



Information paper

**STATEMENT BY VICTORIAN ELECTRICITY
DISTRIBUTION BUSINESSES ON THEIR
PREPARATION FOR MEETING THE 2009-10
SUMMER PEAK DEMAND**

January 2010

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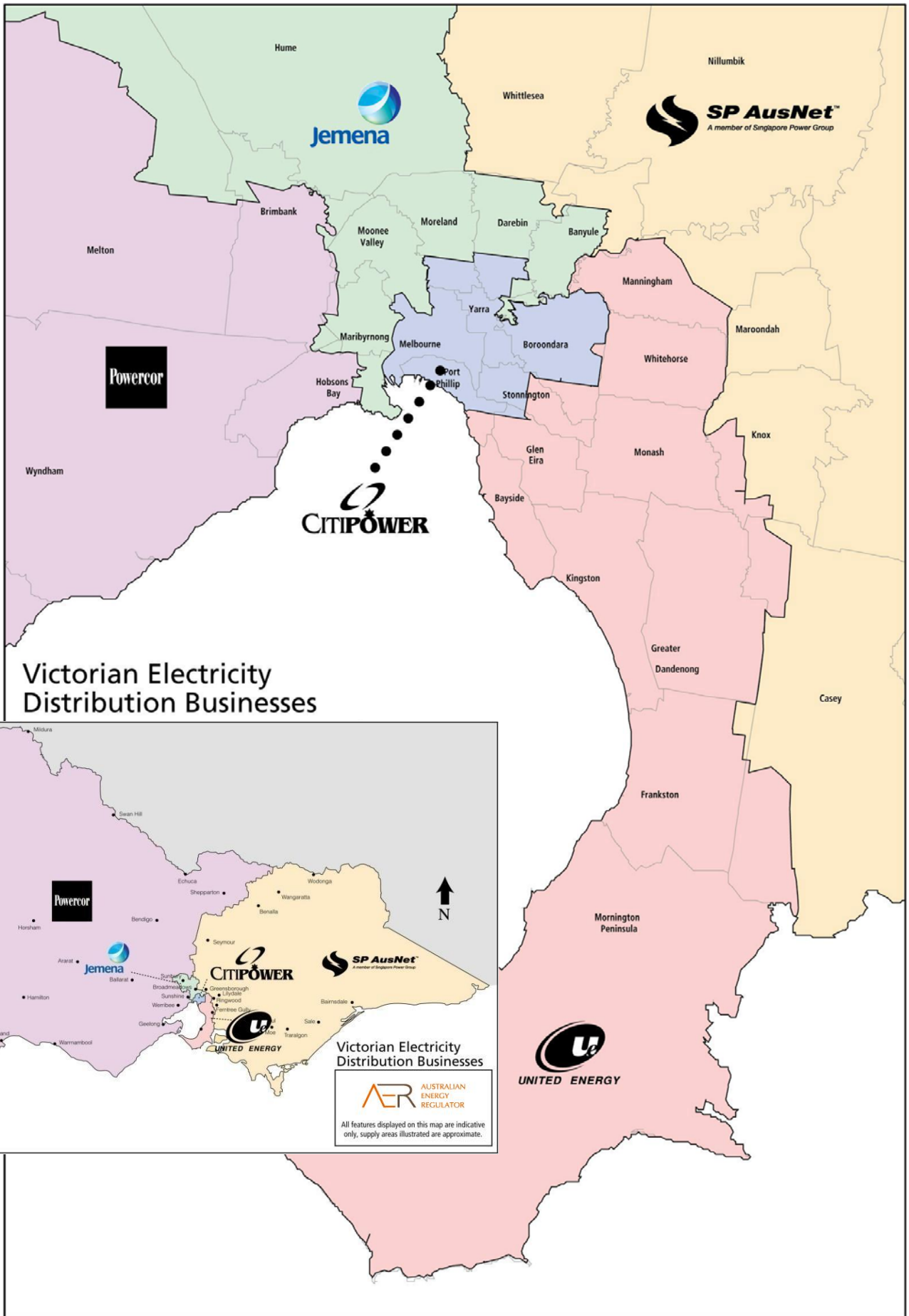
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Supply Areas of Victorian Electricity Distribution Businesses



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1 Preface

As part of the transition to national regulation of electricity distribution and retailing, the Australian Energy Regulator (AER) is now responsible for exercising certain powers and functions previously undertaken by the Essential Services Commission of Victoria (ESCV) for the Victorian jurisdiction. 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 Victorian distribution network revenue and service level targets were set by the ESCV for the current regulatory period (2006-10). The NEVA delegates power to the AER to administer the ESCV's *Electricity Distribution Price Review 2006-10 Final Decision* (EDPR) under the Victorian regulatory framework.

