# AusNet Transmission Group Pty Ltd

## Transmission Revenue Review 2017-2022

## Appendix 4B: 2014 DNSP Vic Terminal Station Demand Forecasts for 2014-15 to 2024-25 Report

**Submitted: 30 October 2015**

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

30 September 2014

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**DNSP – Victorian Terminal Station Demand Forecasts for 2014-15 to 2024-25**

This report provides demand forecasts for points of connection within the Victorian transmission network, as required by the National Electricity Rules, clause 5.11.1(a).

The demand forecasts are not developed by AEMO; they are compiled by AEMO from forecasts provided by Victorian participants (distribution network service providers (DNSPs) and direct-connect customers), and reflect participant expectations of future demand.

Yours sincerely,

Joe Spurio
**Group Manager, Forecasting**

Attachment: DNSP – Victorian Terminal Station Demand Forecasts for 2014-15 to 2024-25

# DNSP – VICTORIAN TERMINAL STATION DEMAND FORECASTS

FOR 2014–15 TO 2024–25

FORECASTS PREPARED BY VICTORIAN DISTRIBUTION NETWORK SERVICE PROVIDERS AND COLLATED BY AEMO

Published: **September 2014**

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

# IMPORTANT NOTICE

## Purpose

AEMO has prepared this document to provide information about transmission connection point forecasts for Victoria.

The demand forecasts are compiled by AEMO from forecasts provided by Victorian participants (distribution network service providers (DNSPs) and direct-connect customers), and reflect participant expectations of future demand. These forecasts are not developed by AEMO.

## Disclaimer

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# 1. INTRODUCTION

This report provides demand forecasts for points of connection within the Victorian transmission network, as required by the National Electricity Rules, clause 5.11.1(a).

The demand forecasts are not developed by AEMO; they are compiled by AEMO from forecasts provided by Victorian participants (distribution network service providers (DNSPs) and direct-connect customers), and reflect participant expectations of future demand.

For each connection point, this report provides the following:

- Maximum active power demands forecast to occur for summer and winter on average one-year-in-two (50% probability of exceedance (POE)) and one-year-in-ten (10% POE), for each financial year from 2014–15 to 2024–25.
- Reactive power demands forecast to occur at the same time as a terminal station's maximum active power demands (for both 50% and 10% POE).
- Representative daily active and reactive demand profiles for days of maximum active power demand.
- Maximum active and coincident reactive actual demands for the summer and winter periods of the preceding year (2013–14 and 2014 respectively).

Participants supplied AEMO with forecast maximum levels of active demand and the associated reactive demand levels expected at the 10% and 50% POE levels. These are separated according to their connection point at each terminal station. They have been provided for summer and winter over an 11 year period. AEMO has aggregated these forecasts by terminal station.

Alongside this Victorian Terminal Station Demand Forecasts (TSDF) report, AEMO has also separately published its first electricity transmission connection point forecasts for Victoria.[1] AEMO developed this report at the request of the Council of Australian Governments (COAG) as part of its energy market reform implementation plan. The forecasts contained in this report were developed using the methodology published on the AEMO website in June 2013[2] and which will be applied consistently across all National Electricity Market (NEM) regions for all future electricity transmission connection point forecasts. These forecasts have been calculated at the transmission node identifier (TNI) level.

[1] AEMO *Transmission connection point forecasting report for Victoria*
Available at: http://www.aemo.com.au/Electricity/Planning/Forecasting.

[2] AEMO. *Connection Point Forecasting: A Nationally Consistent Methodology for Forecasting Maximum Demand – Report.*
Available at: http://www.aemo.com.au/Electricity/Planning/Forecasting/Connection-Point-Forecasting. Viewed 16/09/2014.

# 2. DEMAND FORECASTS BY CONNECTION POINT

This section provides a summary of the total forecast demand for each connection point.

In most cases, the connection points in this report correspond directly to physical terminal stations. In some cases, a connection point may cover only a portion of a terminal station (for example a bus group including a subset of the transformers at the terminal station), or portions of multiple terminal stations. In other cases, some points of connection relate to direct-connect customers rather than terminal stations.

Connection points are not mutually exclusive and the same demand may be reported under more than one connection point. For example, connection points which are split into bus groups are also forecast as an entire station; a forecast is provided for KTS, but also for KTS East and KTS West. This is done to accommodate a range of requirements.

Due to demand diversity, the summated split bus group forecasts may exceed the forecast for the whole terminal station. Where a connection point supplies electricity at different voltage levels, these are treated as separate connection points and reported separately.

Table 1 lists the connection points included in this report. Locations are listed alphabetically based on abbreviation, which generally includes an abbreviation of the terminal station name along with the voltage level.

**Table 1 Connection point and bus locations**

| Abbreviation | Type | Description |
|---|---|---|
| APD500 | Entire | Portland 500 kV bus |
| ATS_BLTS66 | Hybrid | Altona/Brooklyn Terminal Station 66 kV bus |
| ATS_West66 | Hybrid | Altona West Terminal Station 66 kV bus |
| BATS66 | Entire | Ballarat Terminal Station 66 kV bus |
| BETS22 | Entire | Bendigo Terminal Station 22 kV bus |
| BETS66 | Entire | Bendigo Terminal Station 66 kV bus |
| BLTS22 | Entire | Brooklyn Terminal Station 22 kV bus |
| BLTS-SCI66 | Hybrid | Brooklyn–SCI 66 kV bus |
| BTS22 | Entire | Brunswick Terminal Station 22 kV bus |
| BTS66 | Entire | Brunswick Terminal Station 66 kV bus |
| CBTS66 | Entire | Cranbourne Terminal Station 66 kV bus |
| DPTS | Entire | Deer Park Terminal Station 66 kV bus |
| ERTS1266 | Split bus | East Rowville Terminal Station buses 1&2 66 kV bus |
| ERTS3466 | Split bus | East Rowville Terminal Station buses 3&4 66 kV bus |
| ERTS66 | Entire | East Rowville Terminal Station 66 kV bus |
| FBTS66 | Entire | Fishermans Bend Terminal Station 66 kV bus |
| FVTS220 | Entire | Fosterville Terminal Station 220 kV bus |
| GNTS66 | Entire | Glenrowan Terminal Station 66 kV bus |
| GTS66 | Entire | Geelong Terminal Station 66 kV bus |
| HOTS66 | Entire | Horsham Terminal Station 66 kV bus |
| HTS66 | Entire | Heatherton Terminal Station 66 kV bus |
| HYTS22 | Entire | Heywood Terminal Station 22 kV bus |
| JLA220 | Entire | John Lysaght 220 kV bus |
| KGTS22 | Entire | Kerang Terminal Station 22 kV bus |
| KGTS66 | Entire | Kerang Terminal Station 66 kV bus |
| KTS_East66 | Split bus | Eastern area served by Keilor Terminal Station 66 kV bus |
| KTS_West66 | Split bus | Western area served by Keilor Terminal Station 66 kV bus |
| KTS66 | Entire | Keilor Terminal Station 66 kV bus |
| LY66 | Entire | Loy Yang Substation 66 kV bus |

| Abbreviation | Type | Description |
|---|---|---|
| MBTS66 | Entire | Mount Beauty Terminal Station 66 kV bus |
| MTS22 | Entire | Malvern Terminal Station 22 kV bus |
| MTS66 | Entire | Malvern Terminal Station 66 kV bus |
| MTS6622 | Entire | Malvern Terminal Station – 66 kV and 22 kV loads combined. |
| MWTS66 | Entire | Morwell Terminal Station 66 kV bus |
| PTH220 | Entire | Point Henry 220 kV bus |
| RCTS22 | Entire | Red Cliffs Terminal Station 22 kV bus |
| RCTS66 | Entire | Red Cliffs Terminal Station 66 kV bus |
| RTS22 | Entire | Richmond Terminal Station 22 kV bus |
| RTS1266 | Split bus | Richmond Terminal Station buses 1&2 66 kV bus (Transformers B1 and B4) |
| RTS3466 | Split bus | Richmond Terminal Station buses 3&4 66 kV bus (Transformers B2 and B3) |
| RTS66 | Entire | Richmond Terminal Station 66 kV bus |
| RWTS22 | Entire | Ringwood Terminal Station 22 kV bus |
| RWTS1366 | Split bus | Ringwood Terminal Station 1&3 66 kV bus |
| RWTS2466 | Split bus | Ringwood Terminal Station 2&4 66 kV bus |
| RWTS66 | Entire | Ringwood Terminal Station 66 kV bus |
| SHTS66 | Entire | Shepparton Terminal Station 66 kV bus |
| SMTS66 | Entire | South Morang Terminal Station 66kV bus |
| SVTS1266 | Split bus | Springvale Terminal Station buses 1&2 66kV bus |
| SVTS3466 | Split bus | Springvale Terminal Station buses 3&4 66kV bus |
| SVTS66 | Entire | Springvale Terminal Station 66kV bus |
| TBTS66 | Entire | Tyabb Terminal Station 66kV bus |
| TGTS66 | Entire | Terang Terminal Station 66kV bus |
| TSTS66 | Entire | Templestowe Terminal Station 66kV bus |
| TTS1266 | Split bus | Thomastown Terminal Station 1&2 66kV bus |
| TTS3466 | Split bus | Thomastown Terminal Station 3&4 66kV bus |
| TTS66 | Entire | Thomastown Terminal Station 66kV bus |
| WETS66 | Entire | Wemen Terminal Station 66kV bus |
| WMTS22 | Entire | West Melbourne Terminal Station 22kV bus |
| WMTS66 | Entire | West Melbourne Terminal Station 66kV bus |
| WOTS22 | Entire | Wodonga Terminal Station 22kV bus |
| WOTS66 | Entire | Wodonga Terminal Station 66kV bus |
| YPS11 | Entire | Yallourn PS Terminal Station 11kV bus |

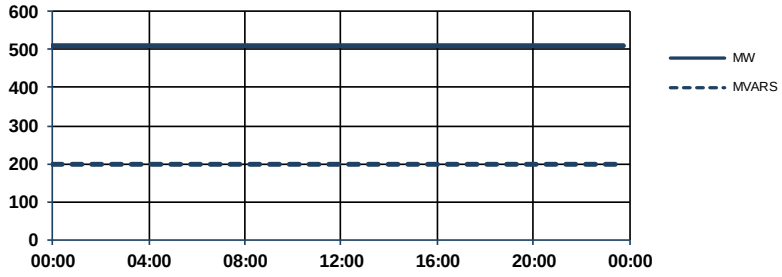
# APD500: Portland 500 kV bus

## *Summer Demand*

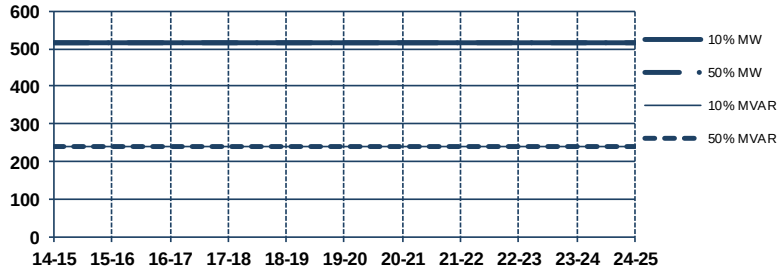
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 01 Nov 2013 14:30 | 509.3 | 197.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 515.8 | 240.0 | 515.8 | 240.0 |
| 15-16 | 515.8 | 240.0 | 515.8 | 240.0 |
| 16-17 | 515.8 | 240.0 | 515.8 | 240.0 |
| 17-18 | 515.8 | 240.0 | 515.8 | 240.0 |
| 18-19 | 515.8 | 240.0 | 515.8 | 240.0 |
| 19-20 | 515.8 | 240.0 | 515.8 | 240.0 |
| 20-21 | 515.8 | 240.0 | 515.8 | 240.0 |
| 21-22 | 515.8 | 240.0 | 515.8 | 240.0 |
| 22-23 | 515.8 | 240.0 | 515.8 | 240.0 |
| 23-24 | 515.8 | 240.0 | 515.8 | 240.0 |
| 24-25 | 515.8 | 240.0 | 515.8 | 240.0 |

***Load Curve on High Demand Day***




***Forecast***

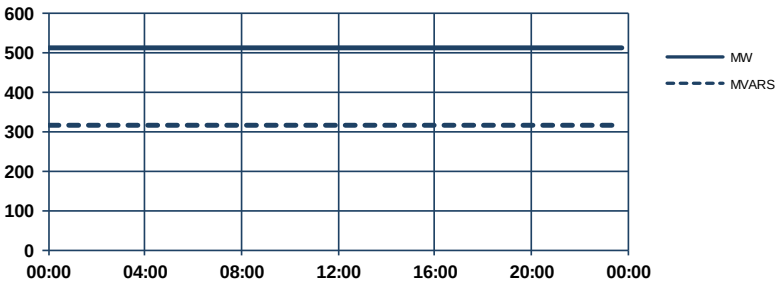



## *Winter Demand*

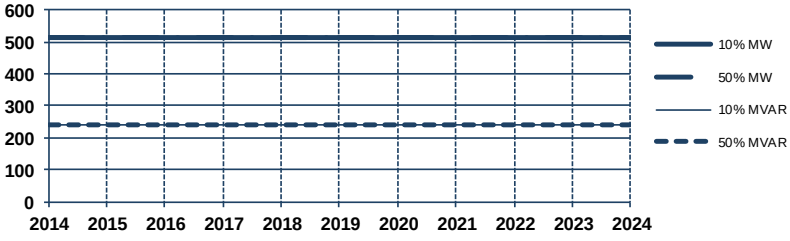
| 2013 MD | MW | MVAR |
|---|---|---|
| 26 May 2013 15:00 | 509.5 | 316.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2015 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2016 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2017 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2018 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2019 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2020 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2021 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2022 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2023 | 515.8 | 240.0 | 515.8 | 240.0 |
| 2024 | 515.8 | 240.0 | 515.8 | 240.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2 on page 70.*

Portland aluminium smelter is directly connected to the transmission system.

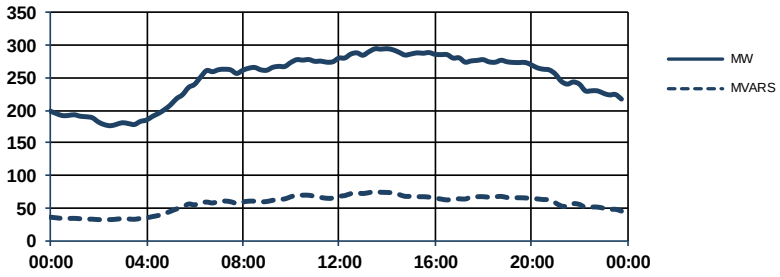
# ATS_BLTS66: Altona/Brooklyn Terminal Station 66 kV bus

## *Summer Demand*

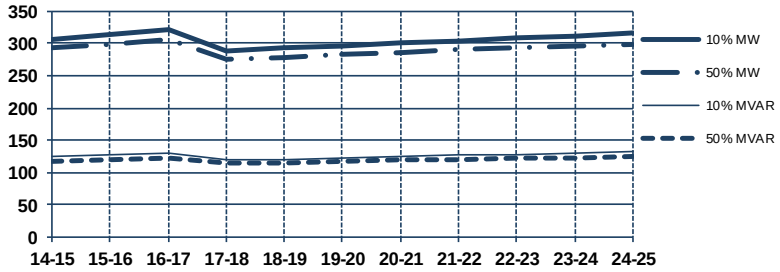
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 14:30 | 295.8 | 76.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 306.9 | 123.9 | 292.6 | 118.3 |
| 15-16 | 313.4 | 126.8 | 298.5 | 120.9 |
| 16-17 | 320.0 | 129.6 | 304.8 | 123.6 |
| 17-18 | 288.9 | 119.4 | 275.4 | 114.0 |
| 18-19 | 292.4 | 121.0 | 278.4 | 115.4 |
| 19-20 | 296.5 | 122.9 | 282.1 | 117.0 |
| 20-21 | 300.4 | 124.7 | 285.5 | 118.6 |
| 21-22 | 304.3 | 126.5 | 289.5 | 120.4 |
| 22-23 | 307.5 | 128.1 | 291.8 | 121.7 |
| 23-24 | 311.8 | 130.0 | 295.4 | 123.4 |
| 24-25 | 315.6 | 131.8 | 298.5 | 124.9 |

***Load Curve on High Demand Day***




***Forecast***

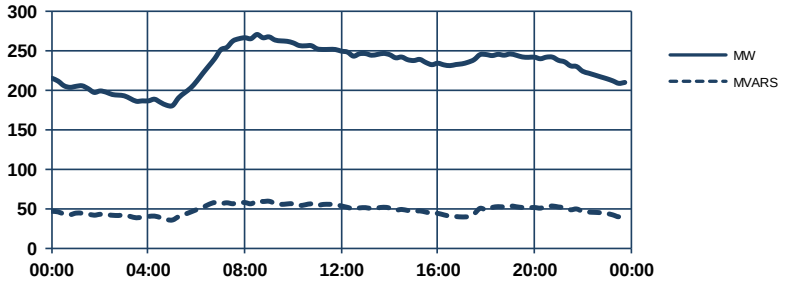



## *Winter Demand*

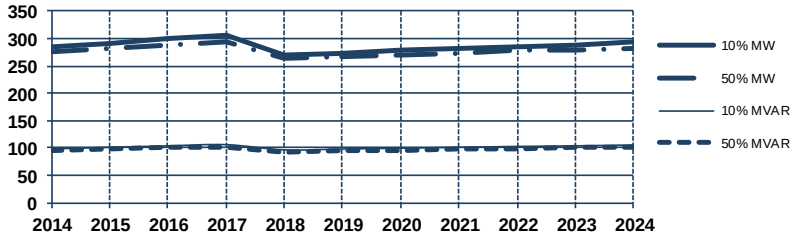
| 2013 MD | MW | MVAR |
|---|---|---|
| 28 May 2013 09:00 | 269.6 | 58.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 283.7 | 97.4 | 274.5 | 94.0 |
| 2015 | 291.1 | 100.6 | 281.2 | 96.9 |
| 2016 | 298.9 | 103.8 | 288.7 | 100.0 |
| 2017 | 304.5 | 106.3 | 294.0 | 102.3 |
| 2018 | 270.1 | 95.4 | 262.6 | 92.4 |
| 2019 | 273.9 | 97.1 | 266.2 | 94.0 |
| 2020 | 277.7 | 98.8 | 269.6 | 95.6 |
| 2021 | 281.9 | 100.7 | 273.5 | 97.3 |
| 2022 | 286.1 | 102.6 | 277.5 | 99.1 |
| 2023 | 288.2 | 103.8 | 279.4 | 100.2 |
| 2024 | 292.3 | 105.7 | 283.1 | 102.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

ATS/BLTS comprises demand that is serviced jointly by parts of ATS and BLTS. Load will be transferred to the new Deer Park 66 kV Terminal Station from summer 2017–18. This transfer has been modelled in this forecast.

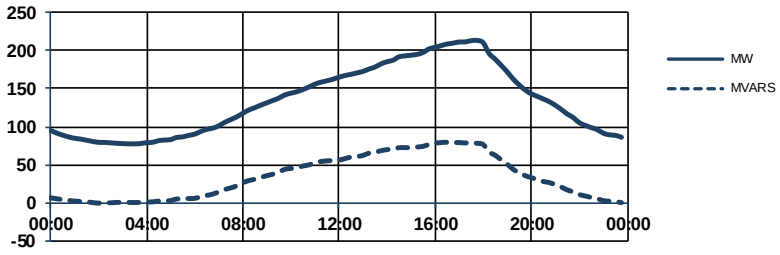
# ATS_WEST66: Altona West Terminal Station 66 kV bus

## Summer Demand

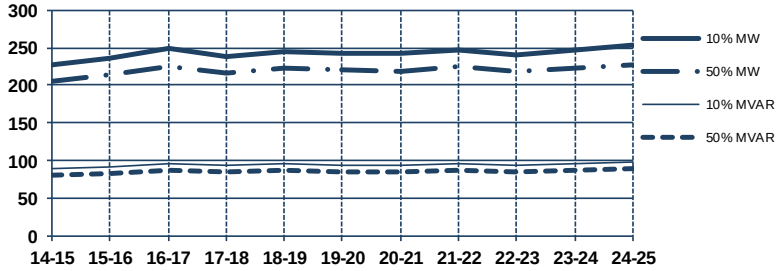
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 09:00 | 213.7 | 79.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 226.2 | 88.5 | 205.5 | 80.6 |
| 15-16 | 235.5 | 92.1 | 213.9 | 83.8 |
| 16-17 | 248.2 | 96.9 | 225.8 | 88.4 |
| 17-18 | 237.5 | 92.9 | 215.9 | 84.6 |
| 18-19 | 244.5 | 95.6 | 222.0 | 87.0 |
| 19-20 | 242.8 | 94.9 | 220.1 | 86.2 |
| 20-21 | 241.7 | 94.5 | 218.8 | 85.8 |
| 21-22 | 247.9 | 96.9 | 224.1 | 87.8 |
| 22-23 | 241.1 | 94.3 | 217.5 | 85.3 |
| 23-24 | 247.0 | 96.6 | 222.4 | 87.2 |
| 24-25 | 252.7 | 98.8 | 227.3 | 89.0 |

***Load Curve on High Demand Day***




***Forecast***

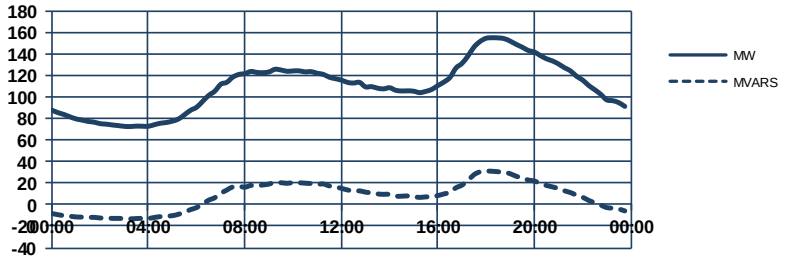



## Winter Demand

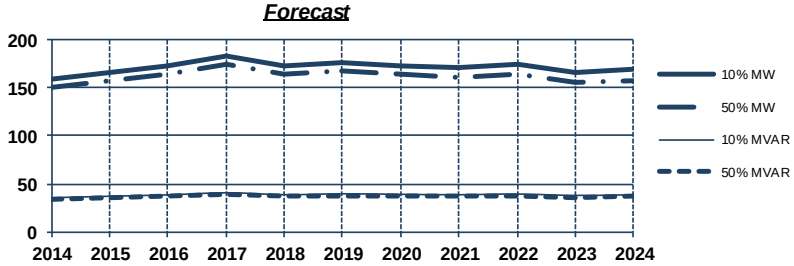
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 154.1 | 31.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 159.2 | 35.7 | 151.0 | 34.1 |
| 2015 | 166.6 | 37.1 | 158.1 | 35.4 |
| 2016 | 173.4 | 38.5 | 164.6 | 36.7 |
| 2017 | 183.6 | 40.5 | 174.5 | 38.7 |
| 2018 | 172.8 | 38.6 | 163.8 | 36.8 |
| 2019 | 177.1 | 39.5 | 167.8 | 37.6 |
| 2020 | 173.8 | 39.0 | 164.3 | 37.1 |
| 2021 | 171.0 | 38.6 | 161.4 | 36.6 |
| 2022 | 174.4 | 39.3 | 164.4 | 37.3 |
| 2023 | 166.4 | 37.9 | 156.4 | 35.9 |
| 2024 | 169.5 | 38.5 | 158.4 | 36.3 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

The area that is serviced by the west part of ATS. Load will be transferred to the new Deer Park 66 kV Terminal Station from summer 2017–18. This transfer has been modelled in this forecast.

