010, Powercor applied to have an outage event at Brooklyn Terminal Station (BLTS) excluded from:

- the calculation of the S factor
- the obligation to make low reliability GSL payments.

The outage occurred due to incorrect auto reclose setting of a 66 kV feeder control circuit breaker at BLTS. The incident occurred on 10 May 2010 and caused outages to three Powercor zone substations.

The application was made on the grounds that the supply interruptions were caused by a failure of transmission connection assets. The application was received within 30 business days of the supply interruption event.

4.1 Description of the event

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

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

of the remote control of the BLTS –AL 66kV Feeder CB was later attributed to dirty control relay contacts.

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 reinstated 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.

4.2 AER’s analysis

The criterion which Powercor sought exclusion relates to:

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.

The AER has previously established that:

The transmission connection assets can be considered to have failed if the connections do not have sufficient capacity to meet the demand for electricity. In assessing whether a supply interruption event is qualified for exclusion under this exclusion criterion, the following matters should be taken into consideration:

- The cause of the loss of transmission system capacity — the event should not be excluded if the primary cause was due to any act or omission by the distributor

- Whether there should have been sufficient built in capacity redundancy to enable supply interruptions to be avoided.

The AER has examined the information provided by Powercor and considers that:

- The supply interruption was caused by the incorrect setting of the auto reclose control system at BKTS, which forms part of the transmission connection assets at the terminal station.
- The event was outside the control of Powercor.
- The incident was not due to inadequate capacity of the connection assets at BLTS.

The AER concludes that the supply interruptions were caused by a failure of the transmission connection assets and that these supply interruptions were not due to inadequate planning of the transmission connection assets at BLTS.

4.3 Draft decision

The AER proposes to approve the application by Powercor for the 10 May 2010 supply interruption event at Brooklyn Terminal Station, due to the incorrect auto reclose setting of the BLTS-AL circuit breaker at the Terminal Station, to be excluded from the calculation of the S factor and the obligation to make low reliability GSL payments.