The AER will be setting the revenue and service incentives for the 2011-15 regulatory control period under the *National Electricity Rules*.

In addition to the administration of the EDPR, the NEVA confers on the AER compliance monitoring and enforcement of the *Electricity Distribution Licence* conditions of the Victorian electricity distribution network service providers (DNSPs, or commonly referred to as electricity distributors). This includes the monitoring of the service performance levels provided by the distributors.

As public reporting of performance of these monopoly businesses is one of the key elements that underpin the economic regulatory frameworks under both the current Victorian system as well as under the national framework, the AER decided to continue the existing performance reporting system of the ESCV, until the end of the current regulatory period in 2010. Public reporting after 2010 will be undertaken under the national regulatory framework.

As part of the current performance reporting framework, the AER has followed ESCV's practice to also seek information from the Victorian electricity distributors regarding their preparation to meet the peak electricity demand during the 2009-10 summer period.

This information paper is intended to provide information on how the Victorian electricity distributors are meeting their service and reliability requirements/obligations.

Specific performance reports of the distributors for the 2008 and earlier calendar years are available from <http://www.aer.gov.au/content/index.phtml/itemId/732115>.

2 Process of preparation of this paper

The following process was used to compile this information paper:

- The AER wrote to the electricity distribution businesses in October 2009 to seek their assurances that each business has taken steps to (1) minimise the occurrence of distribution network failures that are within its control; (2) respond quickly to restore supply and to communicate effectively with customers should wide-scale supply interruption events occur.
- In addition to the above assurances, each business provided the following information to the AER prior to end of November:
 - the nature of planned investment, maintenance and network management initiatives to ensure that each company's network has the capacity to meet the prospective peak demands during the coming summer, and the progress made to date in implementing these initiatives
 - the supply restoration, public communication and customer service strategies to deal with major supply interruption events, including lessons learnt from the 2 April 2008 storm and late January 2009 heatwave events.
- The AER prepared a draft paper in mid-December, which compiles and summarises the information provided by each of the distribution businesses on their preparation for the coming summer period.
- The AER has published this paper after verification/correction for inadvertent errors of fact by the distributors.

3 Statements from electricity distributors

The distributors reported that they have reviewed and refined their practices following the 2 April 2008 storm and the January 2009 extreme heat events. In particular improvements have been made in the following areas to improve their ability to meet the peak demand in the 2009-10 summer:

- Emergency management procedure and plans have been revised and updated.
- Vegetation and asset management strategies have been revised.
- Contingency plans for coping with continuous and extreme heat events have been updated.
- Improved rostering schedules have been implemented. Particular emphasis has been placed on the Christmas and New Year period, and weekends in the holiday period.
- Improved internal communication on the quality and timeliness of outage information and greater use of SMS to communicate with field crews.
- External communication has been improved by enabling online outage notifications and enabling SMS services—this will help ensure that customers can access information regarding any supply interruptions.

Many of these improvements are aligned with the ESCV's report on the Review of the Electricity Distribution Businesses' Response to the Storm Events of 2 April 2008.

The five distributors in conjunction with the Australian Energy Market Operator (AEMO) have established a protocol for a single industry spokesperson in relation to major widespread outages in Victoria. This is intended to ensure that a single consistent state-wide event description is provided to the public.

Information on the specific initiatives and work done by the distributors are summarised in the following sections.

3.1 Supply restoration

The *Electricity Distribution Codes* requires distributors to use best endeavours to develop, test or simulate and implement contingency plans to deal with events that have a low probability of occurring, but are realistic and would have a substantial impact on customers. These plans include an industry established mutual aid plan that enables assistance to be quickly provided should large-scale supply interruptions occur.

Jemena has reviewed the key tasks and activities that were generated by the emergency outage from the January 2009 heat wave. It has made refinements to the roles and responsibilities of the key staff involved in managing a response. Specifically:

- Jemena has instigated early rostering of management staff for the summer period, to ensure that it has adequate coverage available in the event of an emergency event.
- Jemena has analysed data on equipment failures from the previous summer and has revised the number and type of spares held in stock.

CitiPower and Powercor advise that their control rooms were merged onto one site during the last quarter of 2008 and a single backup control room was established. This enables cross network support during emergencies.

CitiPower has undertaken the following initiatives to ensure affective response to supply failure:

- Reviewed the resource plan to ensure adequate field and technical resources are available to cover key periods such as Christmas and New Years Eve as well as heat wave periods.
- Reviewed emergency stock levels to ensure they are appropriate for the coming summer period.
- Developed a business approach to the bushfire ratings being introduced by the CFA and Victorian State Government Emergency Services.
- Conducted refresher training programs to ensure staff and volunteer response teams are fully trained in emergency response procedures.