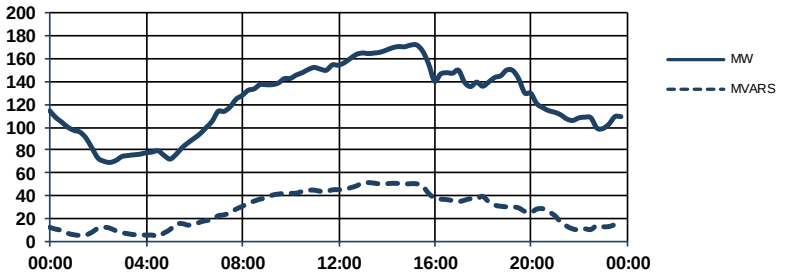
# BATS66: Ballarat Terminal Station 66 kV bus

## *Summer Demand*

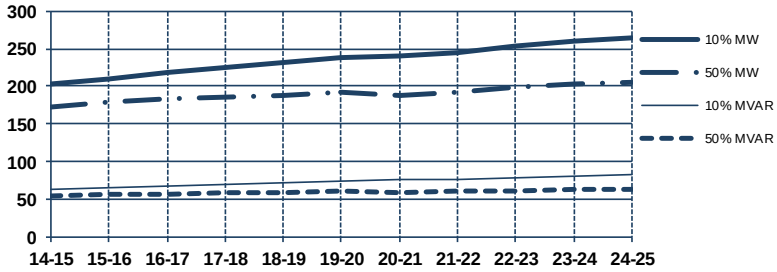
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 15:00 | 171.9 | 52.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 204.0 | 64.1 | 173.2 | 54.4 |
| 15-16 | 210.7 | 66.2 | 178.6 | 56.1 |
| 16-17 | 217.5 | 68.3 | 183.8 | 57.7 |
| 17-18 | 224.3 | 70.4 | 185.2 | 58.2 |
| 18-19 | 231.3 | 72.6 | 188.6 | 59.2 |
| 19-20 | 238.5 | 74.9 | 191.9 | 60.3 |
| 20-21 | 240.2 | 75.4 | 188.1 | 59.1 |
| 21-22 | 245.2 | 77.0 | 193.1 | 60.6 |
| 22-23 | 252.3 | 79.2 | 198.1 | 62.2 |
| 23-24 | 259.6 | 81.5 | 203.2 | 63.8 |
| 24-25 | 263.5 | 82.7 | 204.7 | 64.3 |

***Load Curve on High Demand Day***




***Forecast***

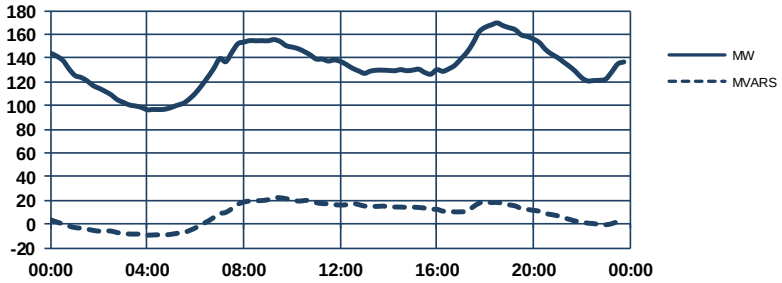



## *Winter Demand*

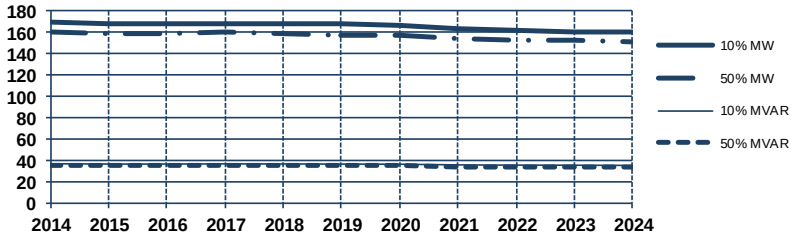
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Jun 2013 18:30 | 170.1 | 22.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 169.4 | 36.9 | 160.7 | 35.0 |
| 2015 | 167.9 | 36.6 | 159.4 | 34.7 |
| 2016 | 167.7 | 36.6 | 159.4 | 34.8 |
| 2017 | 168.6 | 36.8 | 160.0 | 34.9 |
| 2018 | 168.2 | 36.7 | 159.6 | 34.8 |
| 2019 | 167.5 | 36.5 | 157.9 | 34.4 |
| 2020 | 166.7 | 36.3 | 157.9 | 34.4 |
| 2021 | 162.9 | 35.5 | 154.2 | 33.6 |
| 2022 | 161.6 | 35.2 | 152.5 | 33.3 |
| 2023 | 161.0 | 35.1 | 151.9 | 33.1 |
| 2024 | 159.8 | 34.8 | 150.4 | 32.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

Coincident generation 5 MW.

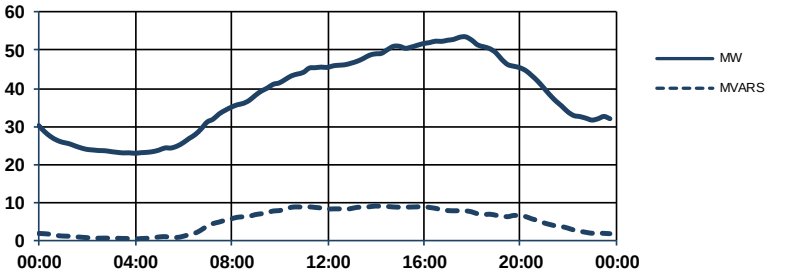
# BETS22: Bendigo Terminal Station 22 kV bus

## *Summer Demand*

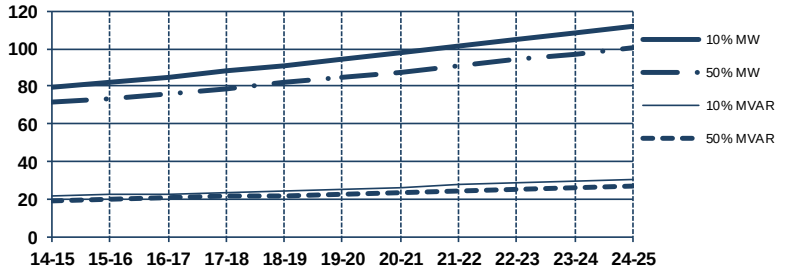
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 17:30 | 53.7 | 9.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 79.2 | 21.5 | 71.4 | 19.4 |
| 15-16 | 82.0 | 22.3 | 73.6 | 20.0 |
| 16-17 | 85.0 | 23.1 | 76.3 | 20.7 |
| 17-18 | 88.1 | 24.0 | 79.0 | 21.5 |
| 18-19 | 91.3 | 24.8 | 81.8 | 22.3 |
| 19-20 | 94.5 | 25.7 | 84.7 | 23.0 |
| 20-21 | 97.9 | 26.6 | 87.7 | 23.9 |
| 21-22 | 101.4 | 27.6 | 90.8 | 24.7 |
| 22-23 | 105.0 | 28.6 | 94.0 | 25.6 |
| 23-24 | 108.8 | 29.6 | 97.3 | 26.5 |
| 24-25 | 112.2 | 30.5 | 100.3 | 27.3 |

***Load Curve on High Demand Day***




***Forecast***

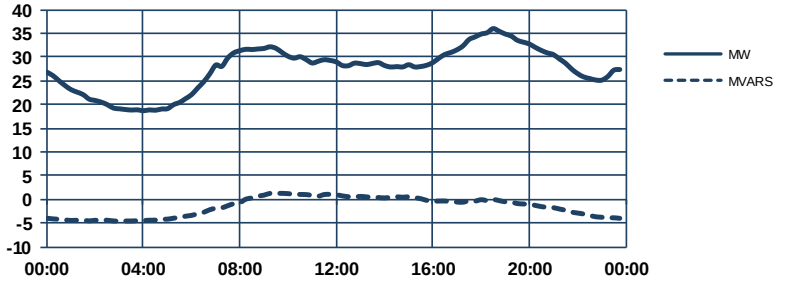



## *Winter Demand*

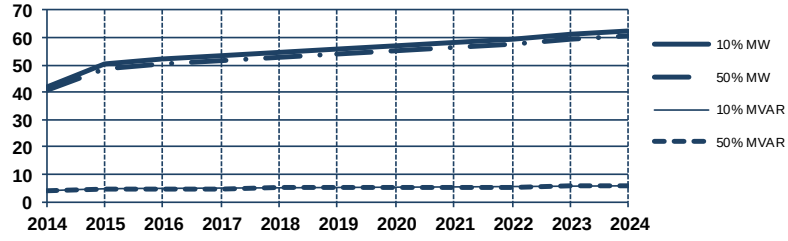
| 2013 MD | MW | MVAR |
|---|---|---|
| 22 Jul 2013 18:30 | 36.0 | -0.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 42.1 | 4.0 | 40.5 | 3.8 |
| 2015 | 50.3 | 4.7 | 48.6 | 4.6 |
| 2016 | 51.9 | 4.9 | 50.3 | 4.7 |
| 2017 | 53.2 | 5.0 | 51.5 | 4.8 |
| 2018 | 54.3 | 5.1 | 52.8 | 5.0 |
| 2019 | 55.7 | 5.2 | 54.0 | 5.1 |
| 2020 | 56.9 | 5.3 | 55.1 | 5.2 |
| 2021 | 58.1 | 5.5 | 56.2 | 5.3 |
| 2022 | 59.6 | 5.6 | 57.7 | 5.4 |
| 2023 | 61.1 | 5.7 | 59.3 | 5.6 |
| 2024 | 62.6 | 5.9 | 60.5 | 5.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

This includes only the 22 kV demand at BETS.

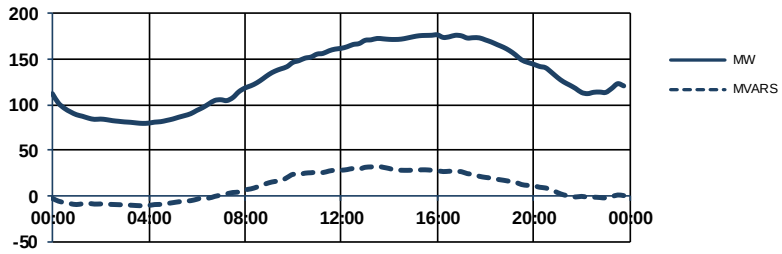
# BETS66: Bendigo Terminal Station 66 kV bus

## *Summer Demand*

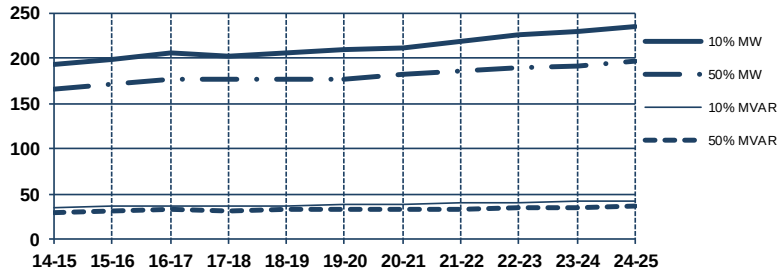
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 16:00 | 176.9 | 33.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 193.3 | 35.0 | 164.8 | 29.8 |
| 15-16 | 198.4 | 35.9 | 170.6 | 30.9 |
| 16-17 | 204.9 | 37.1 | 176.5 | 31.9 |
| 17-18 | 202.5 | 36.6 | 175.7 | 31.8 |
| 18-19 | 205.6 | 37.2 | 176.0 | 31.9 |
| 19-20 | 208.9 | 37.8 | 176.7 | 32.0 |
| 20-21 | 212.0 | 38.4 | 181.9 | 32.9 |
| 21-22 | 218.6 | 39.5 | 184.9 | 33.4 |
| 22-23 | 225.2 | 40.7 | 190.1 | 34.4 |
| 23-24 | 229.3 | 41.5 | 191.6 | 34.7 |
| 24-25 | 235.0 | 42.5 | 196.5 | 35.6 |

***Load Curve on High Demand Day***




***Forecast***

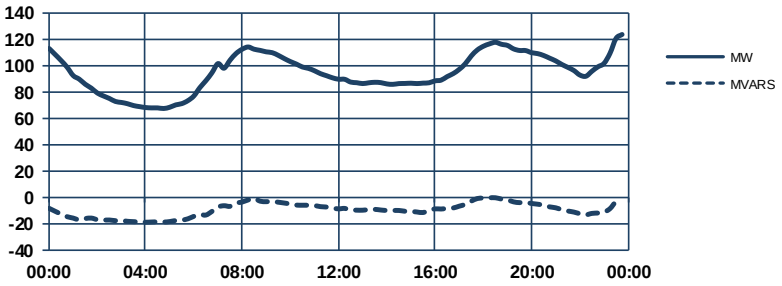



## *Winter Demand*

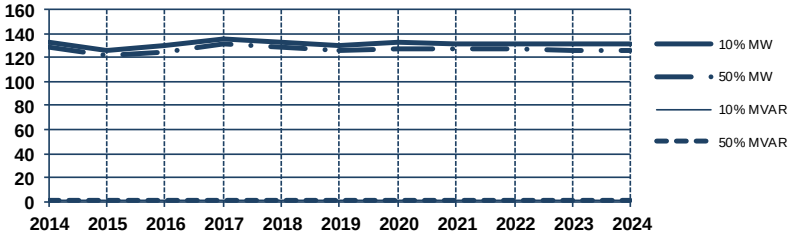
| 2013 MD | MW | MVAR |
|---|---|---|
| 21 Jun 2013 00:00 | 122.8 | -7.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 133.5 | 1.4 | 128.7 | 1.3 |
| 2015 | 126.2 | 1.3 | 121.2 | 1.3 |
| 2016 | 130.4 | 1.3 | 125.2 | 1.3 |
| 2017 | 136.1 | 1.4 | 130.9 | 1.4 |
| 2018 | 133.5 | 1.4 | 128.5 | 1.3 |
| 2019 | 130.7 | 1.4 | 125.8 | 1.3 |
| 2020 | 132.4 | 1.4 | 127.2 | 1.3 |
| 2021 | 131.6 | 1.4 | 126.9 | 1.3 |
| 2022 | 132.2 | 1.4 | 127.3 | 1.3 |
| 2023 | 131.6 | 1.4 | 126.7 | 1.3 |
| 2024 | 131.9 | 1.4 | 126.6 | 1.3 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

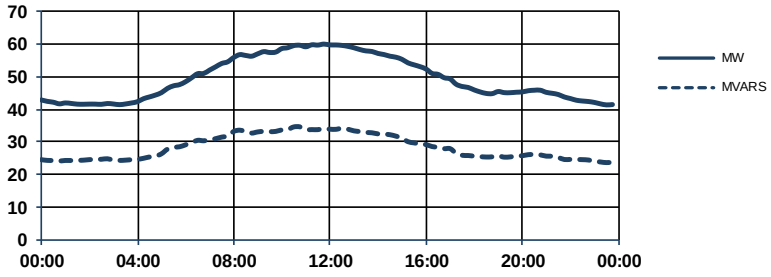
# BLTS22: Brooklyn Terminal Station 22 kV bus

## *Summer Demand*

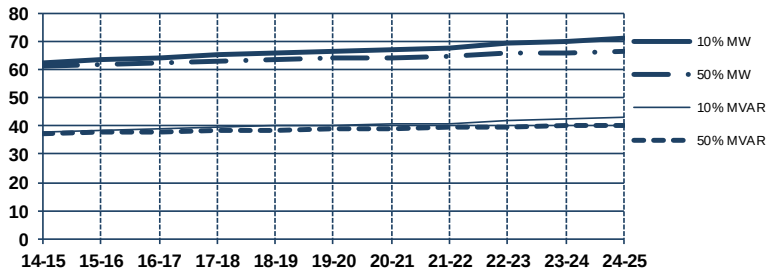
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 12:00 | 60.1 | 34.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 62.4 | 37.9 | 61.1 | 37.1 |
| 15-16 | 63.3 | 38.5 | 61.8 | 37.6 |
| 16-17 | 64.0 | 38.9 | 62.5 | 38.0 |
| 17-18 | 65.1 | 39.5 | 63.1 | 38.3 |
| 18-19 | 65.8 | 40.0 | 63.6 | 38.7 |
| 19-20 | 66.2 | 40.2 | 64.0 | 38.9 |
| 20-21 | 66.8 | 40.6 | 64.3 | 39.0 |
| 21-22 | 67.6 | 41.0 | 64.9 | 39.4 |
| 22-23 | 69.1 | 41.9 | 65.7 | 39.9 |
| 23-24 | 69.9 | 42.4 | 66.0 | 40.1 |
| 24-25 | 70.8 | 43.0 | 66.6 | 40.4 |

***Load Curve on High Demand Day***




***Forecast***

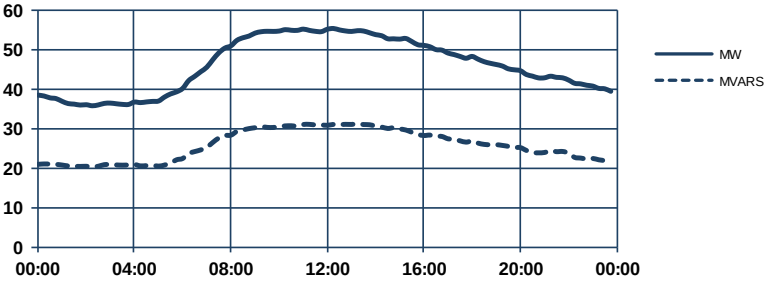



## *Winter Demand*

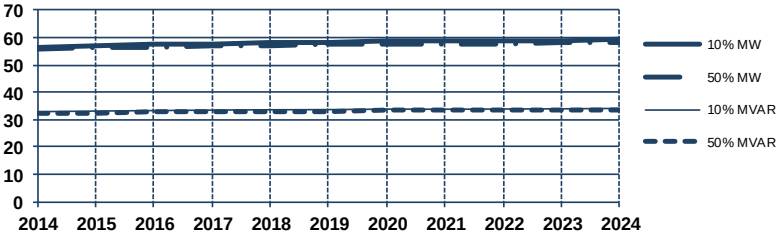
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Aug 2013 10:30 | 55.0 | 31.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 56.6 | 32.6 | 55.8 | 32.2 |
| 2015 | 57.1 | 32.9 | 56.2 | 32.5 |
| 2016 | 57.4 | 33.1 | 56.5 | 32.6 |
| 2017 | 57.8 | 33.3 | 56.9 | 32.8 |
| 2018 | 58.1 | 33.5 | 57.2 | 33.0 |
| 2019 | 58.2 | 33.6 | 57.4 | 33.1 |
| 2020 | 58.6 | 33.8 | 57.6 | 33.2 |
| 2021 | 58.5 | 33.8 | 57.6 | 33.2 |
| 2022 | 58.7 | 33.8 | 57.8 | 33.3 |
| 2023 | 58.9 | 33.9 | 58.0 | 33.4 |
| 2024 | 59.2 | 34.1 | 58.1 | 33.5 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

This includes only the 22 kV demand at BLTS.

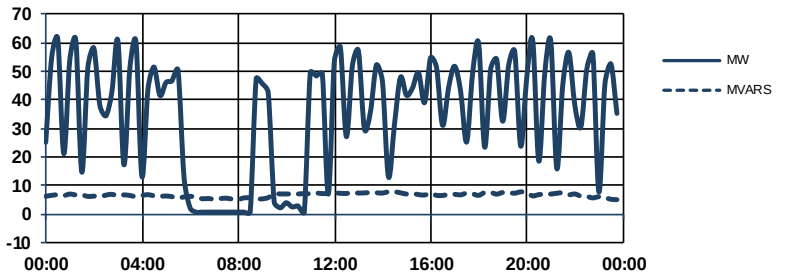
# BLTS-SCI66: Brooklyn-SCI 66 kV bus

## *Summer Demand*

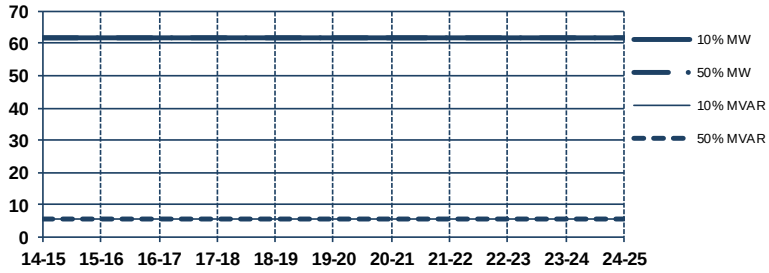
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 25 Jan 2014 00:30 | 61.6 | 7.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 61.8 | 5.6 | 61.8 | 5.6 |
| 15-16 | 61.8 | 5.6 | 61.8 | 5.6 |
| 16-17 | 61.8 | 5.6 | 61.8 | 5.6 |
| 17-18 | 61.8 | 5.6 | 61.8 | 5.6 |
| 18-19 | 61.8 | 5.6 | 61.8 | 5.6 |
| 19-20 | 61.8 | 5.6 | 61.8 | 5.6 |
| 20-21 | 61.8 | 5.6 | 61.8 | 5.6 |
| 21-22 | 61.8 | 5.6 | 61.8 | 5.6 |
| 22-23 | 61.8 | 5.6 | 61.8 | 5.6 |
| 23-24 | 61.8 | 5.6 | 61.8 | 5.6 |
| 24-25 | 61.8 | 5.6 | 61.8 | 5.6 |

***Load Curve on High Demand Day***




***Forecast***

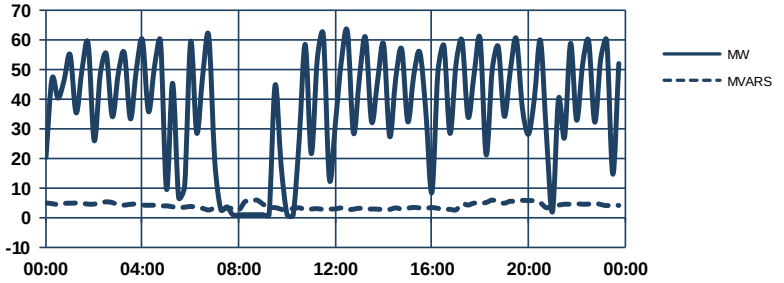



## *Winter Demand*

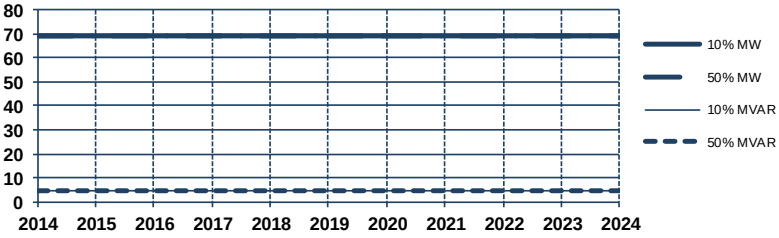
| 2013 MD | MW | MVAR |
|---|---|---|
| 03 Jun 2013 12:30 | 62.6 | 5.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2015 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2016 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2017 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2018 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2019 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2020 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2021 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2022 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2023 | 69.2 | 4.8 | 69.2 | 4.8 |
| 2024 | 69.2 | 4.8 | 69.2 | 4.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

Industrial demand (steel mill) serviced out of BLTS.