Powercor has undertaken the following initiatives to ensure effective response to supply failure:

- Implemented an automated process within the outage management system that provides estimates of the outage duration and restoration time based on available information and conditions.
- Reviewed resource contingency plans and emergency stock levels to ensure they are appropriate for the coming summer period.
- Undertaken pre summer planning for LV and HV assets to ensure operational readiness for the summer season.
- During peak periods (Christmas and New Year) the availability of staff has been increased an extra 50 per cent, a mobile emergency strike force has been added, and subject matter experts are made available for plant and protection coverage.

SP AusNet advised that its network operations centre have been prepared for the 2009-10 summer through a number of routine processes and new initiatives including:

- Pre-emptive summer feeder reconfigurations with associated contingency plans.
- Refresher training for controllers, focussing on summer network conditions.
- The emergency management plan has been reviewed.

- The emergency response SWAT (Severe Weather Action Team) system has been substantially enhanced with more trained personnel, supervisors and coordinators.

United Energy advised that it has made a number of refinements to the manner in which it manages resources in response to emergencies. It has reviewed the key tasks and activities that are generated by an emergency outage due to a heat event. It has also made refinements to the roles and responsibilities of the key staff involved in managing a response, including early rostering of management staff for the summer period, to ensure that it has adequate coverage available in the event of an emergency event.

United Energy also advised that it has analysed data on equipment failures from the previous summer and has revised the number and type of spares held in stock.

3.2 Public communication

The five distributors in conjunction with the Australian Energy Market Operator (AEMO) have established a protocol for a single industry spokesperson in relation to major widespread outage events in Victoria. This is intended to ensure that single consistent state-messages will be provided to the public.

Distributors reported that they have improved their public communications plans. Specifically:

- Jemena and United Energy advised that they have an established external communications plans in the event of a widespread supply interruption. It includes communication with customers, retailers SPI PowerNet, AEMO, the media and industry regulators. The plans were augmented following the experiences gained from the wide-scale supply interruptions of the 2 April 2008 storm and the heat wave of January 2009.
- CitiPower and Powercor advised that their corporate affairs groups have a comprehensive and pro-active stakeholder and customer communications process. In addition a major initiative for 2009 has been the development and implementation of an enhanced customer outage information advice service on their websites. This service provides real time information about current outages (including planned and unplanned outages) down to the individual premises.
- SP AusNet advises that in circumstances of unplanned supply outages, its corporate communications department manages all media enquiries through a 24 hour, 7 days a week media pager service. During an incident management process radio and electronic media are regularly updated to ensure new material is provided for news bulletins.

3.3 Capital works

Distributors reported that they have substantially completed the programmed upgrades to their networks and have provided indicative dates for completing the outstanding work.

Jemena reported that the following major investments are either completed or are well underway. These investments will help to maintain supply reliability for customers this coming summer:

- The construction of a new 220/66kV transformer at the Keilor terminal station. This is likely to be commissioned in February 2010.
- Reconfiguration of the sub-transmission loop connecting Thomastown terminal station, Somerton switching station, Somerton Zone Substation and Epping Zone Substation to improve capacity.
- Installation of two new high voltage feeders and upgrade of four high voltage feeders to reinforce the distribution network supplying Pascoe Vale, Flemington, Coburg North, Heidelberg, Airport West and Somerton areas.
- Augmentation of a number of heavily loaded distribution substations. More than 70 percent of the heavily loaded substations have been augmented with the remainder expected to be completed in March 2010 following satisfactory outcome from the community consultations on the location of the substations.

CitiPower reports it has undertaken the following major asset management and augmentation projects designed to minimise the likelihood of major supply interruptions:

- One new high voltage feeder and 64 new distribution substations were installed in 2009 to provide extra distribution capacity to meet customers demand.
- Three existing high voltage feeders and 39 existing high voltage distribution substations were augmented in 2009 to higher capacity to meet customer demand.

Powercor reports it has completed the following key investments to ensure the network has adequate capacity to meet the summer peak demand:

- Installation of a third transformer and 22kV bus at Ballarat South Zone Substation.
- Upgrade of a second 66/22kV transformer at Warun Ponds Zone Substation.
- Augmentation of the single wire earth return network to meet the increasing summer demand in Bannockburn, Ballarat South, Bacchus Marsh and Cobram East.
- The replacement of ageing/unreliable regulators in the Dimboola area and Swanwater/Charlton area to ensure continued reliability.