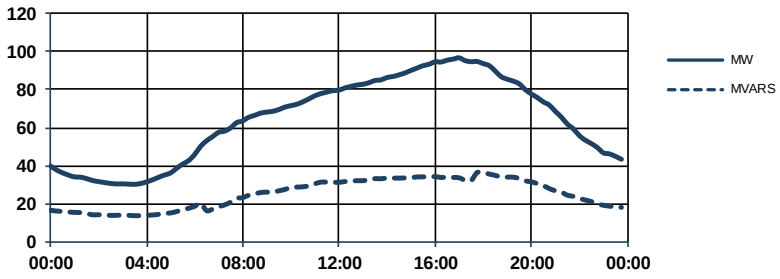
# BTS22: Brunswick Terminal Station 22 kV bus

## Summer Demand

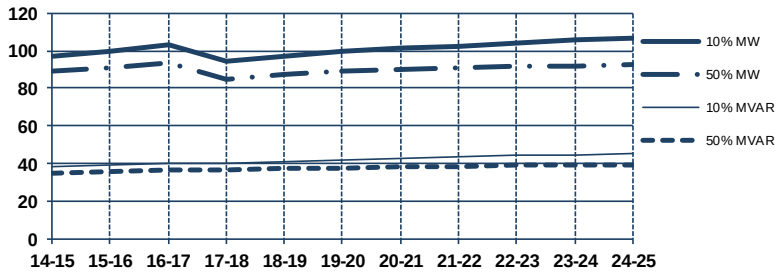
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 16:30 | 96.4 | 36.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 97.4 | 38.2 | 88.8 | 34.8 |
| 15-16 | 99.6 | 39.0 | 90.6 | 35.4 |
| 16-17 | 102.9 | 40.3 | 93.6 | 36.6 |
| 17-18 | 94.5 | 40.1 | 85.1 | 36.3 |
| 18-19 | 97.1 | 41.2 | 87.3 | 37.2 |
| 19-20 | 99.3 | 42.1 | 88.9 | 37.9 |
| 20-21 | 101.4 | 43.0 | 90.2 | 38.5 |
| 21-22 | 102.7 | 43.5 | 91.1 | 38.8 |
| 22-23 | 104.3 | 44.2 | 91.7 | 39.1 |
| 23-24 | 105.4 | 44.7 | 92.2 | 39.3 |
| 24-25 | 106.8 | 45.2 | 92.7 | 39.6 |

***Load Curve on High Demand Day***




***Forecast***

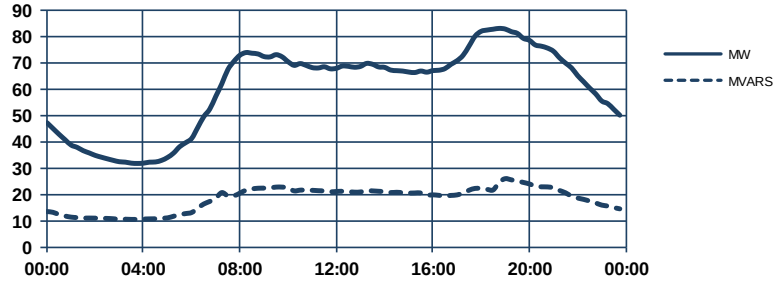



## Winter Demand

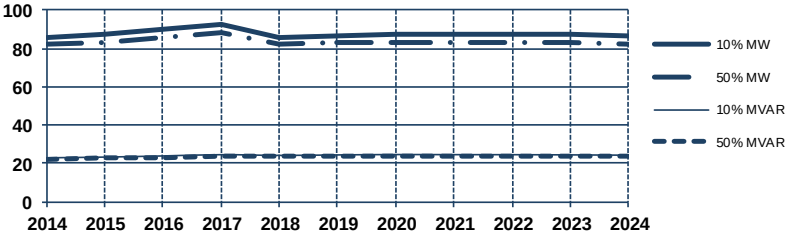
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 19:00 | 83.2 | 26.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 85.7 | 23.1 | 81.9 | 22.1 |
| 2015 | 87.2 | 23.5 | 83.4 | 22.5 |
| 2016 | 89.6 | 24.2 | 85.7 | 23.1 |
| 2017 | 92.2 | 24.9 | 88.0 | 23.7 |
| 2018 | 85.8 | 24.5 | 81.8 | 23.3 |
| 2019 | 86.8 | 24.7 | 82.8 | 23.6 |
| 2020 | 87.6 | 24.9 | 83.5 | 23.8 |
| 2021 | 87.5 | 24.9 | 83.4 | 23.7 |
| 2022 | 87.5 | 24.8 | 83.3 | 23.7 |
| 2023 | 87.1 | 24.7 | 82.9 | 23.6 |
| 2024 | 86.6 | 24.6 | 82.2 | 23.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This includes only the 22 kV demand at BTS. Load will be transferred to the new Brunswick 66 kV Terminal Station in 2018. This transfer has been modelled in this forecast.

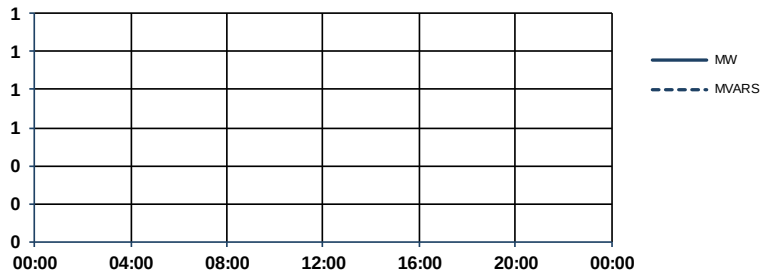
# BTS66: Brunswick Terminal Station 66 kV bus

## Summer Demand

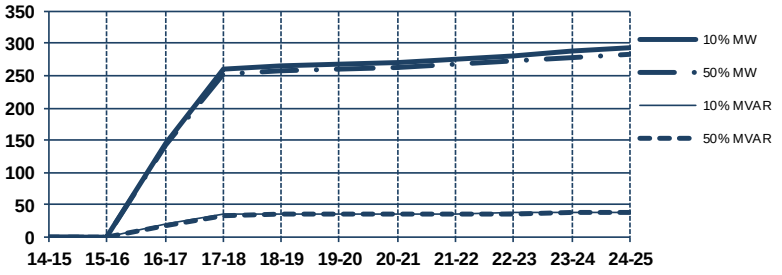
| 2013-14 MD | MW | MVAR |
|---|---|---|
| #N/A | #N/A | #N/A |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15-16 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16-17 | 146.0 | 19.5 | 141.8 | 19.0 |
| 17-18 | 260.0 | 34.8 | 252.4 | 33.8 |
| 18-19 | 265.4 | 35.5 | 257.6 | 34.5 |
| 19-20 | 268.0 | 35.9 | 260.2 | 34.8 |
| 20-21 | 271.2 | 36.3 | 263.3 | 35.2 |
| 21-22 | 275.4 | 36.8 | 267.3 | 35.8 |
| 22-23 | 281.2 | 37.6 | 273.0 | 36.5 |
| 23-24 | 286.8 | 38.4 | 278.5 | 37.3 |
| 24-25 | 292.6 | 39.2 | 284.1 | 38.0 |

***Load Curve on High Demand Day***




***Forecast***

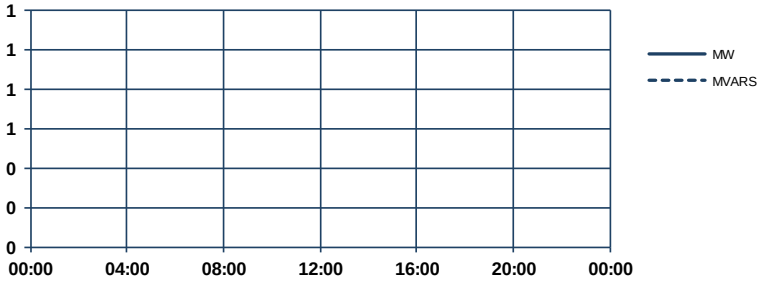



## Winter Demand

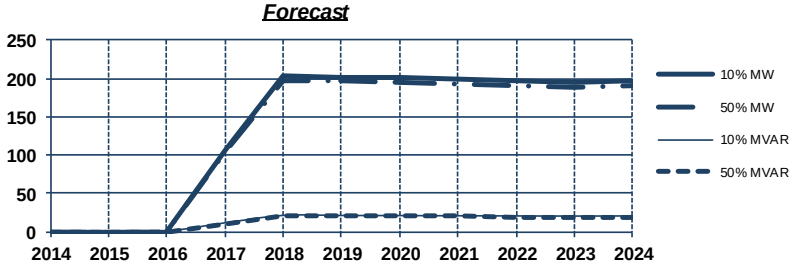
| 2013 MD | MW | MVAR |
|---|---|---|
| #N/A | #N/A | #N/A |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2015 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2016 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2017 | 106.5 | 10.9 | 103.4 | 10.5 |
| 2018 | 203.3 | 20.7 | 197.4 | 20.1 |
| 2019 | 201.9 | 20.6 | 196.0 | 20.0 |
| 2020 | 200.4 | 20.4 | 194.6 | 19.8 |
| 2021 | 198.3 | 20.2 | 192.5 | 19.6 |
| 2022 | 196.1 | 20.0 | 190.4 | 19.4 |
| 2023 | 194.3 | 19.8 | 188.7 | 19.2 |
| 2024 | 196.3 | 20.0 | 190.6 | 19.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This includes only the 66 kV load at BTS. Load will be transferred from WMTS66 (in 2017), BTS22 (in 2018) and RTS66 (in 2018) to BTS66.

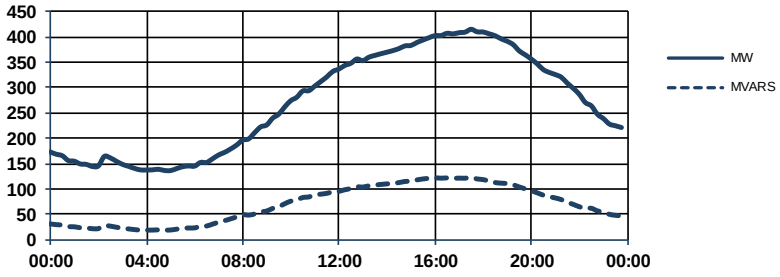
# CBTS66: Cranbourne Terminal Station 66 kV bus

## *Summer Demand*

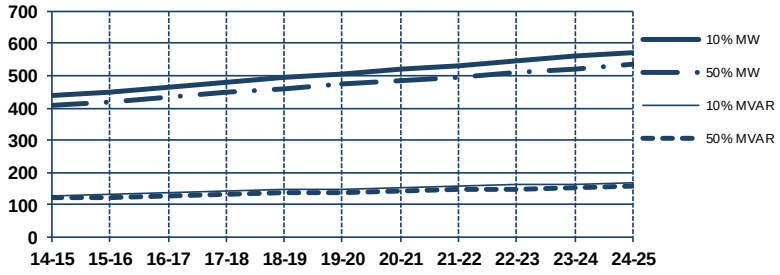
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 17:00 | 415.4 | 122.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 440.2 | 129.8 | 410.3 | 121.1 |
| 15-16 | 450.0 | 132.9 | 419.5 | 123.9 |
| 16-17 | 464.7 | 137.3 | 432.3 | 127.7 |
| 17-18 | 479.7 | 141.7 | 447.2 | 132.2 |
| 18-19 | 495.7 | 146.4 | 460.6 | 136.1 |
| 19-20 | 506.8 | 149.7 | 473.1 | 139.8 |
| 20-21 | 518.0 | 153.0 | 483.9 | 143.0 |
| 21-22 | 530.5 | 156.7 | 495.5 | 146.5 |
| 22-23 | 545.2 | 161.0 | 507.2 | 149.9 |
| 23-24 | 558.7 | 165.0 | 520.3 | 153.8 |
| 24-25 | 571.9 | 168.9 | 533.1 | 157.6 |

***Load Curve on High Demand Day***




***Forecast***

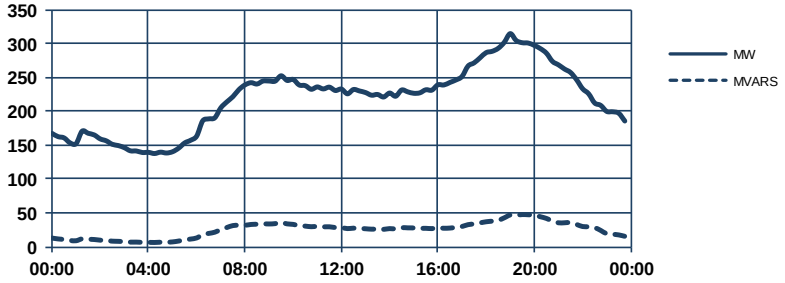



## *Winter Demand*

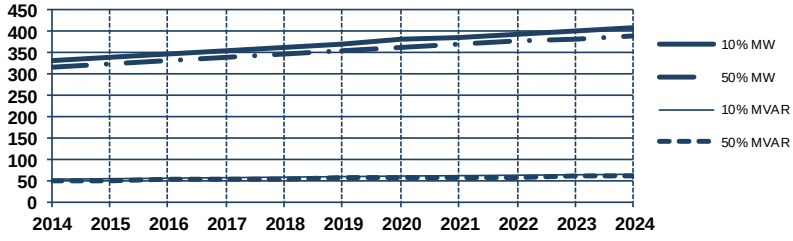
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Aug 2013 19:00 | 313.9 | 47.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 330.1 | 50.8 | 314.4 | 48.3 |
| 2015 | 338.6 | 52.1 | 322.5 | 49.6 |
| 2016 | 346.4 | 53.4 | 329.9 | 50.8 |
| 2017 | 354.8 | 54.7 | 338.0 | 52.0 |
| 2018 | 363.3 | 56.1 | 346.1 | 53.3 |
| 2019 | 371.6 | 57.3 | 354.0 | 54.6 |
| 2020 | 381.0 | 58.8 | 363.0 | 55.9 |
| 2021 | 386.7 | 59.7 | 368.6 | 56.8 |
| 2022 | 394.4 | 60.9 | 375.9 | 58.0 |
| 2023 | 401.3 | 62.0 | 382.5 | 59.0 |
| 2024 | 409.5 | 63.3 | 390.4 | 60.3 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

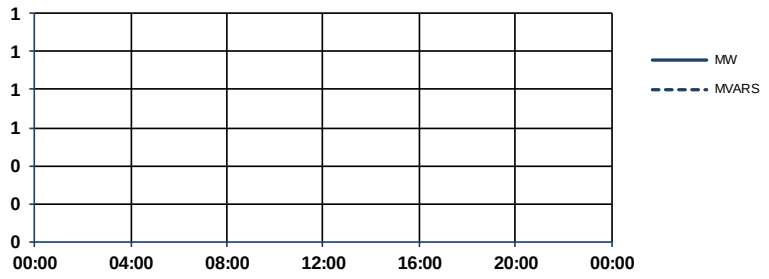
# DPTS66: Deer Park Terminal Station 66 kV bus

## *Summer Demand*

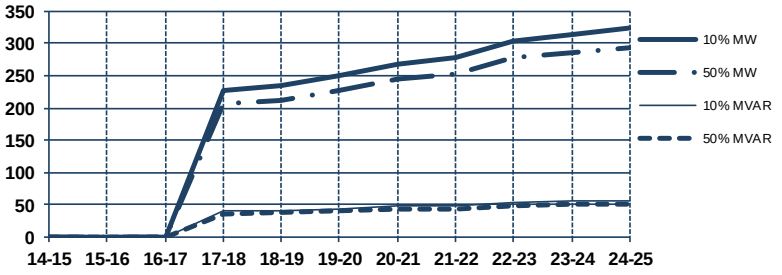
| 2013-14 MD | MW | MVAR |
|---|---|---|
| #N/A | #N/A | #N/A |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15-16 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16-17 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17-18 | 225.9 | 40.0 | 205.4 | 36.3 |
| 18-19 | 233.4 | 41.3 | 212.1 | 37.5 |
| 19-20 | 248.6 | 44.0 | 226.0 | 40.0 |
| 20-21 | 268.2 | 47.4 | 243.8 | 43.1 |
| 21-22 | 277.1 | 49.0 | 251.9 | 44.5 |
| 22-23 | 304.3 | 53.8 | 276.6 | 48.9 |
| 23-24 | 313.6 | 55.5 | 285.1 | 50.4 |
| 24-25 | 323.2 | 57.2 | 293.8 | 52.0 |

***Load Curve on High Demand Day***




***Forecast***

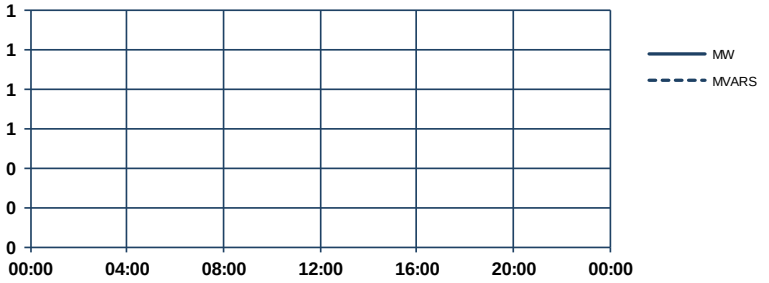



## *Winter Demand*

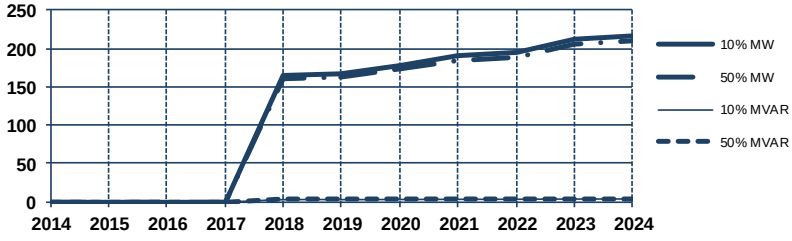
| 2013 MD | MW | MVAR |
|---|---|---|
| #N/A | #N/A | #N/A |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2015 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2016 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2017 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2018 | 164.6 | 2.8 | 159.8 | 2.7 |
| 2019 | 167.5 | 2.8 | 162.6 | 2.7 |
| 2020 | 177.8 | 3.0 | 172.6 | 2.9 |
| 2021 | 190.0 | 3.2 | 184.4 | 3.1 |
| 2022 | 193.8 | 3.3 | 188.1 | 3.2 |
| 2023 | 211.2 | 3.6 | 205.0 | 3.5 |
| 2024 | 215.5 | 3.6 | 209.3 | 3.5 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

In November 2017, load will be transferred from ATS_West66 , ATS_BLTS66, KTS_East and KTS_West to DPTS66.

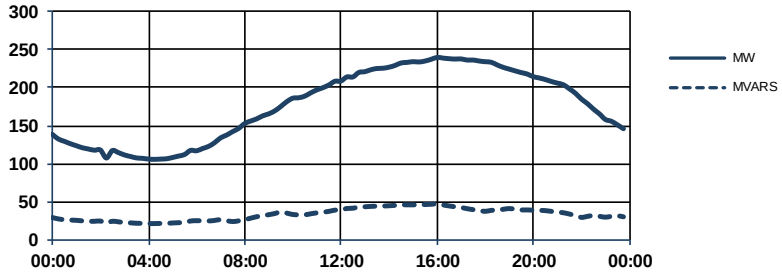
# ERTS1266: East Rowville Terminal Station buses 1&2 66 kV bus

## *Summer Demand*

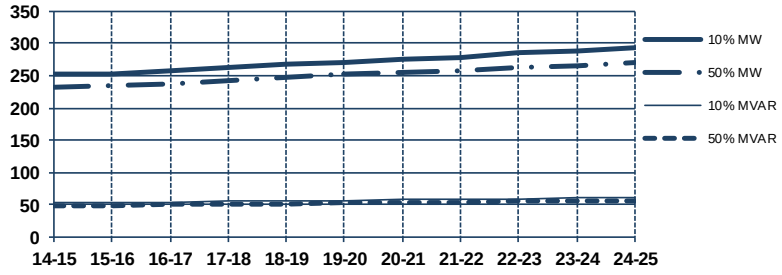
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:30 | 238.9 | 48.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 251.2 | 53.5 | 233.2 | 49.5 |
| 15-16 | 251.7 | 53.6 | 233.5 | 49.6 |
| 16-17 | 256.7 | 54.5 | 237.1 | 50.2 |
| 17-18 | 262.1 | 55.6 | 242.7 | 51.3 |
| 18-19 | 268.3 | 56.7 | 247.0 | 52.1 |
| 19-20 | 271.3 | 57.3 | 251.4 | 52.9 |
| 20-21 | 274.4 | 57.9 | 254.3 | 53.5 |
| 21-22 | 278.1 | 58.6 | 257.5 | 54.1 |
| 22-23 | 284.5 | 59.8 | 261.6 | 54.9 |
| 23-24 | 288.9 | 60.6 | 265.9 | 55.7 |
| 24-25 | 293.0 | 61.4 | 270.0 | 56.4 |

***Load Curve on High Demand Day***




***Forecast***

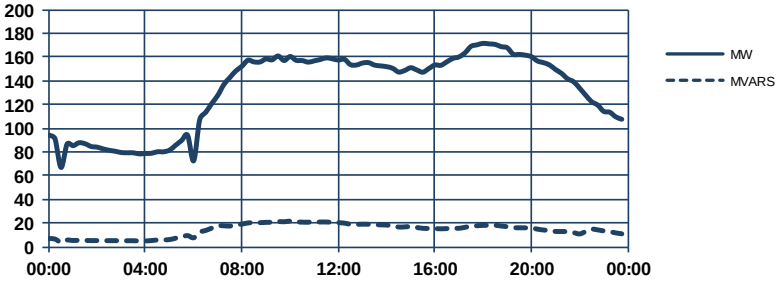



## *Winter Demand*

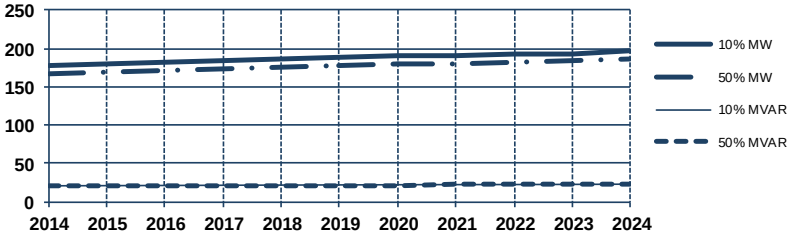
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 171.9 | 21.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 177.1 | 21.4 | 167.4 | 20.2 |
| 2015 | 179.0 | 21.7 | 169.4 | 20.5 |
| 2016 | 181.0 | 21.9 | 171.3 | 20.7 |
| 2017 | 183.3 | 22.2 | 173.5 | 21.0 |
| 2018 | 185.7 | 22.4 | 175.8 | 21.2 |
| 2019 | 187.6 | 22.7 | 177.6 | 21.5 |
| 2020 | 189.5 | 22.9 | 179.4 | 21.7 |
| 2021 | 191.0 | 23.1 | 180.8 | 21.8 |
| 2022 | 192.0 | 23.2 | 181.7 | 21.9 |
| 2023 | 193.6 | 23.4 | 183.2 | 22.1 |
| 2024 | 196.3 | 23.7 | 185.7 | 22.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

Buses 1 and 2 at ERTS.

*For embedded generation details, please see section 3.2.*

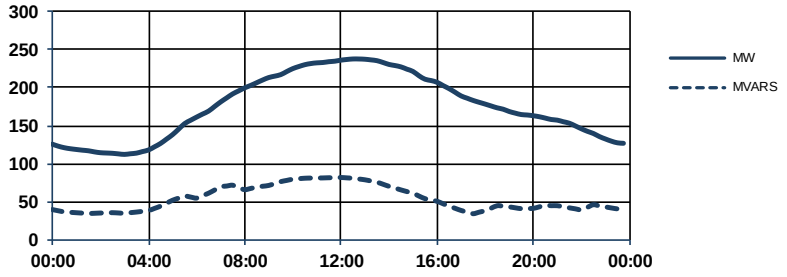
# ERTS3466: East Rowville Terminal Station buses 3&4 66 kV bus

## Summer Demand

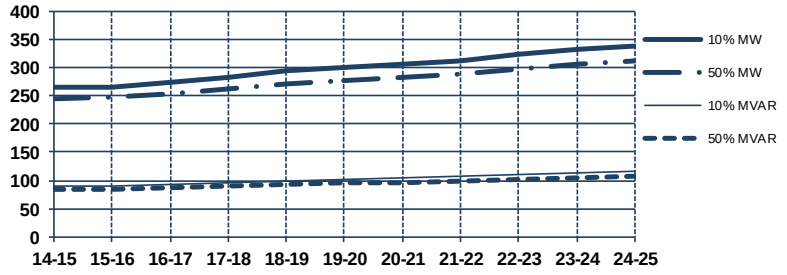
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 07:30 | 238.5 | 82.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 263.6 | 90.0 | 245.7 | 84.0 |
| 15-16 | 264.8 | 90.4 | 246.6 | 84.3 |
| 16-17 | 273.1 | 93.3 | 252.7 | 86.4 |
| 17-18 | 282.0 | 96.4 | 261.8 | 89.6 |
| 18-19 | 292.9 | 100.2 | 269.8 | 92.4 |
| 19-20 | 298.9 | 102.2 | 277.7 | 95.1 |
| 20-21 | 305.4 | 104.4 | 283.8 | 97.2 |
| 21-22 | 312.2 | 106.8 | 289.8 | 99.2 |
| 22-23 | 323.8 | 110.7 | 297.6 | 101.9 |
| 23-24 | 331.4 | 113.3 | 304.9 | 104.4 |
| 24-25 | 338.4 | 115.8 | 311.7 | 106.7 |

***Load Curve on High Demand Day***




***Forecast***

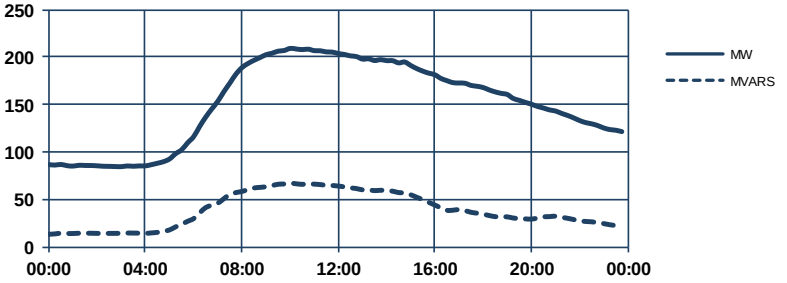



## Winter Demand

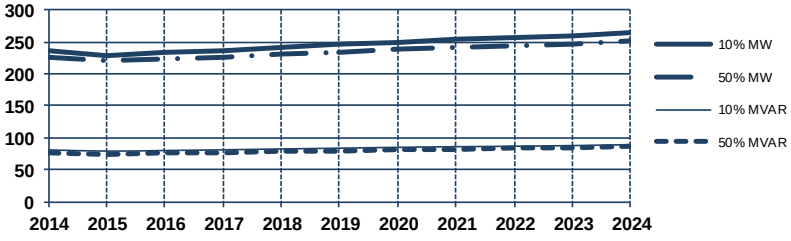
| 2013 MD | MW | MVAR |
|---|---|---|
| 31 Jul 2013 09:30 | 208.6 | 66.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 236.3 | 80.1 | 225.5 | 76.5 |
| 2015 | 229.8 | 77.9 | 219.5 | 74.4 |
| 2016 | 233.1 | 79.0 | 222.6 | 75.5 |
| 2017 | 236.9 | 80.3 | 226.3 | 76.7 |
| 2018 | 241.6 | 81.9 | 230.7 | 78.2 |
| 2019 | 245.8 | 83.3 | 234.7 | 79.6 |
| 2020 | 250.4 | 84.9 | 238.9 | 81.0 |
| 2021 | 253.9 | 86.1 | 242.1 | 82.1 |
| 2022 | 256.6 | 87.0 | 244.5 | 82.9 |
| 2023 | 260.1 | 88.1 | 247.7 | 84.0 |
| 2024 | 265.4 | 89.9 | 252.7 | 85.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Buses 3 and 4 at ERTS. Approximately 6 MW of demand will be transferred away from ERTS to HTS in 2014–15 when the new Keysborough zone substation is commissioned.

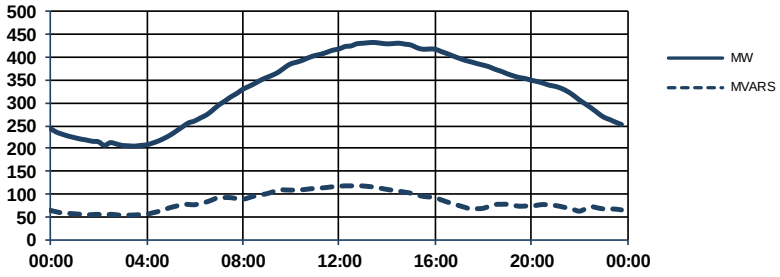
# ERTS66: East Rowville Terminal Station 66 kV bus

## *Summer Demand*

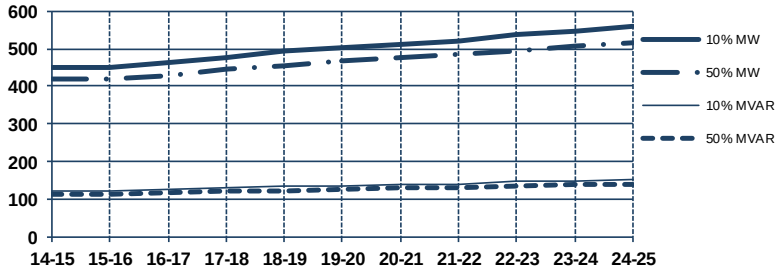
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 17:30 | 433.6 | 117.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 449.3 | 122.2 | 419.4 | 114.2 |
| 15-16 | 450.8 | 122.6 | 420.4 | 114.5 |
| 16-17 | 463.3 | 126.1 | 429.5 | 117.0 |
| 17-18 | 476.8 | 129.9 | 443.5 | 121.0 |
| 18-19 | 493.0 | 134.4 | 455.1 | 124.2 |
| 19-20 | 501.4 | 136.7 | 466.6 | 127.4 |
| 20-21 | 510.2 | 139.2 | 475.0 | 129.7 |
| 21-22 | 519.9 | 141.9 | 483.4 | 132.1 |
| 22-23 | 536.9 | 146.6 | 494.6 | 135.2 |
| 23-24 | 548.1 | 149.7 | 505.4 | 138.2 |
| 24-25 | 558.4 | 152.6 | 515.6 | 141.0 |

***Load Curve on High Demand Day***




***Forecast***

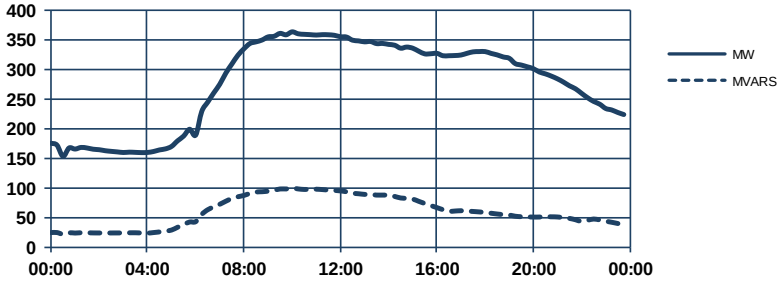



## *Winter Demand*

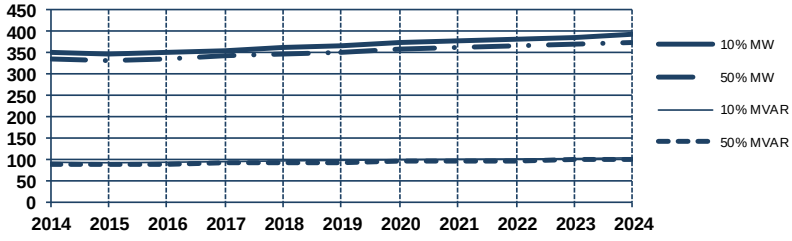
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Jun 2013 09:00 | 363.7 | 99.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 350.0 | 91.8 | 335.4 | 88.4 |
| 2015 | 345.3 | 90.4 | 331.4 | 87.2 |
| 2016 | 350.1 | 91.7 | 335.9 | 88.5 |
| 2017 | 355.8 | 93.3 | 341.3 | 90.0 |
| 2018 | 362.2 | 95.1 | 347.4 | 91.7 |
| 2019 | 367.6 | 96.5 | 352.5 | 93.1 |
| 2020 | 373.1 | 98.0 | 357.7 | 94.5 |
| 2021 | 377.3 | 99.1 | 361.5 | 95.5 |
| 2022 | 380.2 | 99.9 | 364.2 | 96.2 |
| 2023 | 384.6 | 101.1 | 368.3 | 97.3 |
| 2024 | 391.7 | 103.0 | 375.0 | 99.2 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Approximately 6 MW of demand will be transferred away from ERTS to HTS in 2014–15 when the new Keysborough zone substation is commissioned.

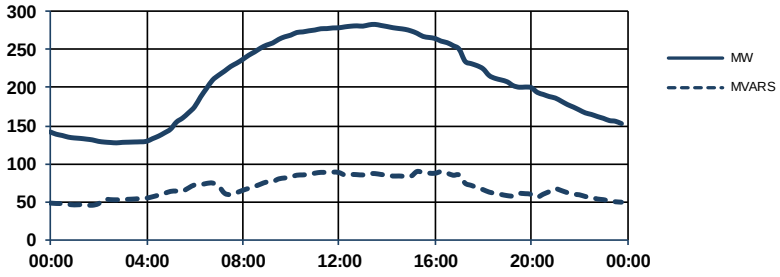
# FBTS66: Fishermans Bend Terminal Station 66 kV bus

## *Summer Demand*

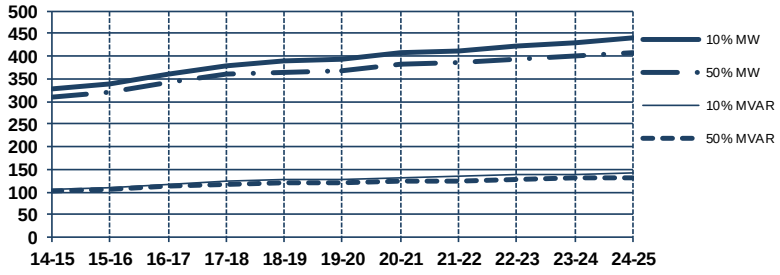
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 14:00 | 282.5 | 89.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 326.2 | 106.0 | 309.2 | 100.4 |
| 15-16 | 339.7 | 110.4 | 322.1 | 104.6 |
| 16-17 | 360.8 | 117.2 | 342.3 | 111.2 |
| 17-18 | 380.4 | 123.6 | 360.2 | 117.0 |
| 18-19 | 390.2 | 126.7 | 365.9 | 118.9 |
| 19-20 | 393.0 | 127.6 | 369.2 | 119.9 |
| 20-21 | 406.4 | 132.0 | 382.3 | 124.2 |
| 21-22 | 412.2 | 133.9 | 385.4 | 125.2 |
| 22-23 | 420.7 | 136.7 | 391.9 | 127.3 |
| 23-24 | 430.4 | 139.8 | 398.7 | 129.5 |
| 24-25 | 439.3 | 142.7 | 406.1 | 131.9 |

***Load Curve on High Demand Day***




***Forecast***

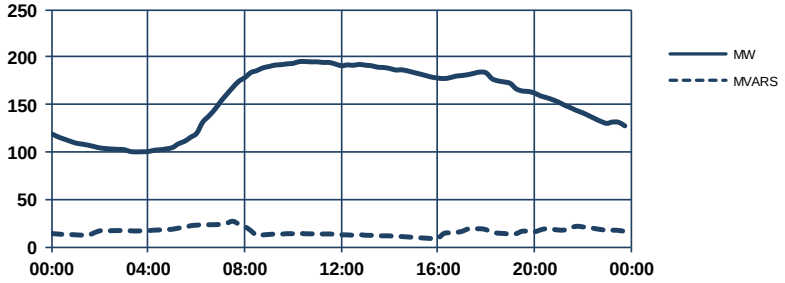



## *Winter Demand*

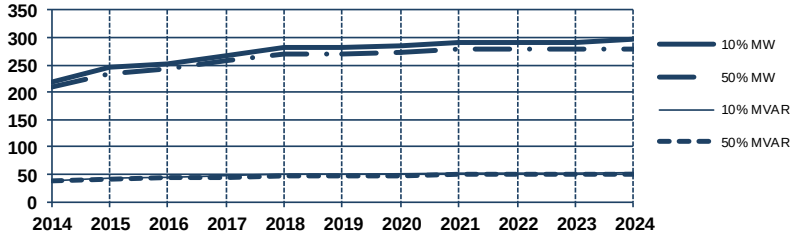
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:30 | 195.5 | 27.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 218.6 | 38.6 | 208.4 | 36.8 |
| 2015 | 244.3 | 43.2 | 233.7 | 41.3 |
| 2016 | 252.1 | 44.5 | 241.8 | 42.7 |
| 2017 | 268.0 | 47.4 | 256.9 | 45.4 |
| 2018 | 282.2 | 49.9 | 269.2 | 47.6 |
| 2019 | 282.6 | 49.9 | 271.1 | 47.9 |
| 2020 | 285.8 | 50.5 | 271.4 | 48.0 |
| 2021 | 291.4 | 51.5 | 279.3 | 49.4 |
| 2022 | 291.8 | 51.6 | 278.1 | 49.1 |
| 2023 | 292.0 | 51.6 | 278.6 | 49.2 |
| 2024 | 296.6 | 52.4 | 278.4 | 49.2 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

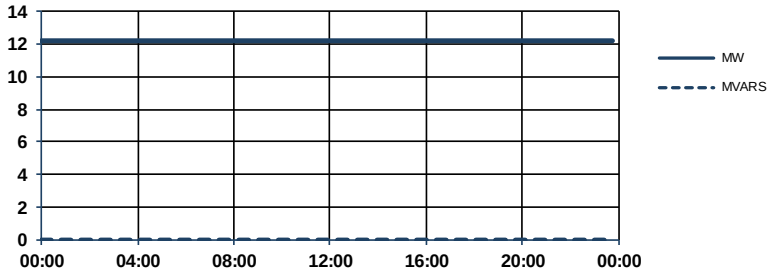
# FVTS220: Fosterville Terminal Station 220 kV bus

## *Summer Demand*

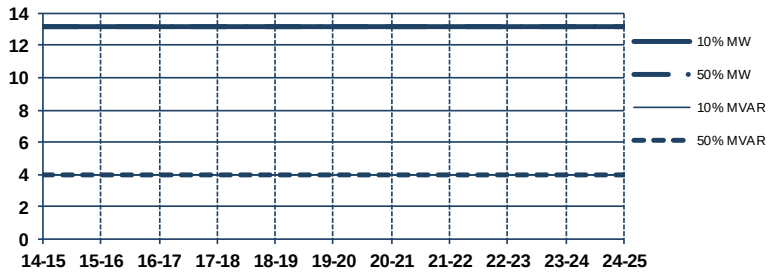
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 22 Feb 2014 20:30 | 12.2 | 0.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 13.2 | 4.0 | 13.2 | 4.0 |
| 15-16 | 13.2 | 4.0 | 13.2 | 4.0 |
| 16-17 | 13.2 | 4.0 | 13.2 | 4.0 |
| 17-18 | 13.2 | 4.0 | 13.2 | 4.0 |
| 18-19 | 13.2 | 4.0 | 13.2 | 4.0 |
| 19-20 | 13.2 | 4.0 | 13.2 | 4.0 |
| 20-21 | 13.2 | 4.0 | 13.2 | 4.0 |
| 21-22 | 13.2 | 4.0 | 13.2 | 4.0 |
| 22-23 | 13.2 | 4.0 | 13.2 | 4.0 |
| 23-24 | 13.2 | 4.0 | 13.2 | 4.0 |
| 24-25 | 13.2 | 4.0 | 13.2 | 4.0 |

***Load Curve on High Demand Day***




***Forecast***

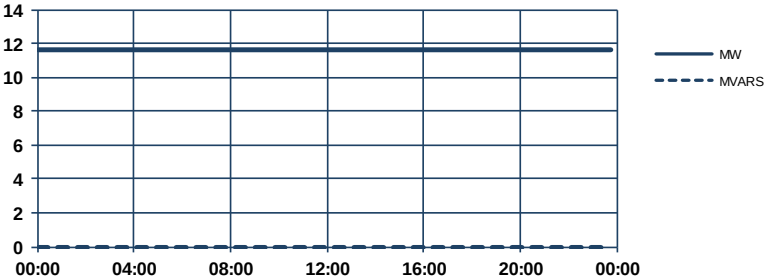



## *Winter Demand*

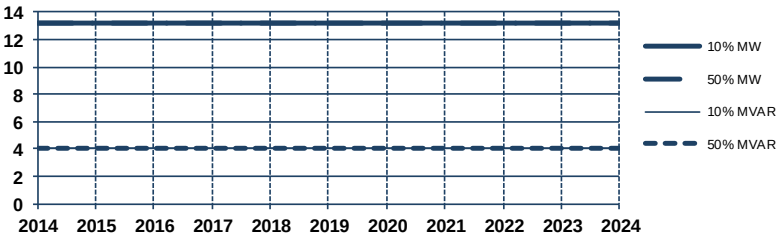
| 2013 MD | MW | MVAR |
|---|---|---|
| 13 Jul 2013 17:00 | 11.7 | 0.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2015 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2016 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2017 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2018 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2019 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2020 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2021 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2022 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2023 | 13.2 | 4.0 | 13.2 | 4.0 |
| 2024 | 13.2 | 4.0 | 13.2 | 4.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2 on page 70.*

The Forestville gold mine is directly connected to this terminal station.

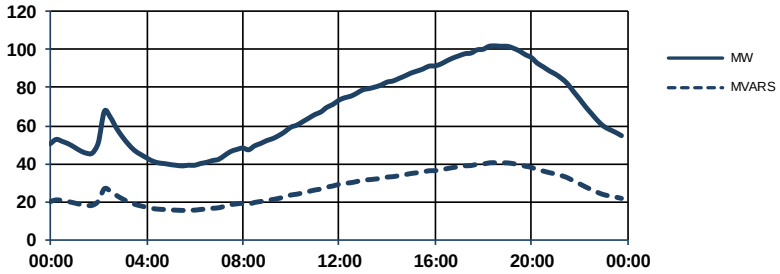
# GNTS66: Glenrowan Terminal Station 66 kV bus

## *Summer Demand*

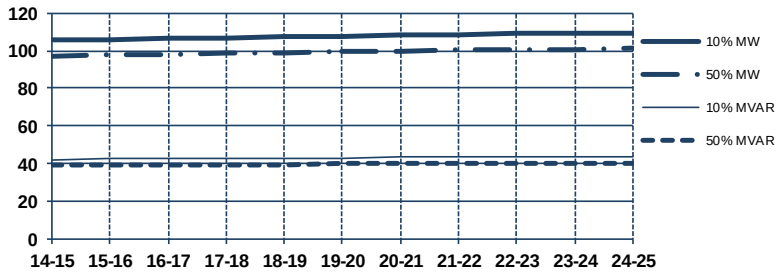
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 18:00 | 101.6 | 40.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 105.6 | 42.3 | 97.3 | 39.0 |
| 15-16 | 106.1 | 42.5 | 97.8 | 39.2 |
| 16-17 | 106.5 | 42.7 | 98.2 | 39.3 |
| 17-18 | 107.0 | 42.8 | 98.6 | 39.5 |
| 18-19 | 107.3 | 43.0 | 99.0 | 39.7 |
| 19-20 | 107.7 | 43.1 | 99.4 | 39.8 |
| 20-21 | 108.1 | 43.3 | 99.7 | 39.9 |
| 21-22 | 108.4 | 43.4 | 100.1 | 40.1 |
| 22-23 | 108.8 | 43.6 | 100.4 | 40.2 |
| 23-24 | 109.2 | 43.7 | 100.8 | 40.4 |
| 24-25 | 109.6 | 43.9 | 101.2 | 40.5 |

***Load Curve on High Demand Day***




***Forecast***

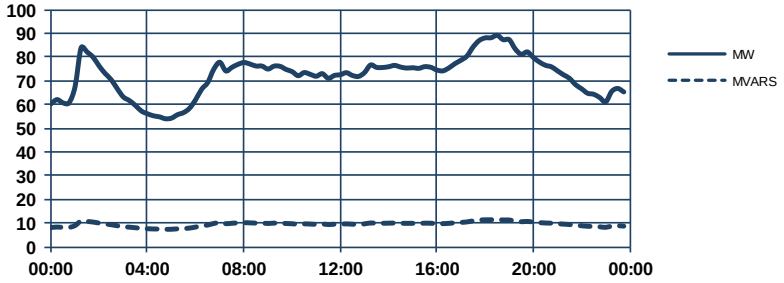



## *Winter Demand*

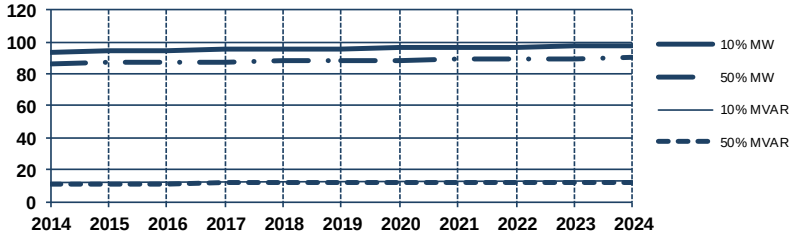
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Jul 2013 02:00 | 89.3 | 11.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 94.0 | 12.3 | 86.6 | 11.3 |
| 2015 | 94.4 | 12.3 | 87.0 | 11.4 |
| 2016 | 94.8 | 12.4 | 87.4 | 11.4 |
| 2017 | 95.2 | 12.4 | 87.8 | 11.5 |
| 2018 | 95.5 | 12.5 | 88.1 | 11.5 |
| 2019 | 95.8 | 12.5 | 88.4 | 11.6 |
| 2020 | 96.2 | 12.6 | 88.7 | 11.6 |
| 2021 | 96.5 | 12.6 | 89.0 | 11.6 |
| 2022 | 96.8 | 12.7 | 89.4 | 11.7 |
| 2023 | 97.2 | 12.7 | 89.7 | 11.7 |
| 2024 | 97.5 | 12.8 | 90.0 | 11.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

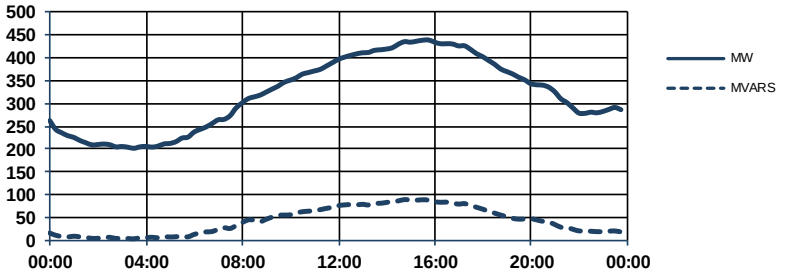
# GTS66: Geelong Terminal Station 66 kV bus