SP AusNet advised that its 2009 works program will result in new asset availability for summer in priority locations across the network, which will serve to minimise the likelihood of supply interruptions. These works were completed prior to the end of January 2010. Highlights include:

- A third transformer at the Cranbourne terminal substation, alleviating load at risk, was commissioned in December 2009.
- A new transmission connection point at the South Morang Terminal Station. This addresses heavy loading at the Thomastown Terminal Station.
- The new Officer Zone Substation, to address the load at risk at Pakenham, Berwick North and Clyde North, was commissioned in December 2009.
- A third transformer at the Watsonia Zone Substation, alleviating load at risk. was commissioned in January 2010.

United Energy advised that the following investments are either completed or underway. These investments are aimed at maintaining supply reliability for customers this coming summer:

- The construction of a new 220/66kV transformer at the Cranbourne Terminal Station. This is likely to be commissioned in February 2010.
- Construction of a new Langwarrin Zone Substation. This will reduce the load on the Frankston South Zone Substation, which is currently United Energy's most heavily loaded zone substation.
- Augmentation of a number of heavily loaded distribution substations. The highest priority augmentation projects were completed prior to 31 December 2009.
- Installation and commissioning of a third transformer and 22kV bus, and upgraded 66kV protection at the Carrum Zone Substation.
- Installation of two new transformers at the Moorabbin Zone Substation.

3.4 Maintenance works

Distributors advised that their maintenance strategies include cyclic asset overhaul, condition monitoring—such as visual inspection and thermographic (infrared) or radio-frequency surveys—and vegetation management. The following are some of the key maintenance activities undertaken by the distributors in preparation for the 2009-10 summer.

The distributors all reported that bushfire preparation activities are completed and that the bushfire mitigation index is currently zero—indicating that there were no overdue inspections or maintenance items—and it will be kept at zero throughout the fire danger period.

Jemena reported that it uses a reliability centred maintenance methodology to determine the optimum asset maintenance policies. It carries out pole and line inspections thermographic surveys and vegetation management programs. In addition Jemena reported that:

- All lines that have been identified as likely to be operating at or near their ratings under peak load conditions are subjected to additional visual and thermographic surveys. Weaknesses and defects detected during these surveys will be rectified to ensure maximum availability during the summer period. All works were completed as scheduled prior to the end of December 2009.
- Planned maintenance works on all major items of zone substation plant were completed as scheduled prior to the end of December 2009, to ensure their availability for service during the summer period.

CitiPower reported that:

- Thermo-vision audit of equipment within indoor distribution substations is now part of routine maintenance.
- Twenty portable auxiliary cooling units have been purchased for deployment at various substations as required.
- Insulator washing of sub-transmission and selected HV lines is scheduled for summer on a priority basis determined by the strategic importance of the line, type of insulator and prevailing weather conditions.
- Stocks of critical materials and contingency equipment have been checked and adjusted to ensure that localised network events can be promptly remedied.

Powercor has expanded its proactive fault reduction strategies by:

- Extending the application of thermo vision techniques to the LV network—this technique identifies potential weak points on the system and allows rectification works to be undertaken prior to system failure.
- Scheduling plant maintenance at times to avoid peak demand whenever possible in order to provide maximum network security.
- Replacing older protection relay circuits has been undertaken at Mildura, Altona, Melton and Cobram East Zone Substations.
- As part of the current cyclic asset inspection program Powercor uses the latest diagnostic techniques of elevated video streaming and photographic analysis of pole top assets to improve reliability.

SP AusNet reported that in addition to routine maintenance a number of network maintenance and replacement initiatives have been initiated, the status of these initiatives is as follows:

- Cyclic preventative maintenance programs for the distribution network are complete.

- Thermograph surveys of high load feeders and zone substations are complete.
- Inspections of all identified high load zone substations and resulting corrective maintenance is scheduled for completion before summer.
- Installations of cooling systems on high load transformers at identified substations are to be installed prior to summer.
- Pre –summer preparedness inspection program—aerial assessment of 15,000 poles within high fire consequence areas as defined by the CFA & DSE has been completed. All identified corrective maintenance items to be actioned according to priority rating system.
- Survey and assessment on all 7 February 2009 fire affected areas. All system rebuilds and corrective maintenance items have been completed.

United Energy advised that planned maintenance programs are effectively managed via a works management system:

- All lines that have been identified as likely to be operating at or near their ratings under peak load conditions are subjected to additional visual and thermographic surveys. Weaknesses and defects detected during these surveys will be rectified to ensure maximum availability during the summer period. All works were completed as planned prior to the end of December 2009.
- Planned maintenance works on all major items of zone substation plant are scheduled for completion in December 2009, to ensure their availability for service during the summer period. All works were completed as planned prior to the end of December 2009.

Equipment stock and spares, such as distribution transformers and circuit fuses, have been kept at appropriate levels to ensure prompt supply restoration to customers in the event of unexpected plant failures or supply loss due to extreme conditions. These levels were reviewed following the heat related event in 2009.