## *Summer Demand*

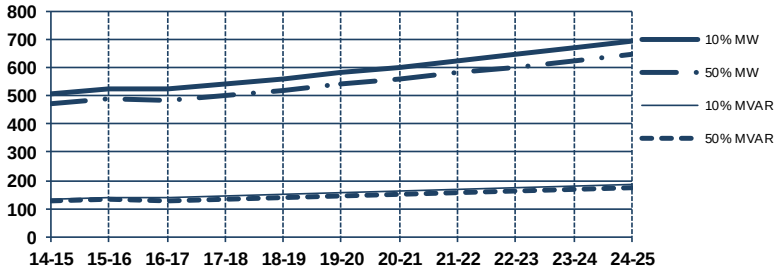
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 15:30 | 440.6 | 90.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **14-15** | 506.1 | 136.7 | 472.2 | 127.5 |
| **15-16** | 526.9 | 142.3 | 491.7 | 132.8 |
| **16-17** | 521.9 | 140.9 | 485.2 | 131.0 |
| **17-18** | 541.1 | 146.1 | 502.9 | 135.8 |
| **18-19** | 560.9 | 151.4 | 521.3 | 140.7 |
| **19-20** | 581.5 | 157.0 | 540.3 | 145.9 |
| **20-21** | 602.9 | 162.8 | 560.0 | 151.2 |
| **21-22** | 625.1 | 168.8 | 580.5 | 156.7 |
| **22-23** | 648.1 | 175.0 | 601.7 | 162.5 |
| **23-24** | 672.0 | 181.4 | 623.7 | 168.4 |
| **24-25** | 693.8 | 187.3 | 643.8 | 173.8 |

***Load Curve on High Demand Day***




***Forecast***

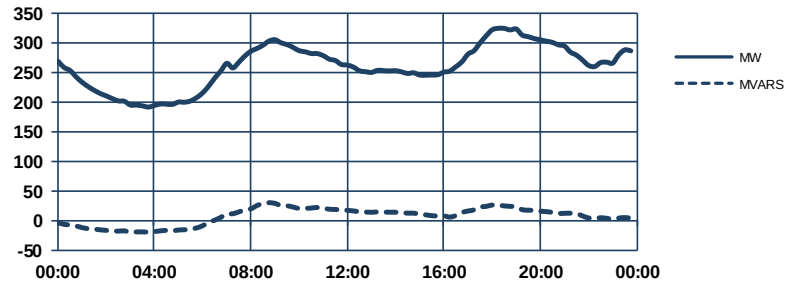



## *Winter Demand*

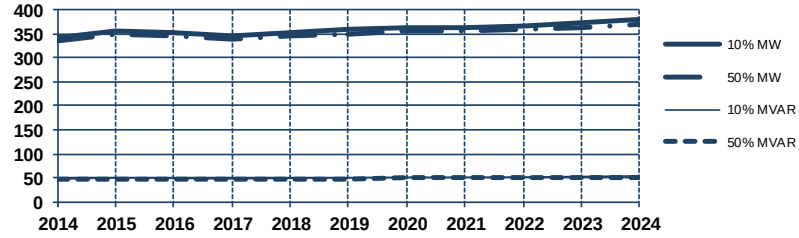
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Jul 2013 18:30 | 323.8 | 30.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **2014** | 343.3 | 47.4 | 335.4 | 46.3 |
| **2015** | 357.8 | 49.4 | 349.5 | 48.2 |
| **2016** | 353.4 | 48.8 | 345.3 | 47.7 |
| **2017** | 347.7 | 48.0 | 339.1 | 46.8 |
| **2018** | 354.5 | 48.9 | 345.5 | 47.7 |
| **2019** | 358.9 | 49.5 | 350.8 | 48.4 |
| **2020** | 362.8 | 50.1 | 354.7 | 49.0 |
| **2021** | 363.6 | 50.2 | 355.8 | 49.1 |
| **2022** | 366.6 | 50.6 | 359.3 | 49.6 |
| **2023** | 372.8 | 51.4 | 364.7 | 50.3 |
| **2024** | 379.1 | 52.3 | 370.2 | 51.1 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

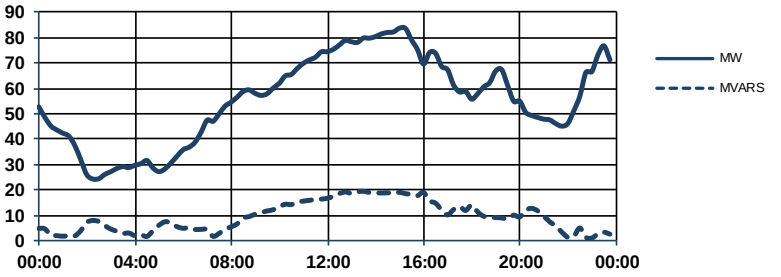
# HOTS66: Horsham Terminal Station 66 kV bus

## *Summer Demand*

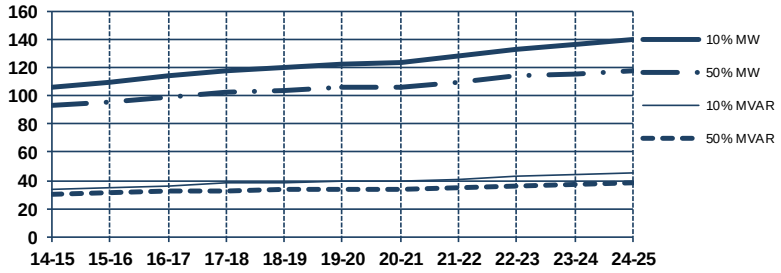
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 15:00 | 83.5 | 19.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 106.6 | 34.3 | 93.6 | 30.1 |
| 15-16 | 109.8 | 35.3 | 96.1 | 30.9 |
| 16-17 | 113.8 | 36.7 | 99.6 | 32.1 |
| 17-18 | 118.2 | 38.0 | 103.0 | 33.2 |
| 18-19 | 119.6 | 38.5 | 103.5 | 33.3 |
| 19-20 | 122.5 | 39.5 | 106.4 | 34.3 |
| 20-21 | 123.8 | 39.9 | 106.4 | 34.3 |
| 21-22 | 127.6 | 41.1 | 110.1 | 35.4 |
| 22-23 | 132.6 | 42.7 | 113.8 | 36.6 |
| 23-24 | 136.1 | 43.8 | 115.5 | 37.2 |
| 24-25 | 139.3 | 44.9 | 118.1 | 38.0 |

***Load Curve on High Demand Day***




***Forecast***

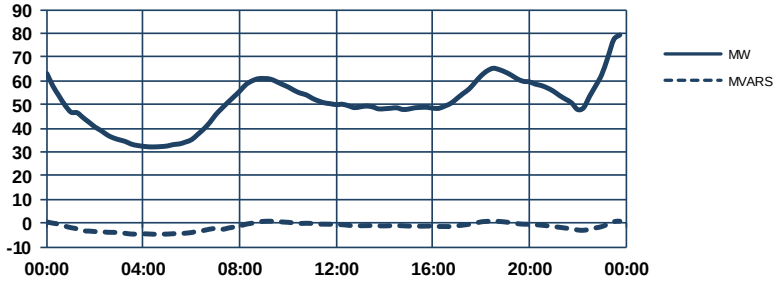



## *Winter Demand*

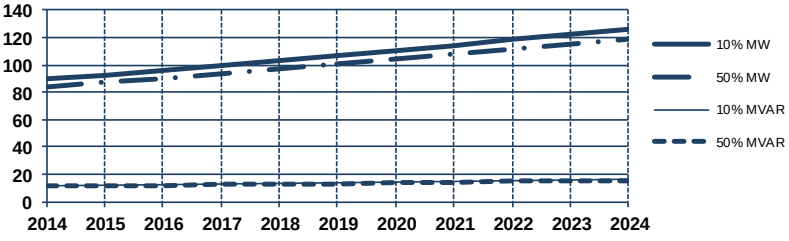
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Jul 2013 00:00 | 79.0 | 1.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 89.2 | 11.8 | 84.1 | 11.1 |
| 2015 | 92.5 | 12.2 | 87.2 | 11.5 |
| 2016 | 95.9 | 12.7 | 90.3 | 11.9 |
| 2017 | 99.4 | 13.1 | 93.6 | 12.4 |
| 2018 | 103.0 | 13.6 | 96.9 | 12.8 |
| 2019 | 106.6 | 14.1 | 100.4 | 13.2 |
| 2020 | 110.4 | 14.6 | 103.9 | 13.7 |
| 2021 | 114.3 | 15.1 | 107.5 | 14.2 |
| 2022 | 118.2 | 15.6 | 111.2 | 14.7 |
| 2023 | 122.3 | 16.1 | 115.0 | 15.2 |
| 2024 | 126.5 | 16.7 | 118.9 | 15.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

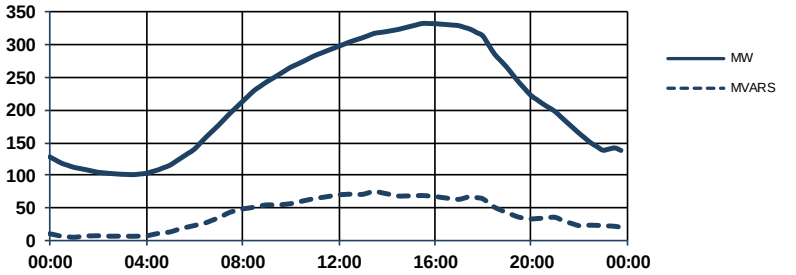
# HTS66: Heatherton Terminal Station 66 kV bus

## *Summer Demand*

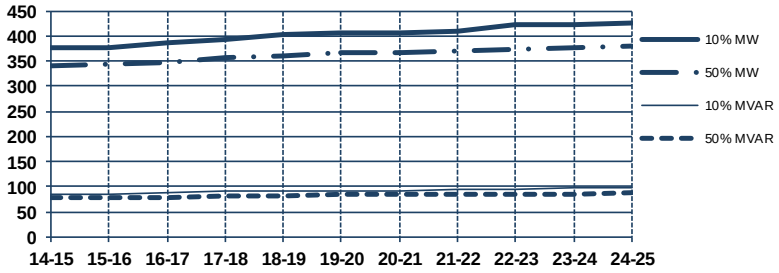
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 15:30 | 331.8 | 76.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **14-15** | 376.6 | 86.3 | 342.4 | 78.4 |
| **15-16** | 378.3 | 86.7 | 343.3 | 78.6 |
| **16-17** | 385.5 | 88.3 | 347.0 | 79.5 |
| **17-18** | 394.5 | 90.4 | 356.2 | 81.6 |
| **18-19** | 404.6 | 92.7 | 361.6 | 82.8 |
| **19-20** | 405.7 | 92.9 | 366.0 | 83.8 |
| **20-21** | 406.8 | 93.2 | 367.0 | 84.1 |
| **21-22** | 411.1 | 94.2 | 370.0 | 84.8 |
| **22-23** | 421.4 | 96.5 | 374.5 | 85.8 |
| **23-24** | 423.8 | 97.1 | 376.7 | 86.3 |
| **24-25** | 426.4 | 97.7 | 379.3 | 86.9 |

***Load Curve on High Demand Day***




***Forecast***

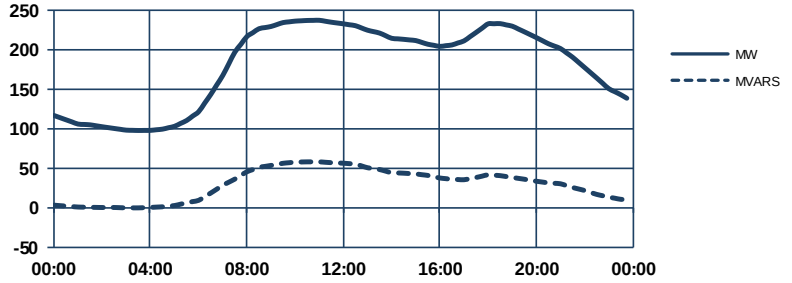



## *Winter Demand*

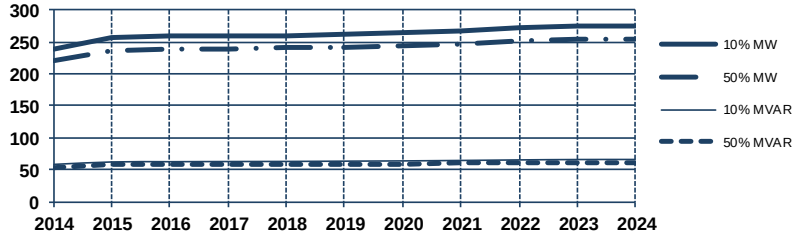
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 11:00 | 236.1 | 57.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **2014** | 239.5 | 58.1 | 221.8 | 53.8 |
| **2015** | 256.9 | 62.3 | 236.6 | 57.4 |
| **2016** | 258.6 | 62.7 | 238.4 | 57.8 |
| **2017** | 259.8 | 63.0 | 239.8 | 58.2 |
| **2018** | 260.7 | 63.2 | 240.7 | 58.4 |
| **2019** | 262.5 | 63.7 | 242.7 | 58.9 |
| **2020** | 264.4 | 64.1 | 244.6 | 59.3 |
| **2021** | 267.4 | 64.9 | 247.7 | 60.1 |
| **2022** | 271.3 | 65.8 | 251.6 | 61.0 |
| **2023** | 274.1 | 66.5 | 254.4 | 61.7 |
| **2024** | 274.4 | 66.6 | 255.0 | 61.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Approximately 24 MW of demand will be transferred onto HTS in 2014–15 from SVTS and ERTS when the new Keysborough zone substation is commissioned.

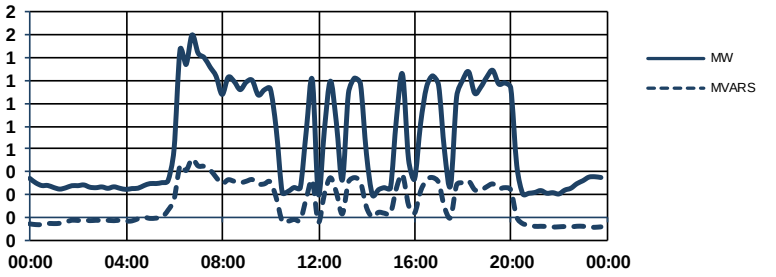
# HYTS22: Heywood Terminal Station 22 kV bus

## *Summer Demand*

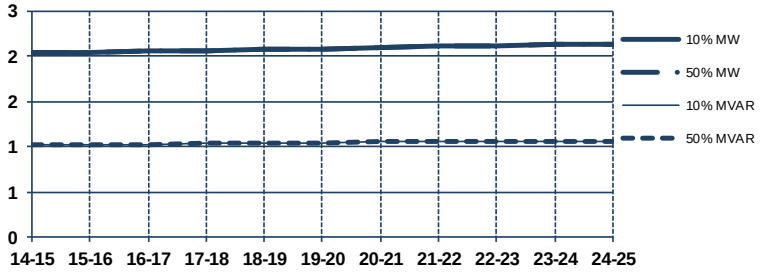
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 21 Mar 2014 07:00 | 1.6 | 0.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 2.0 | 1.0 | 2.0 | 1.0 |
| 15-16 | 2.0 | 1.0 | 2.0 | 1.0 |
| 16-17 | 2.1 | 1.0 | 2.1 | 1.0 |
| 17-18 | 2.1 | 1.0 | 2.1 | 1.0 |
| 18-19 | 2.1 | 1.0 | 2.1 | 1.0 |
| 19-20 | 2.1 | 1.0 | 2.1 | 1.0 |
| 20-21 | 2.1 | 1.0 | 2.1 | 1.0 |
| 21-22 | 2.1 | 1.1 | 2.1 | 1.1 |
| 22-23 | 2.1 | 1.1 | 2.1 | 1.1 |
| 23-24 | 2.1 | 1.1 | 2.1 | 1.1 |
| 24-25 | 2.1 | 1.1 | 2.1 | 1.1 |

***Load Curve on High Demand Day***




***Forecast***

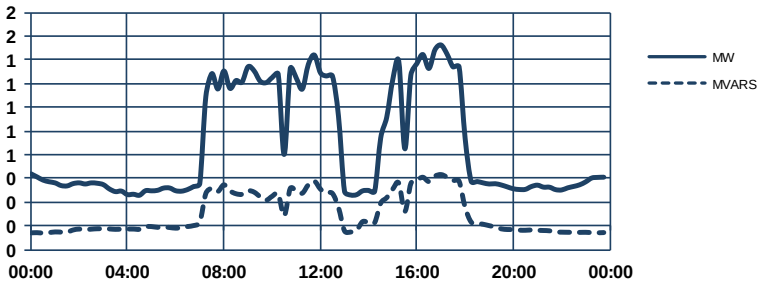



## *Winter Demand*

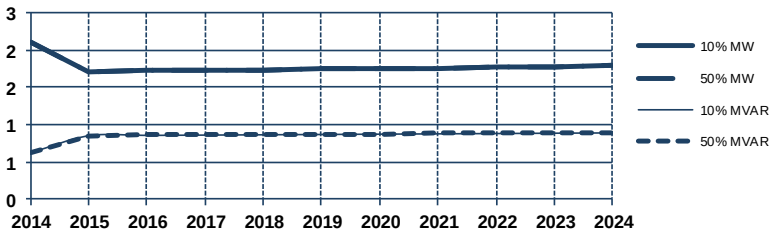
| 2013 MD | MW | MVAR |
|---|---|---|
| 25 Oct 2013 07:00 | 1.5 | 0.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 2.1 | 0.6 | 2.1 | 0.6 |
| 2015 | 1.7 | 0.9 | 1.7 | 0.9 |
| 2016 | 1.7 | 0.9 | 1.7 | 0.9 |
| 2017 | 1.7 | 0.9 | 1.7 | 0.9 |
| 2018 | 1.7 | 0.9 | 1.7 | 0.9 |
| 2019 | 1.7 | 0.9 | 1.7 | 0.9 |
| 2020 | 1.8 | 0.9 | 1.8 | 0.9 |
| 2021 | 1.8 | 0.9 | 1.8 | 0.9 |
| 2022 | 1.8 | 0.9 | 1.8 | 0.9 |
| 2023 | 1.8 | 0.9 | 1.8 | 0.9 |
| 2024 | 1.8 | 0.9 | 1.8 | 0.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

HYTS 22 kV supply was established in 2009. The terminal station mainly consist of industrial and agricultural load.

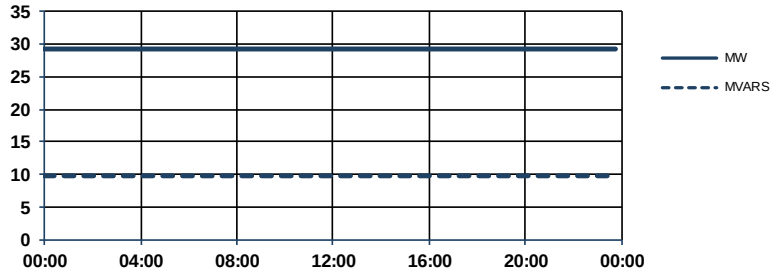
# JLA220: John Lysaght 220 kV bus

## *Summer Demand*

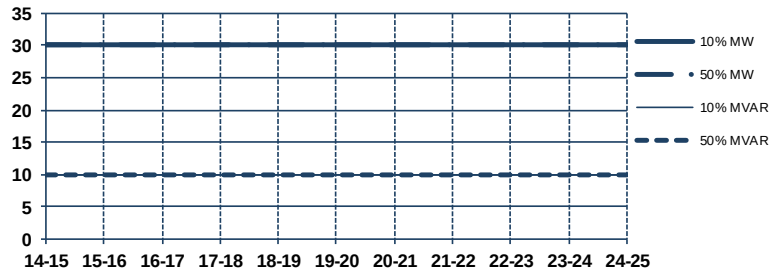
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 12 Mar 2014 18:30 | 29.3 | 9.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 30.0 | 10.0 | 30.0 | 10.0 |
| 15-16 | 30.0 | 10.0 | 30.0 | 10.0 |
| 16-17 | 30.0 | 10.0 | 30.0 | 10.0 |
| 17-18 | 30.0 | 10.0 | 30.0 | 10.0 |
| 18-19 | 30.0 | 10.0 | 30.0 | 10.0 |
| 19-20 | 30.0 | 10.0 | 30.0 | 10.0 |
| 20-21 | 30.0 | 10.0 | 30.0 | 10.0 |
| 21-22 | 30.0 | 10.0 | 30.0 | 10.0 |
| 22-23 | 30.0 | 10.0 | 30.0 | 10.0 |
| 23-24 | 30.0 | 10.0 | 30.0 | 10.0 |
| 24-25 | 30.0 | 10.0 | 30.0 | 10.0 |

***Load Curve on High Demand Day***




***Forecast***

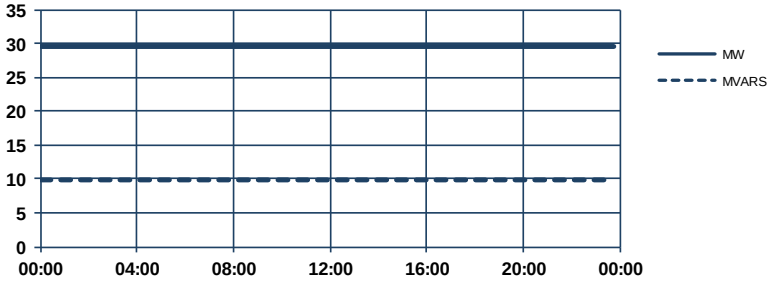



## *Winter Demand*

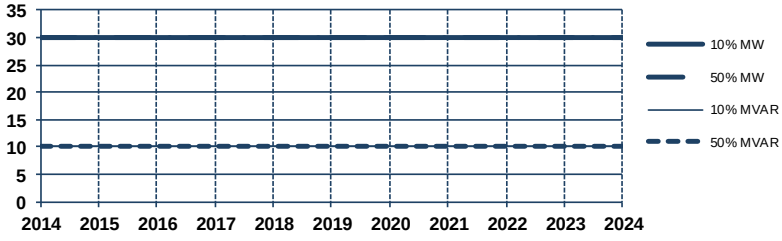
| 2013 MD | MW | MVAR |
|---|---|---|
| 11 Jul 2013 12:00 | 29.6 | 9.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2015 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2016 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2017 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2018 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2019 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2020 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2021 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2022 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2023 | 30.0 | 10.0 | 30.0 | 10.0 |
| 2024 | 30.0 | 10.0 | 30.0 | 10.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2 on page 70.*

This load is a direct-connect customer, near Tyabb Terminal Station.

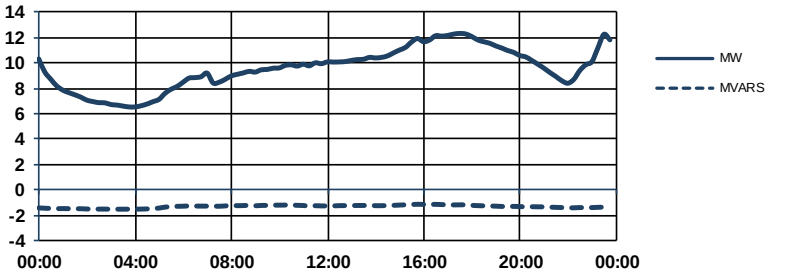
# KGTS22: Kerang Terminal Station 22 kV bus

## *Summer Demand*

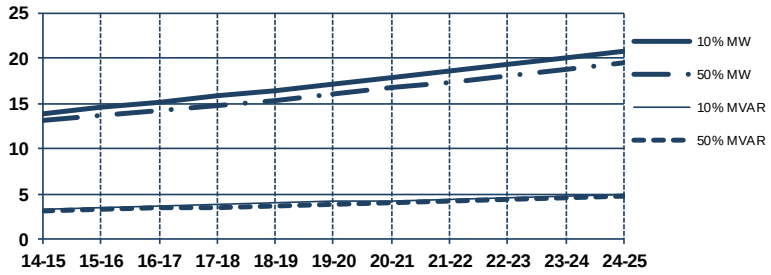
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 17:30 | 12.4 | -1.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 13.9 | 3.3 | 13.0 | 3.1 |
| 15-16 | 14.5 | 3.5 | 13.6 | 3.3 |
| 16-17 | 15.1 | 3.6 | 14.2 | 3.4 |
| 17-18 | 15.8 | 3.8 | 14.8 | 3.5 |
| 18-19 | 16.4 | 3.9 | 15.4 | 3.7 |
| 19-20 | 17.1 | 4.1 | 16.0 | 3.8 |
| 20-21 | 17.8 | 4.3 | 16.7 | 4.0 |
| 21-22 | 18.5 | 4.4 | 17.3 | 4.2 |
| 22-23 | 19.2 | 4.6 | 18.0 | 4.3 |
| 23-24 | 20.0 | 4.8 | 18.7 | 4.5 |
| 24-25 | 20.7 | 5.0 | 19.4 | 4.6 |

***Load Curve on High Demand Day***




***Forecast***

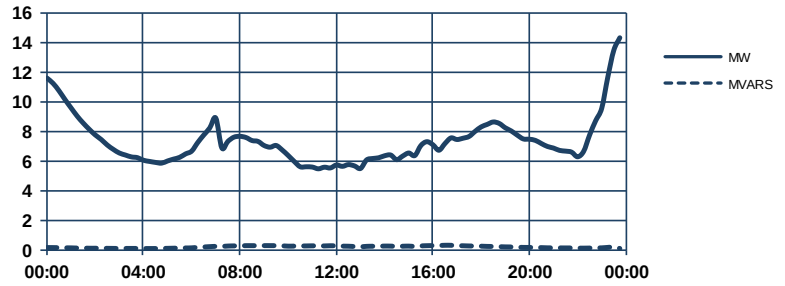



## *Winter Demand*

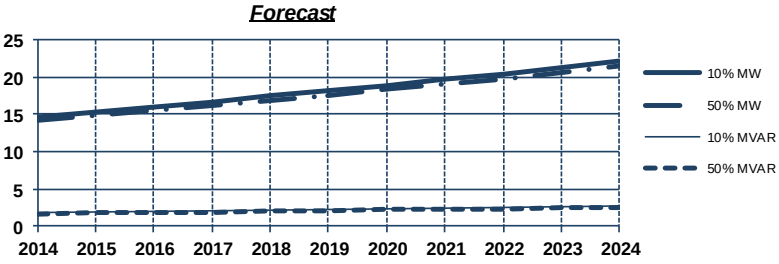
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Aug 2013 00:00 | 14.3 | 0.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 14.8 | 1.8 | 14.3 | 1.7 |
| 2015 | 15.4 | 1.9 | 14.9 | 1.8 |
| 2016 | 16.0 | 1.9 | 15.6 | 1.9 |
| 2017 | 16.7 | 2.0 | 16.2 | 2.0 |
| 2018 | 17.4 | 2.1 | 16.9 | 2.0 |
| 2019 | 18.1 | 2.2 | 17.6 | 2.1 |
| 2020 | 18.9 | 2.3 | 18.3 | 2.2 |
| 2021 | 19.6 | 2.4 | 19.1 | 2.3 |
| 2022 | 20.4 | 2.5 | 19.8 | 2.4 |
| 2023 | 21.3 | 2.6 | 20.6 | 2.5 |
| 2024 | 22.1 | 2.7 | 21.4 | 2.6 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

This includes only the 22 kV demand at KGTS.

*For embedded generation details, please see section 3.2.*

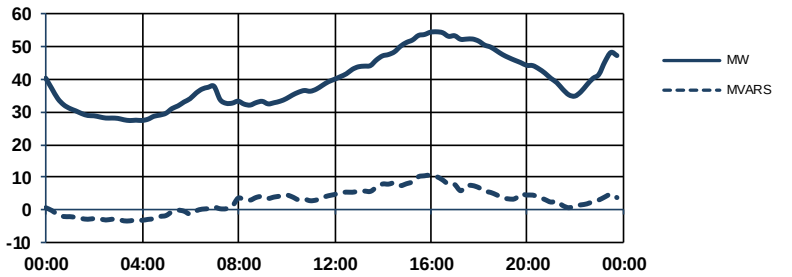
# KGTS66: Kerang Terminal Station 66 kV bus

## *Summer Demand*

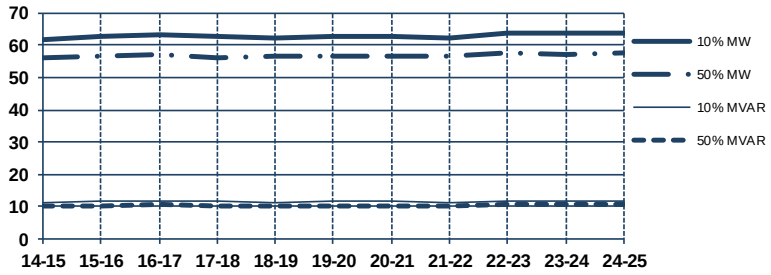
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 30 Jan 2014 16:30 | 54.6 | 10.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 61.5 | 11.3 | 56.0 | 10.3 |
| 15-16 | 62.7 | 11.5 | 56.8 | 10.4 |
| 16-17 | 63.1 | 11.6 | 56.9 | 10.5 |
| 17-18 | 62.5 | 11.5 | 56.3 | 10.3 |
| 18-19 | 62.4 | 11.5 | 56.4 | 10.4 |
| 19-20 | 62.5 | 11.5 | 56.6 | 10.4 |
| 20-21 | 62.5 | 11.5 | 56.5 | 10.4 |
| 21-22 | 62.2 | 11.4 | 56.6 | 10.4 |
| 22-23 | 63.8 | 11.7 | 57.8 | 10.6 |
| 23-24 | 63.5 | 11.7 | 56.9 | 10.5 |
| 24-25 | 63.9 | 11.7 | 57.5 | 10.6 |

***Load Curve on High Demand Day***




***Forecast***

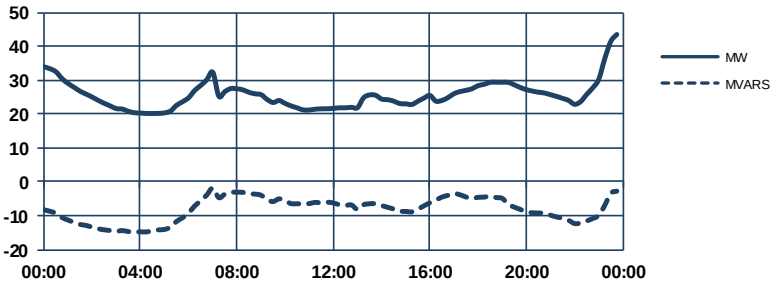



## *Winter Demand*

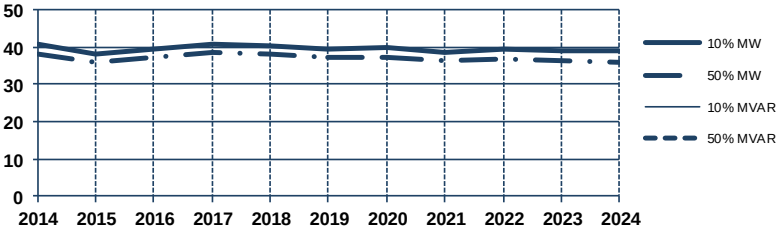
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Aug 2013 00:00 | 43.6 | -2.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 40.8 | -2.7 | 38.0 | -2.5 |
| 2015 | 38.4 | -2.6 | 36.1 | -2.4 |
| 2016 | 39.6 | -2.6 | 37.3 | -2.5 |
| 2017 | 40.9 | -2.7 | 38.5 | -2.6 |
| 2018 | 40.4 | -2.7 | 37.9 | -2.5 |
| 2019 | 39.3 | -2.6 | 37.2 | -2.5 |
| 2020 | 39.7 | -2.6 | 37.3 | -2.5 |
| 2021 | 38.7 | -2.6 | 36.4 | -2.4 |
| 2022 | 39.5 | -2.6 | 36.6 | -2.4 |
| 2023 | 38.9 | -2.6 | 36.4 | -2.4 |
| 2024 | 39.0 | -2.6 | 36.1 | -2.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

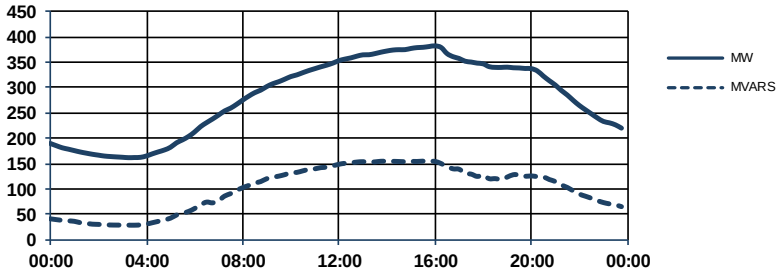
# KTS_East66: Eastern area served by Keilor Terminal Stn. 66 kV bus

## Summer Demand

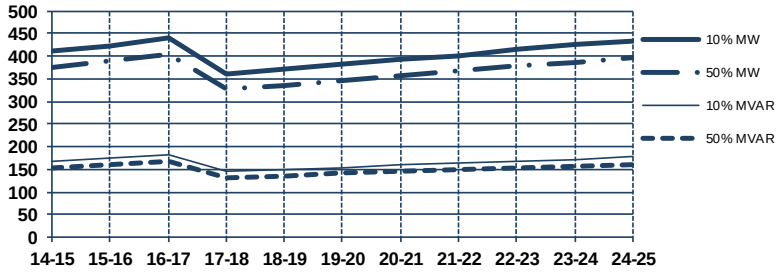
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 14:30 | 382.6 | 156.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 410.2 | 168.4 | 376.0 | 154.4 |
| 15-16 | 423.5 | 174.0 | 388.8 | 159.7 |
| 16-17 | 440.2 | 180.8 | 405.3 | 166.4 |
| 17-18 | 360.0 | 146.0 | 326.9 | 132.4 |
| 18-19 | 370.0 | 150.2 | 336.1 | 136.1 |
| 19-20 | 380.8 | 154.6 | 346.8 | 140.5 |
| 20-21 | 391.9 | 159.2 | 356.4 | 144.4 |
| 21-22 | 401.6 | 163.3 | 367.2 | 148.8 |
| 22-23 | 414.0 | 168.4 | 378.1 | 153.3 |
| 23-24 | 424.2 | 172.7 | 387.6 | 157.3 |
| 24-25 | 433.7 | 176.6 | 395.8 | 160.7 |

***Load Curve on High Demand Day***




***Forecast***

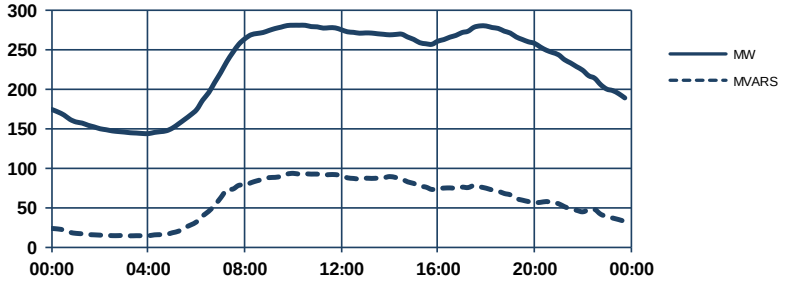



## Winter Demand

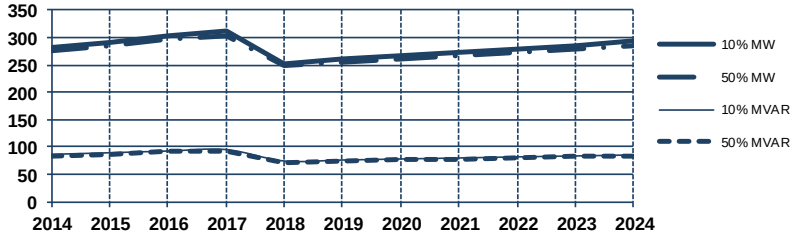
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:30 | 280.3 | 93.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 281.3 | 86.4 | 275.0 | 84.4 |
| 2015 | 291.2 | 89.5 | 284.6 | 87.4 |
| 2016 | 302.3 | 92.8 | 295.4 | 90.7 |
| 2017 | 311.2 | 95.5 | 304.0 | 93.3 |
| 2018 | 252.7 | 73.6 | 247.4 | 72.1 |
| 2019 | 259.3 | 75.5 | 254.1 | 74.0 |
| 2020 | 266.1 | 77.5 | 260.8 | 76.0 |
| 2021 | 272.5 | 79.4 | 267.0 | 77.8 |
| 2022 | 279.8 | 81.6 | 274.0 | 79.9 |
| 2023 | 285.7 | 83.3 | 279.9 | 81.6 |
| 2024 | 292.3 | 85.3 | 285.8 | 83.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

KTS is split for planning purposes. KTS_East is supplied by transformers 1, 2 and 3. Load will be transferred to the new Deer Park 66 kV Terminal Station in November 2017. This transfer has been modelled in this forecast.

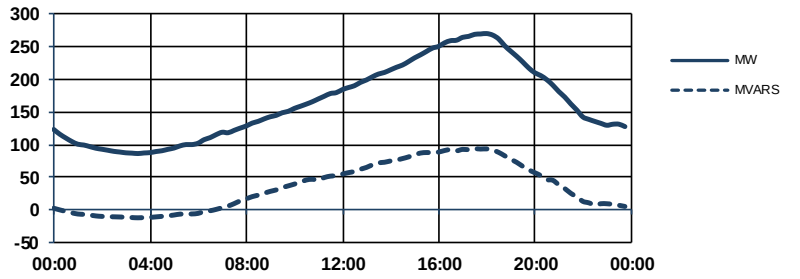
# KTS_West66: Western area served by Keilor Terminal Stn. 66 kV bus

## Summer Demand

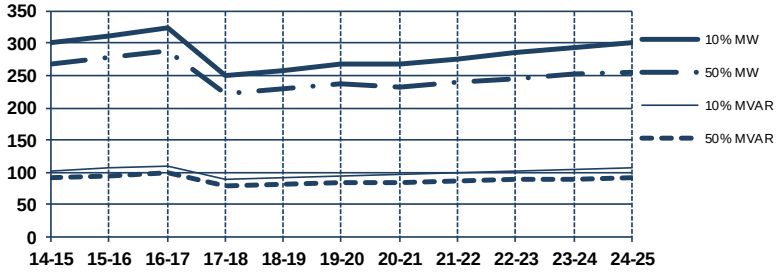
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 18:00 | 270.3 | 93.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 301.6 | 103.2 | 268.8 | 91.9 |
| 15-16 | 311.8 | 106.6 | 277.6 | 94.9 |
| 16-17 | 322.9 | 110.5 | 287.3 | 98.3 |
| 17-18 | 250.4 | 89.2 | 222.8 | 79.3 |
| 18-19 | 258.3 | 92.0 | 229.5 | 81.7 |
| 19-20 | 266.9 | 95.1 | 236.2 | 84.1 |
| 20-21 | 268.3 | 96.0 | 231.9 | 83.1 |
| 21-22 | 276.1 | 98.8 | 238.6 | 85.5 |
| 22-23 | 284.9 | 102.0 | 245.4 | 88.0 |
| 23-24 | 293.3 | 105.0 | 251.9 | 90.4 |
| 24-25 | 301.1 | 107.9 | 256.0 | 92.0 |

***Load Curve on High Demand Day***




***Forecast***

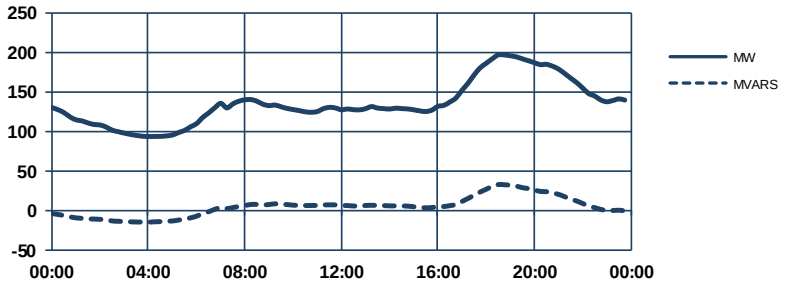



## Winter Demand

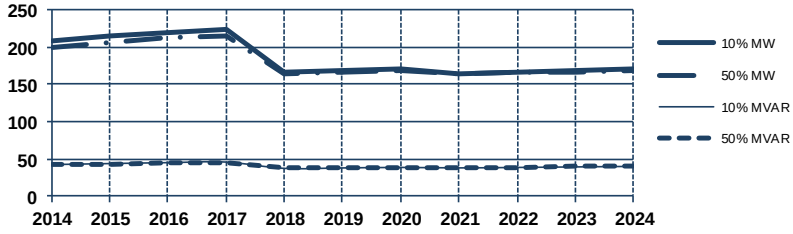
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 197.1 | 31.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 207.8 | 43.6 | 200.5 | 42.0 |
| 2015 | 214.4 | 45.0 | 206.8 | 43.4 |
| 2016 | 220.0 | 46.2 | 212.0 | 44.5 |
| 2017 | 222.9 | 47.0 | 214.9 | 45.3 |
| 2018 | 166.6 | 38.3 | 165.0 | 37.6 |
| 2019 | 168.5 | 38.9 | 166.7 | 38.2 |
| 2020 | 170.8 | 39.6 | 168.8 | 38.8 |
| 2021 | 164.8 | 39.0 | 163.7 | 38.3 |
| 2022 | 166.4 | 39.6 | 165.5 | 38.9 |
| 2023 | 168.8 | 40.3 | 167.5 | 39.6 |
| 2024 | 171.2 | 41.0 | 169.4 | 40.2 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

KTS is split for planning purposes. KTS_West is supplied by transformers 3 and 4. Load will be transferred to the new Deer Park 66 kV Terminal Station in November 2017. This transfer has been modelled in this forecast.

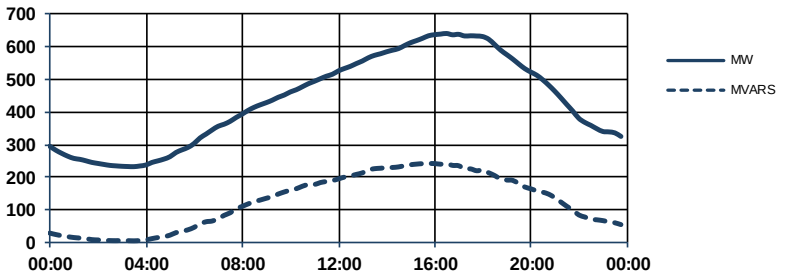
# KTS66: Keilor Terminal Station 66 kV bus

## *Summer Demand*

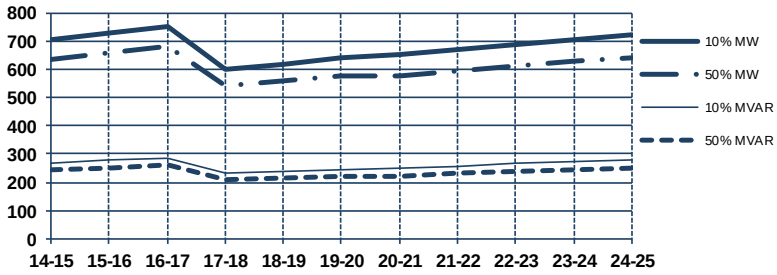
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 18:00 | 643.1 | 241.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 703.4 | 268.5 | 637.2 | 243.5 |
| 15-16 | 726.6 | 277.4 | 658.4 | 251.7 |
| 16-17 | 754.0 | 287.9 | 684.4 | 261.7 |
| 17-18 | 601.4 | 231.8 | 541.5 | 208.6 |
| 18-19 | 619.1 | 238.7 | 557.1 | 214.6 |
| 19-20 | 638.2 | 246.1 | 574.2 | 221.3 |
| 20-21 | 650.5 | 251.5 | 579.3 | 224.1 |
| 21-22 | 667.8 | 258.3 | 596.6 | 230.9 |
| 22-23 | 688.6 | 266.5 | 614.1 | 237.8 |
| 23-24 | 707.1 | 273.8 | 629.8 | 244.0 |
| 24-25 | 724.2 | 280.5 | 642.0 | 248.9 |

***Load Curve on High Demand Day***




***Forecast***

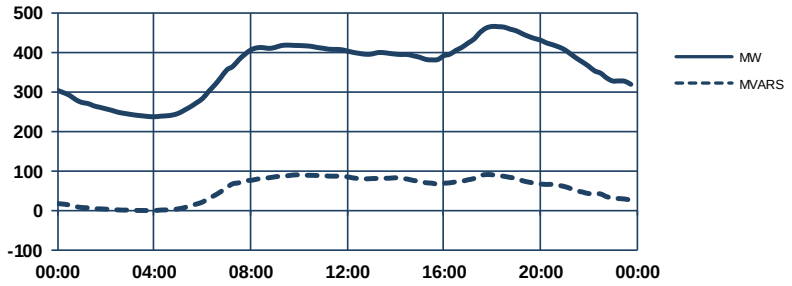



## *Winter Demand*

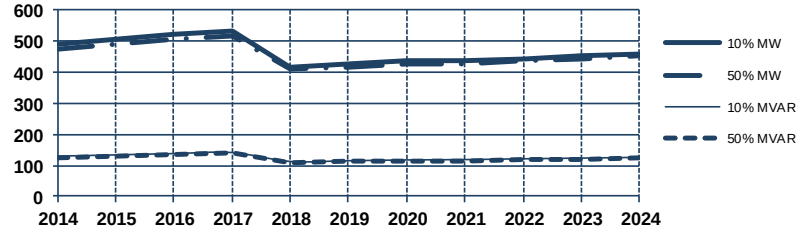
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 465.2 | 88.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 487.3 | 129.5 | 473.7 | 126.0 |
| 2015 | 503.7 | 134.0 | 489.6 | 130.3 |
| 2016 | 520.3 | 138.6 | 505.4 | 134.7 |
| 2017 | 532.1 | 142.0 | 516.9 | 138.0 |
| 2018 | 416.5 | 111.1 | 409.7 | 108.9 |
| 2019 | 424.9 | 113.6 | 417.9 | 111.4 |
| 2020 | 434.0 | 116.3 | 426.7 | 114.0 |
| 2021 | 434.3 | 117.5 | 427.8 | 115.3 |
| 2022 | 443.1 | 120.3 | 436.4 | 118.0 |
| 2023 | 451.4 | 122.7 | 444.3 | 120.3 |
| 2024 | 460.3 | 125.4 | 452.0 | 122.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

KTS is split for planning purposes. Please see KTS_East and KTS_West.

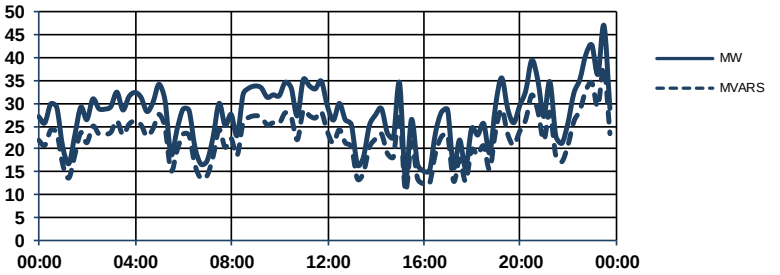
# LY66: Loy Yang Substation 66 kV bus

## *Summer Demand*

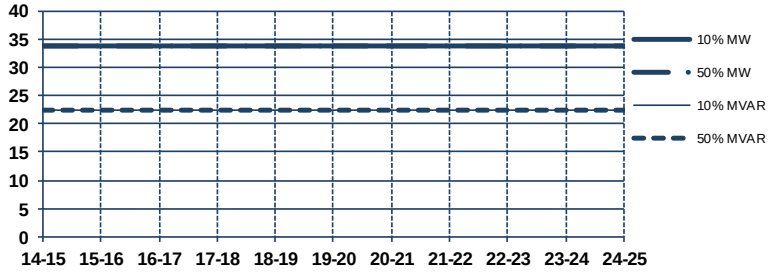
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 22 Mar 2014 06:00 | 47.2 | 37.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 33.8 | 22.4 | 33.8 | 22.4 |
| 15-16 | 33.8 | 22.4 | 33.8 | 22.4 |
| 16-17 | 33.8 | 22.4 | 33.8 | 22.4 |
| 17-18 | 33.8 | 22.4 | 33.8 | 22.4 |
| 18-19 | 33.8 | 22.4 | 33.8 | 22.4 |
| 19-20 | 33.8 | 22.4 | 33.8 | 22.4 |
| 20-21 | 33.8 | 22.4 | 33.8 | 22.4 |
| 21-22 | 33.8 | 22.4 | 33.8 | 22.4 |
| 22-23 | 33.8 | 22.4 | 33.8 | 22.4 |
| 23-24 | 33.8 | 22.4 | 33.8 | 22.4 |
| 24-25 | 33.8 | 22.4 | 33.8 | 22.4 |

***Load Curve on High Demand Day***




***Forecast***

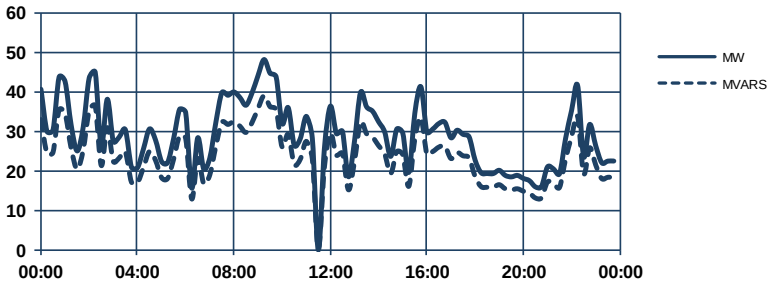



## *Winter Demand*

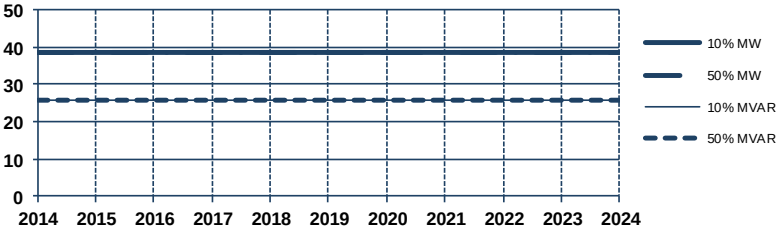
| 2013 MD | MW | MVAR |
|---|---|---|
| 30 Aug 2013 21:00 | 48.0 | 39.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2015 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2016 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2017 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2018 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2019 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2020 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2021 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2022 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2023 | 38.5 | 25.9 | 38.5 | 25.9 |
| 2024 | 38.5 | 25.9 | 38.5 | 25.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This demand forecast includes both Ausnet services distribution load and the load at Loy Yang Power Station. This substation's demand is also included in this report under Morewell Terminal Station. AEMO advises that if an outage of a Loy Yang Power Station unit transformer occurs, approximately 50 MW of additional demand may be drawn from the Morwell Terminal Station.

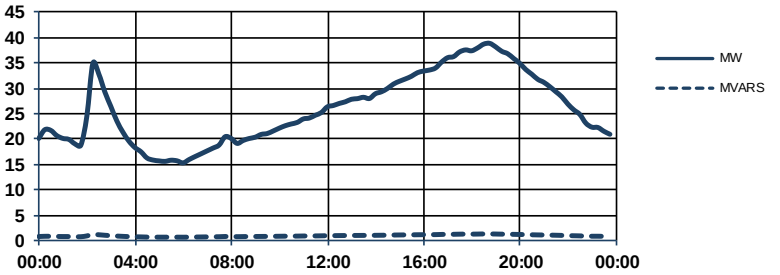
# MBTS66: Mount Beauty Terminal Station 66 kV bus

## *Summer Demand*

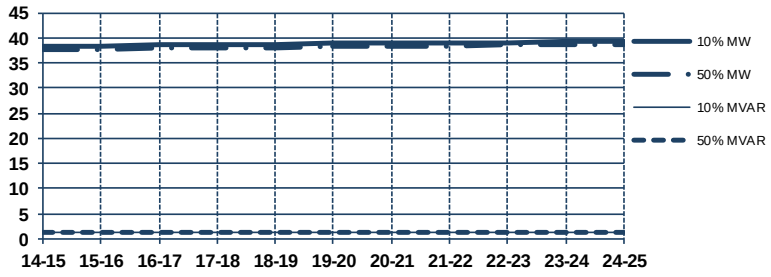
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 18:00 | 38.8 | 1.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 38.3 | 1.3 | 37.5 | 1.3 |
| 15-16 | 38.4 | 1.3 | 37.7 | 1.3 |
| 16-17 | 38.6 | 1.3 | 37.9 | 1.3 |
| 17-18 | 38.7 | 1.3 | 38.0 | 1.3 |
| 18-19 | 38.8 | 1.3 | 38.1 | 1.3 |
| 19-20 | 38.9 | 1.3 | 38.2 | 1.3 |
| 20-21 | 39.0 | 1.3 | 38.4 | 1.3 |
| 21-22 | 39.1 | 1.3 | 38.5 | 1.3 |
| 22-23 | 39.1 | 1.3 | 38.6 | 1.3 |
| 23-24 | 39.2 | 1.3 | 38.7 | 1.3 |
| 24-25 | 39.3 | 1.3 | 38.8 | 1.3 |

***Load Curve on High Demand Day***




***Forecast***

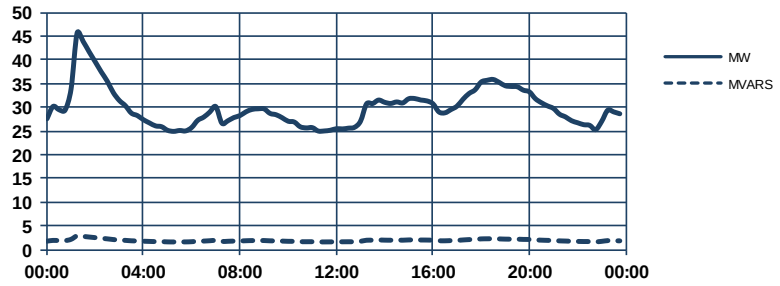



## *Winter Demand*

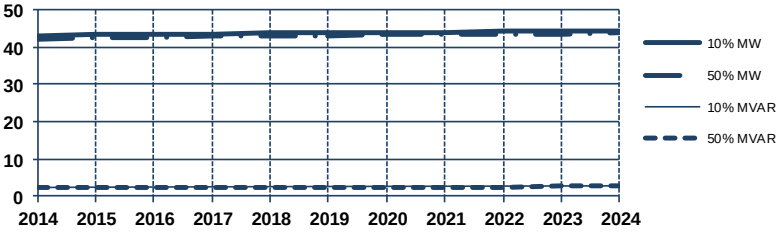
| 2013 MD | MW | MVAR |
|---|---|---|
| 25 Jul 2013 01:30 | 45.5 | 2.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 43.2 | 2.6 | 42.3 | 2.5 |
| 2015 | 43.3 | 2.6 | 42.5 | 2.5 |
| 2016 | 43.5 | 2.6 | 42.7 | 2.6 |
| 2017 | 43.6 | 2.6 | 42.9 | 2.6 |
| 2018 | 43.8 | 2.6 | 43.0 | 2.6 |
| 2019 | 43.9 | 2.6 | 43.1 | 2.6 |
| 2020 | 44.0 | 2.6 | 43.3 | 2.6 |
| 2021 | 44.1 | 2.6 | 43.4 | 2.6 |
| 2022 | 44.2 | 2.6 | 43.5 | 2.6 |
| 2023 | 44.2 | 2.7 | 43.6 | 2.6 |
| 2024 | 44.3 | 2.7 | 43.7 | 2.6 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Forecast demand shown here assumes the Clover Power Station is switched off at the time of maximum demand. Actual previous year summer and winter generation of Clover Power Station at time of maximum demand was zero.

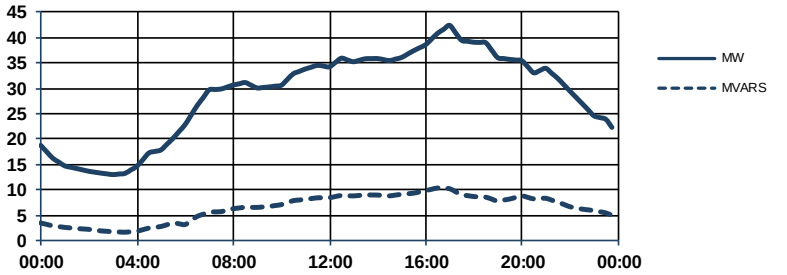
# MTS22: Malvern Terminal Station 22 kV bus

## *Summer Demand*

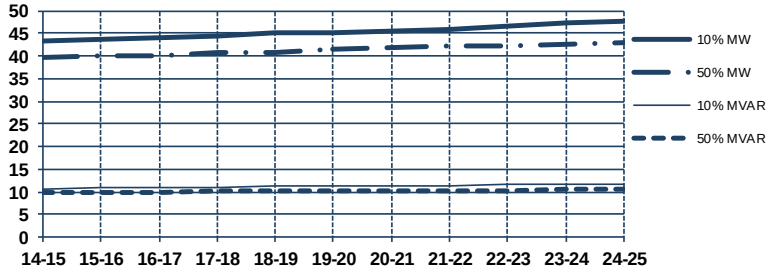
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 28 Jan 2014 17:00 | 42.3 | 10.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 43.5 | 10.7 | 39.8 | 9.8 |
| 15-16 | 43.6 | 10.7 | 39.9 | 9.8 |
| 16-17 | 44.0 | 10.8 | 40.0 | 9.9 |
| 17-18 | 44.6 | 11.0 | 40.7 | 10.0 |
| 18-19 | 45.3 | 11.2 | 40.9 | 10.1 |
| 19-20 | 45.3 | 11.2 | 41.4 | 10.2 |
| 20-21 | 45.6 | 11.2 | 41.7 | 10.3 |
| 21-22 | 46.0 | 11.3 | 42.1 | 10.4 |
| 22-23 | 46.6 | 11.5 | 42.1 | 10.4 |
| 23-24 | 47.2 | 11.6 | 42.7 | 10.5 |
| 24-25 | 47.5 | 11.7 | 43.1 | 10.6 |

***Load Curve on High Demand Day***




***Forecast***

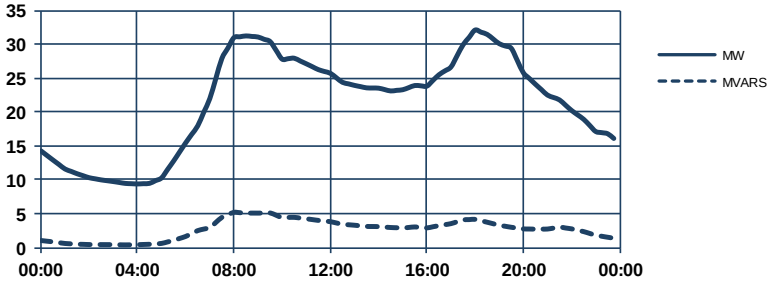



## *Winter Demand*

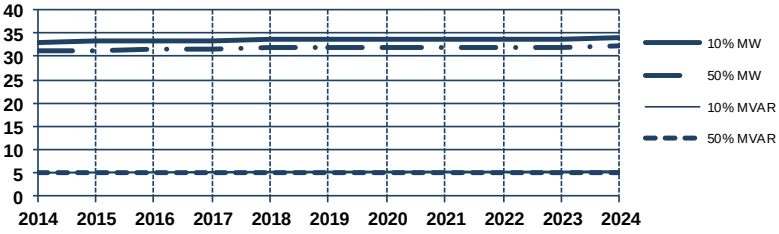
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:00 | 32.1 | 5.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 33.0 | 5.2 | 31.2 | 4.9 |
| 2015 | 33.2 | 5.3 | 31.4 | 5.0 |
| 2016 | 33.3 | 5.3 | 31.5 | 5.0 |
| 2017 | 33.5 | 5.3 | 31.7 | 5.0 |
| 2018 | 33.6 | 5.3 | 31.8 | 5.0 |
| 2019 | 33.7 | 5.3 | 31.9 | 5.1 |
| 2020 | 33.8 | 5.4 | 31.9 | 5.1 |
| 2021 | 33.8 | 5.3 | 31.9 | 5.1 |
| 2022 | 33.7 | 5.3 | 31.9 | 5.1 |
| 2023 | 33.8 | 5.4 | 31.9 | 5.1 |
| 2024 | 34.0 | 5.4 | 32.1 | 5.1 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

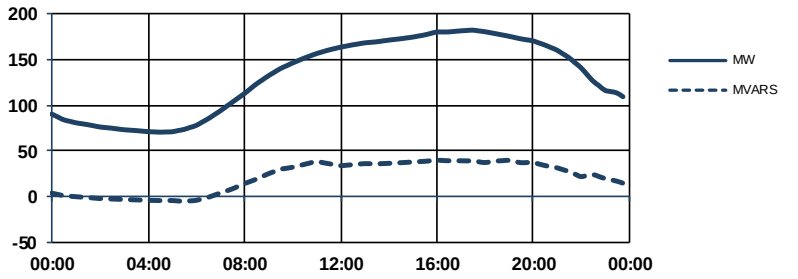
# MTS66: Malvern Terminal Station 66 kV bus

## *Summer Demand*

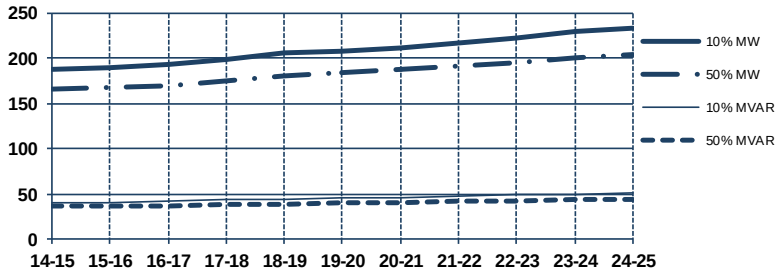
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:30 | 183.2 | 39.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 186.7 | 40.5 | 165.4 | 35.8 |
| 15-16 | 188.5 | 40.9 | 166.8 | 36.2 |
| 16-17 | 193.4 | 41.9 | 169.9 | 36.8 |
| 17-18 | 198.7 | 43.1 | 175.2 | 38.0 |
| 18-19 | 205.3 | 44.5 | 179.4 | 38.9 |
| 19-20 | 207.7 | 45.0 | 183.4 | 39.7 |
| 20-21 | 212.0 | 45.9 | 187.2 | 40.6 |
| 21-22 | 216.6 | 46.9 | 191.0 | 41.4 |
| 22-23 | 222.8 | 48.3 | 194.1 | 42.1 |
| 23-24 | 228.5 | 49.5 | 199.4 | 43.2 |
| 24-25 | 233.0 | 50.5 | 203.6 | 44.1 |

***Load Curve on High Demand Day***




***Forecast***

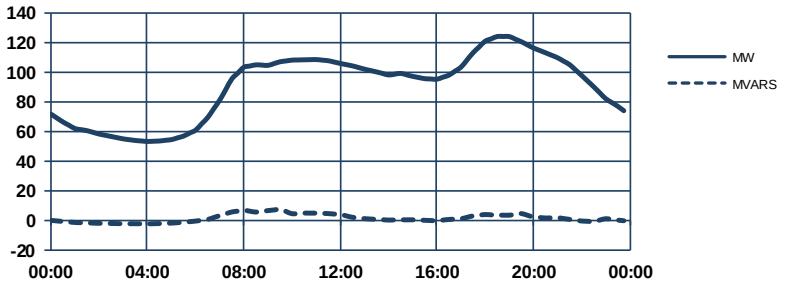



## *Winter Demand*

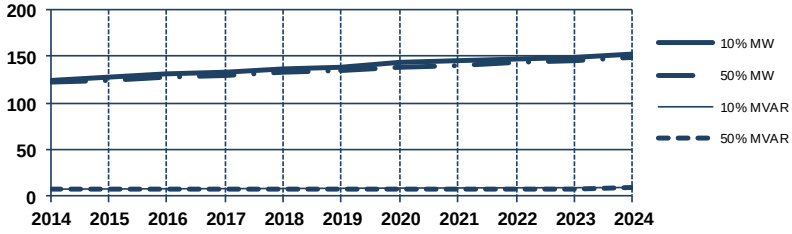
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 124.0 | 7.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 124.9 | 7.3 | 121.8 | 7.2 |
| 2015 | 127.9 | 7.5 | 124.6 | 7.3 |
| 2016 | 131.1 | 7.7 | 127.6 | 7.5 |
| 2017 | 133.5 | 7.9 | 129.9 | 7.6 |
| 2018 | 136.2 | 8.0 | 132.4 | 7.8 |
| 2019 | 139.0 | 8.2 | 135.1 | 7.9 |
| 2020 | 143.3 | 8.4 | 139.2 | 8.2 |
| 2021 | 145.2 | 8.5 | 141.0 | 8.3 |
| 2022 | 148.1 | 8.7 | 143.6 | 8.5 |
| 2023 | 149.7 | 8.8 | 145.1 | 8.5 |
| 2024 | 153.2 | 9.0 | 148.4 | 8.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

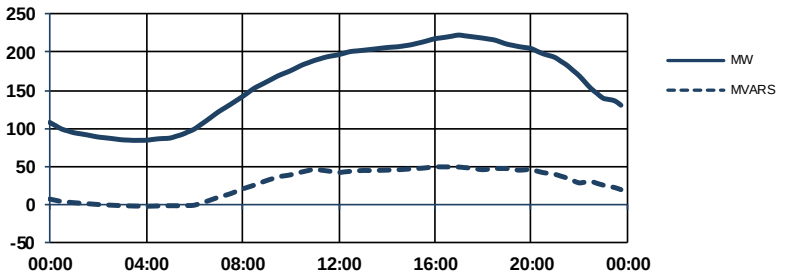
# MTS662266: Malvern T.S. - 66 and 22 kV loads combined 66 kV bus

## *Summer Demand*

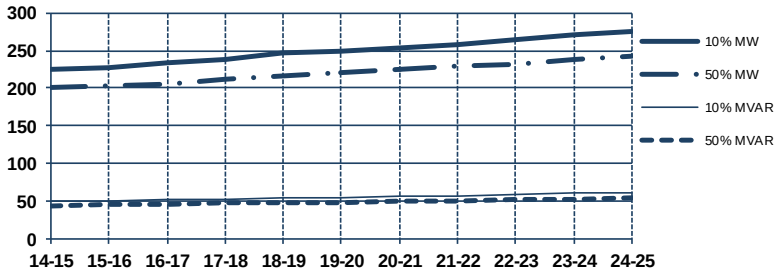
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:00 | 221.5 | 49.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 225.8 | 50.2 | 201.3 | 44.7 |
| 15-16 | 227.8 | 50.6 | 202.8 | 45.1 |
| 16-17 | 233.0 | 51.8 | 205.9 | 45.8 |
| 17-18 | 238.8 | 53.1 | 211.9 | 47.1 |
| 18-19 | 246.1 | 54.7 | 216.3 | 48.1 |
| 19-20 | 248.4 | 55.2 | 220.7 | 49.0 |
| 20-21 | 253.0 | 56.2 | 224.8 | 50.0 |
| 21-22 | 258.0 | 57.3 | 228.9 | 50.9 |
| 22-23 | 264.7 | 58.8 | 232.1 | 51.6 |
| 23-24 | 270.9 | 60.2 | 237.8 | 52.8 |
| 24-25 | 275.6 | 61.2 | 242.3 | 53.8 |

***Load Curve on High Demand Day***




***Forecast***

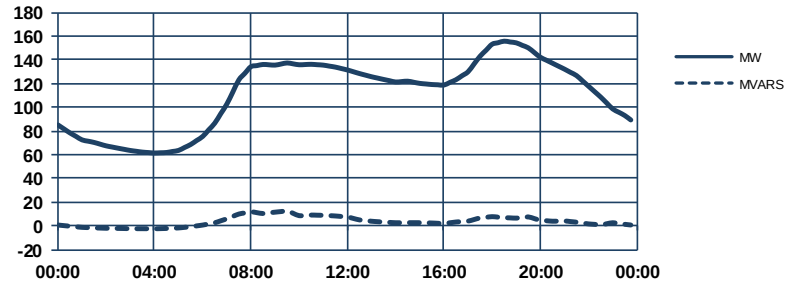



## *Winter Demand*

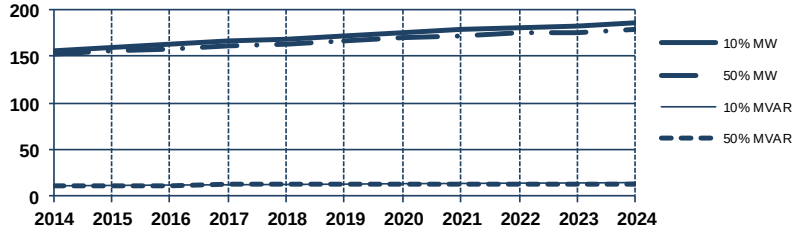
| 2013 MD | MW | MVAR |
|---|---|---|
| 23 Jun 2013 18:30 | 155.5 | 11.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 156.7 | 12.0 | 152.3 | 11.6 |
| 2015 | 160.4 | 12.2 | 155.3 | 11.9 |
| 2016 | 163.8 | 12.5 | 158.5 | 12.1 |
| 2017 | 166.3 | 12.7 | 160.9 | 12.3 |
| 2018 | 169.1 | 12.9 | 163.6 | 12.5 |
| 2019 | 172.1 | 13.1 | 166.4 | 12.7 |
| 2020 | 176.4 | 13.5 | 170.4 | 13.0 |
| 2021 | 178.3 | 13.6 | 172.2 | 13.1 |
| 2022 | 181.2 | 13.8 | 174.9 | 13.3 |
| 2023 | 182.8 | 14.0 | 176.3 | 13.5 |
| 2024 | 186.5 | 14.2 | 179.9 | 13.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This includes the 66 kV load plus the 22 kV load at MTS representing the demand through the 220/66 kV transformers.

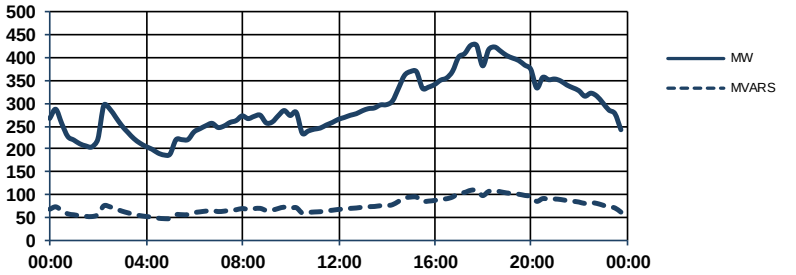
# MWTS66: Morwell Terminal Station 66 kV bus

## *Summer Demand*

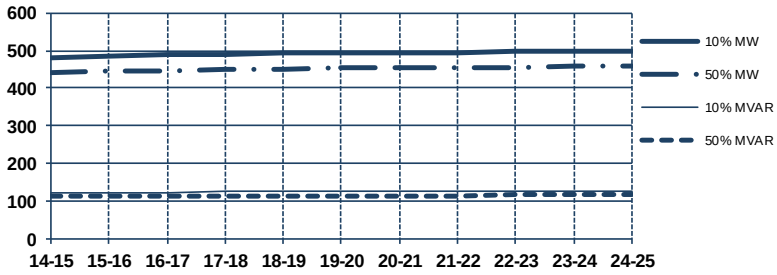
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 15:30 | 428.1 | 108.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 481.1 | 122.2 | 441.4 | 112.2 |
| 15-16 | 484.4 | 123.1 | 444.5 | 112.9 |
| 16-17 | 487.3 | 123.8 | 447.3 | 113.6 |
| 17-18 | 490.2 | 124.5 | 450.0 | 114.3 |
| 18-19 | 492.1 | 125.0 | 451.8 | 114.8 |
| 19-20 | 493.6 | 125.4 | 453.2 | 115.1 |
| 20-21 | 494.8 | 125.7 | 454.3 | 115.4 |
| 21-22 | 495.8 | 126.0 | 455.3 | 115.7 |
| 22-23 | 496.7 | 126.2 | 456.2 | 115.9 |
| 23-24 | 497.6 | 126.4 | 457.1 | 116.1 |
| 24-25 | 498.4 | 126.6 | 457.9 | 116.3 |

***Load Curve on High Demand Day***




***Forecast***

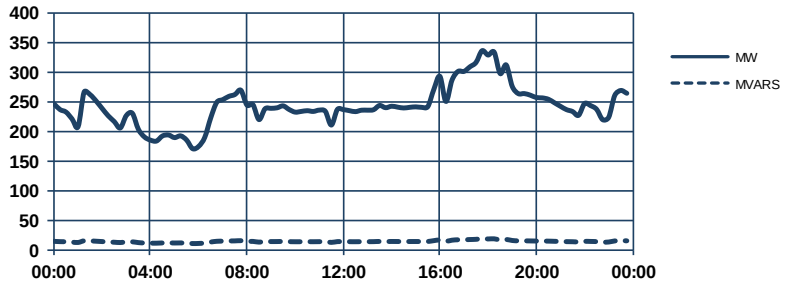



## *Winter Demand*

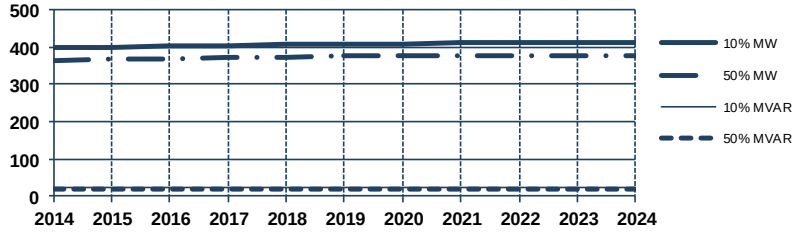
| 2013 MD | MW | MVAR |
|---|---|---|
| 14 Sep 2013 00:00 | 336.6 | 18.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 398.1 | 22.3 | 365.3 | 20.5 |
| 2015 | 400.9 | 22.5 | 367.9 | 20.6 |
| 2016 | 403.3 | 22.6 | 370.2 | 20.8 |
| 2017 | 405.7 | 22.7 | 372.4 | 20.9 |
| 2018 | 407.3 | 22.8 | 373.9 | 21.0 |
| 2019 | 408.5 | 22.9 | 375.1 | 21.0 |
| 2020 | 409.5 | 23.0 | 376.0 | 21.1 |
| 2021 | 410.3 | 23.0 | 376.8 | 21.1 |
| 2022 | 411.1 | 23.0 | 377.6 | 21.2 |
| 2023 | 411.8 | 23.1 | 378.3 | 21.2 |
| 2024 | 412.5 | 23.1 | 378.9 | 21.2 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This terminal station supplies Gippsland. Also included in this demand is LY66, which is reported separately in this document. Morwell Power Station and Bairnsdale Power Station are assumed to be switched off at the time of maximum demand in the forecasts, and are not netted off actual previous year summer and winter generation.

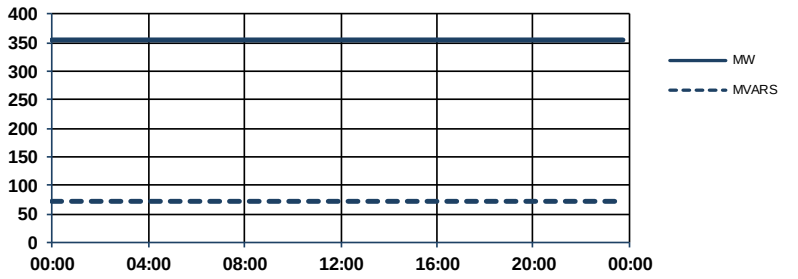
# PTH220: Point Henry 220 kV bus

## *Summer Demand*

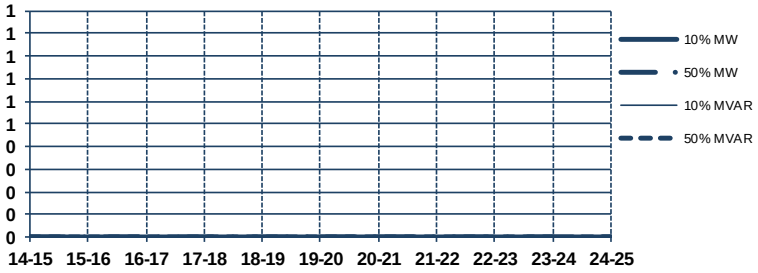
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Dec 2013 14:30 | 355.1 | 72.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15-16 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16-17 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17-18 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18-19 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19-20 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20-21 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21-22 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22-23 | 0.0 | 0.0 | 0.0 | 0.0 |
| 23-24 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24-25 | 0.0 | 0.0 | 0.0 | 0.0 |

***Load Curve on High Demand Day***




***Forecast***

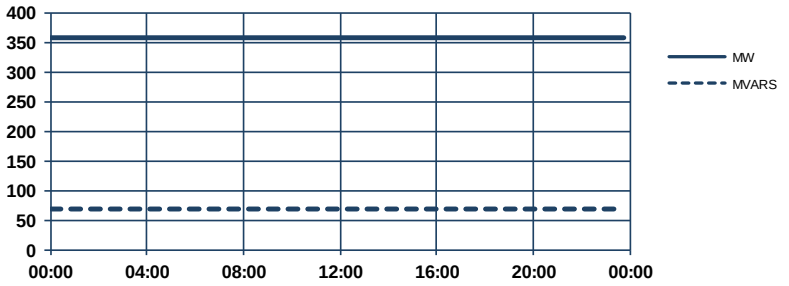



## *Winter Demand*

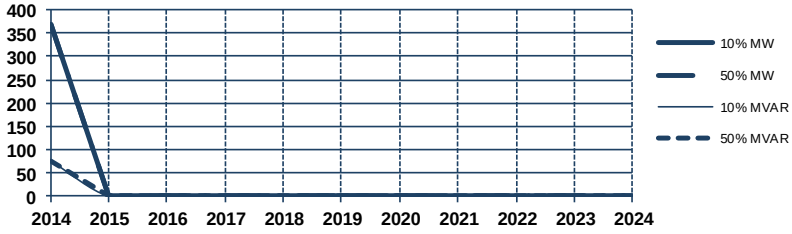
| 2013 MD | MW | MVAR |
|---|---|---|
| 10 Jul 2013 00:00 | 356.0 | 66.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 367.5 | 75.0 | 367.5 | 75.0 |
| 2015 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2016 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2017 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2018 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2019 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2020 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2021 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2022 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2023 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2024 | 0.0 | 0.0 | 0.0 | 0.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is a direct-connect customer. Forecast demand shown here assumes the Anglesea Power Station is switched off at the time of maximum demand. Actual previous year summer and winter generation of Anglesea Power Station at time of maximum demand was zero.

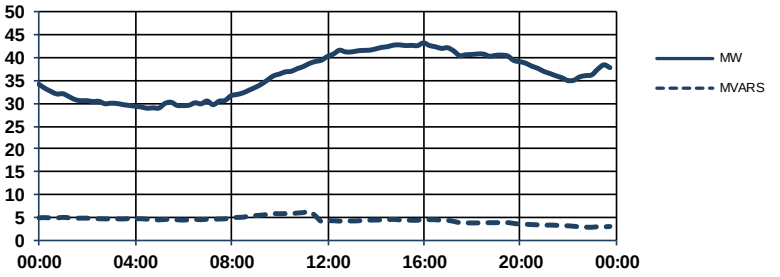
# RCTS22: Red Cliffs Terminal Station 22 kV bus

## *Summer Demand*

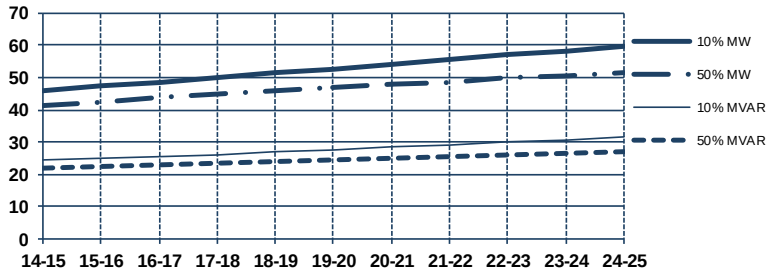
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 08 Feb 2014 16:00 | 43.4 | 6.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 46.1 | 24.2 | 41.5 | 21.8 |
| 15-16 | 47.3 | 24.9 | 42.5 | 22.4 |
| 16-17 | 48.6 | 25.5 | 43.6 | 22.9 |
| 17-18 | 49.9 | 26.2 | 44.7 | 23.5 |
| 18-19 | 51.3 | 27.0 | 45.9 | 24.1 |
| 19-20 | 52.7 | 27.7 | 46.9 | 24.7 |
| 20-21 | 54.1 | 28.4 | 47.9 | 25.2 |
| 21-22 | 55.6 | 29.2 | 48.6 | 25.6 |
| 22-23 | 57.1 | 30.0 | 49.9 | 26.2 |
| 23-24 | 58.1 | 30.6 | 50.5 | 26.6 |
| 24-25 | 59.7 | 31.4 | 51.5 | 27.1 |

***Load Curve on High Demand Day***




***Forecast***

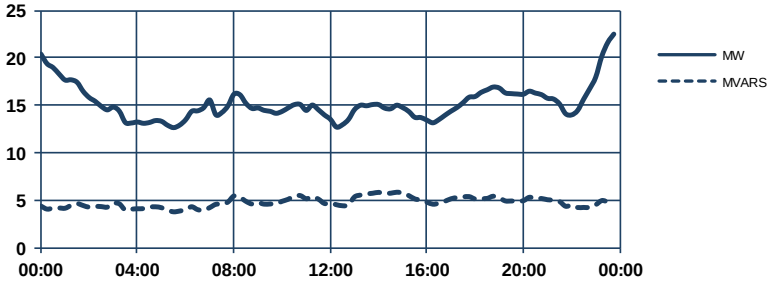



## *Winter Demand*

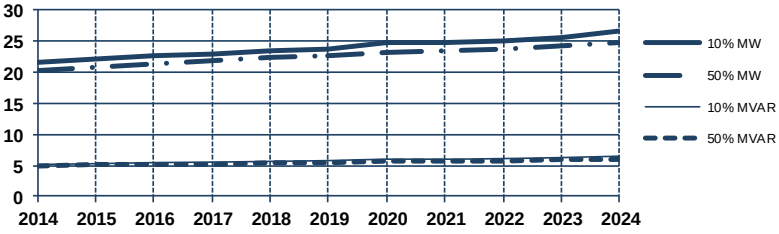
| 2013 MD | MW | MVAR |
|---|---|---|
| 08 Aug 2013 00:00 | 22.6 | 5.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 21.5 | 5.2 | 20.3 | 4.9 |
| 2015 | 22.0 | 5.3 | 20.8 | 5.0 |
| 2016 | 22.6 | 5.5 | 21.3 | 5.1 |
| 2017 | 22.9 | 5.5 | 21.8 | 5.3 |
| 2018 | 23.4 | 5.6 | 22.3 | 5.4 |
| 2019 | 23.8 | 5.7 | 22.7 | 5.5 |
| 2020 | 24.7 | 6.0 | 23.2 | 5.6 |
| 2021 | 24.6 | 5.9 | 23.5 | 5.7 |
| 2022 | 25.0 | 6.0 | 23.8 | 5.7 |
| 2023 | 25.6 | 6.2 | 24.3 | 5.9 |
| 2024 | 26.5 | 6.4 | 24.9 | 6.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

This includes only the 22 kV demand at RCTS.

*For embedded generation details, please see section 3.2.*

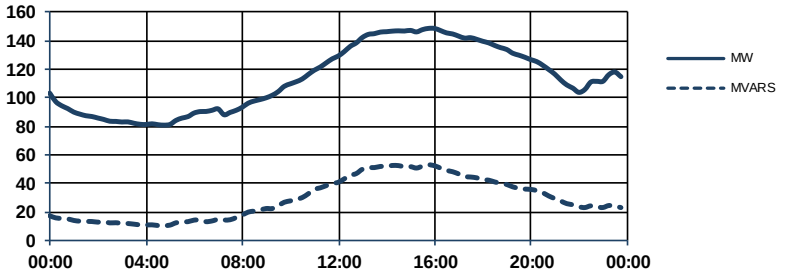
# RCTS66: Red Cliffs Terminal Station 66 kV bus

## *Summer Demand*

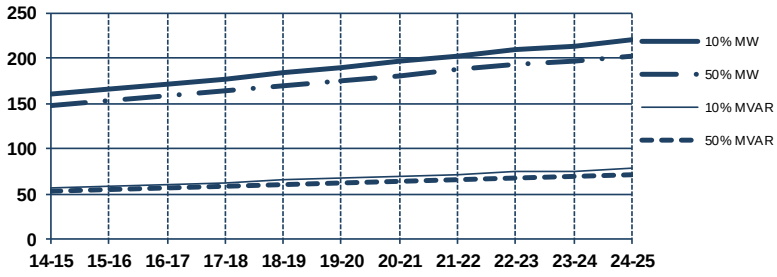
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 14:00 | 149.1 | 53.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 159.7 | 56.3 | 147.7 | 52.1 |
| 15-16 | 165.4 | 58.3 | 152.9 | 53.9 |
| 16-17 | 171.3 | 60.4 | 158.2 | 55.8 |
| 17-18 | 177.3 | 62.5 | 163.7 | 57.7 |
| 18-19 | 183.4 | 64.7 | 169.3 | 59.7 |
| 19-20 | 189.7 | 66.9 | 175.0 | 61.7 |
| 20-21 | 196.2 | 69.2 | 180.9 | 63.8 |
| 21-22 | 202.8 | 71.5 | 186.9 | 65.9 |
| 22-23 | 209.5 | 73.9 | 193.0 | 68.1 |
| 23-24 | 213.0 | 75.1 | 195.8 | 69.1 |
| 24-25 | 220.2 | 77.7 | 202.4 | 71.4 |

***Load Curve on High Demand Day***




***Forecast***

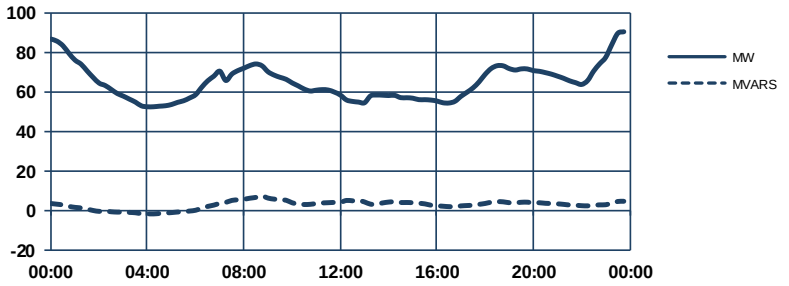



## *Winter Demand*

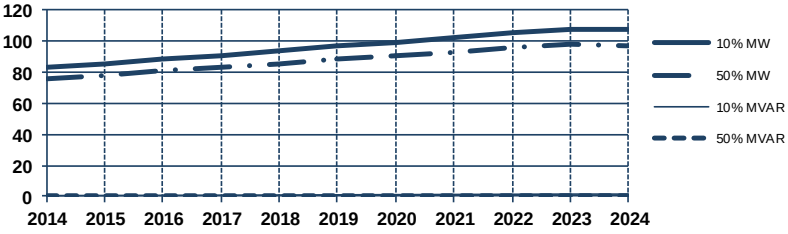
| 2013 MD | MW | MVAR |
|---|---|---|
| 10 Jul 2013 00:00 | 90.5 | 7.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 82.7 | 0.8 | 75.8 | 0.7 |
| 2015 | 85.4 | 0.8 | 78.2 | 0.7 |
| 2016 | 88.1 | 0.8 | 80.6 | 0.7 |
| 2017 | 90.9 | 0.8 | 83.0 | 0.8 |
| 2018 | 93.6 | 0.9 | 85.5 | 0.8 |
| 2019 | 96.5 | 0.9 | 88.0 | 0.8 |
| 2020 | 99.3 | 0.9 | 90.5 | 0.8 |
| 2021 | 102.1 | 0.9 | 93.0 | 0.9 |
| 2022 | 104.9 | 1.0 | 95.4 | 0.9 |
| 2023 | 107.8 | 1.0 | 97.9 | 0.9 |
| 2024 | 107.2 | 1.0 | 96.9 | 0.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

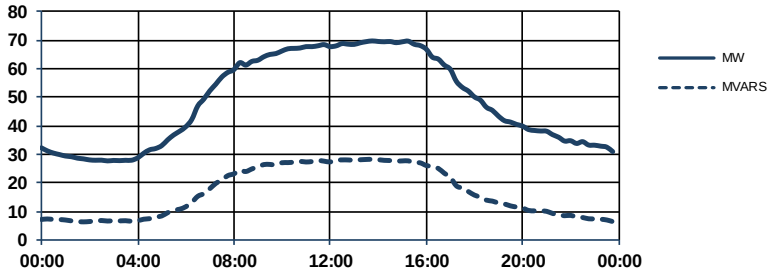
# RTS22: Richmond Terminal Station 22 kV bus

## *Summer Demand*

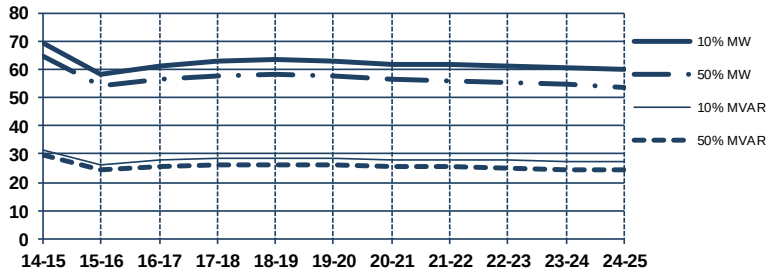
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 14:00 | 69.7 | 28.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 69.0 | 31.3 | 64.9 | 29.5 |
| 15-16 | 58.3 | 26.5 | 54.0 | 24.5 |
| 16-17 | 61.1 | 27.7 | 56.7 | 25.7 |
| 17-18 | 62.9 | 28.5 | 57.8 | 26.2 |
| 18-19 | 63.4 | 28.8 | 58.3 | 26.4 |
| 19-20 | 63.2 | 28.7 | 58.0 | 26.3 |
| 20-21 | 61.5 | 27.9 | 56.4 | 25.6 |
| 21-22 | 61.7 | 28.0 | 55.9 | 25.4 |
| 22-23 | 61.4 | 27.9 | 55.6 | 25.2 |
| 23-24 | 60.6 | 27.5 | 54.5 | 24.7 |
| 24-25 | 60.1 | 27.3 | 53.8 | 24.4 |

***Load Curve on High Demand Day***




***Forecast***

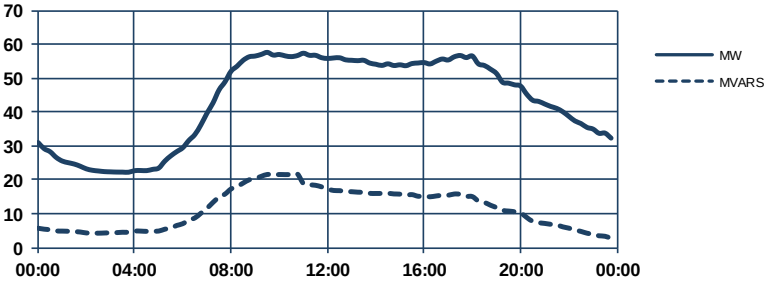



## *Winter Demand*

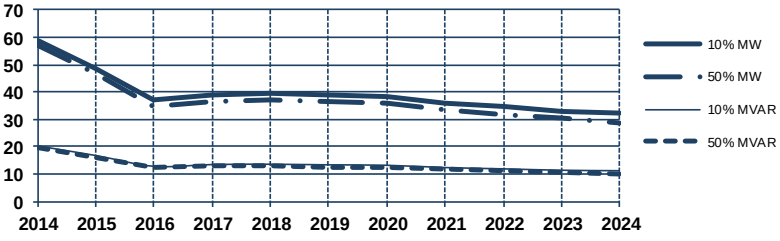
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 09:30 | 57.8 | 21.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 58.9 | 20.5 | 56.9 | 19.8 |
| 2015 | 48.6 | 16.9 | 46.5 | 16.2 |
| 2016 | 37.1 | 12.9 | 34.9 | 12.1 |
| 2017 | 39.0 | 13.6 | 36.7 | 12.8 |
| 2018 | 39.3 | 13.7 | 37.0 | 12.9 |
| 2019 | 38.7 | 13.4 | 36.4 | 12.6 |
| 2020 | 38.2 | 13.3 | 35.7 | 12.4 |
| 2021 | 35.8 | 12.4 | 33.3 | 11.6 |
| 2022 | 34.4 | 11.9 | 31.9 | 11.1 |
| 2023 | 32.9 | 11.4 | 30.5 | 10.6 |
| 2024 | 32.4 | 11.3 | 28.7 | 10.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

This includes only the 22 kV demand at RTS.

*For embedded generation details, please see section 3.2 on page 70.*

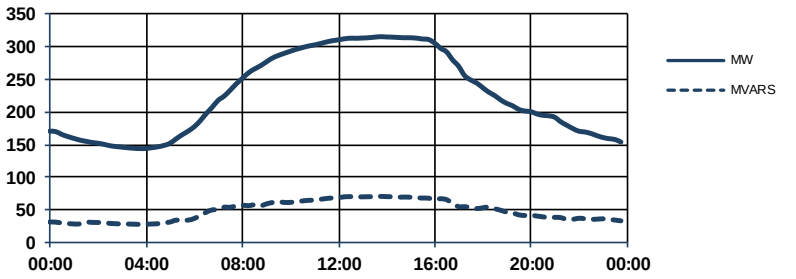
# RTS1266: Richmond Terminal Station 1&2 66 kV bus

## *Summer Demand*

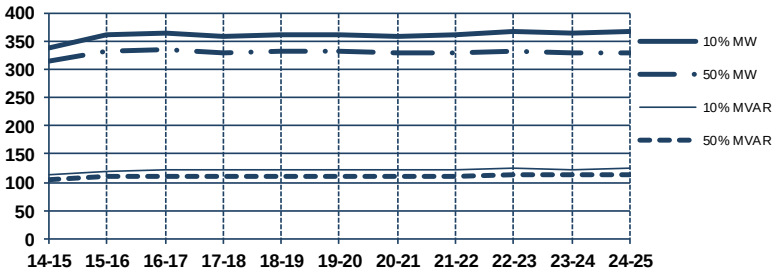
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 14:00 | 314.5 | 70.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 337.5 | 112.4 | 313.3 | 104.2 |
| 15-16 | 360.4 | 119.8 | 331.6 | 110.1 |
| 16-17 | 363.7 | 120.9 | 334.7 | 111.1 |
| 17-18 | 358.9 | 121.1 | 328.8 | 110.9 |
| 18-19 | 362.3 | 122.3 | 331.6 | 111.9 |
| 19-20 | 360.8 | 122.0 | 331.1 | 111.9 |
| 20-21 | 359.2 | 121.6 | 330.1 | 111.7 |
| 21-22 | 361.4 | 122.4 | 329.9 | 111.7 |
| 22-23 | 367.1 | 124.4 | 331.3 | 112.3 |
| 23-24 | 363.8 | 123.5 | 330.3 | 112.2 |
| 24-25 | 366.5 | 124.6 | 330.6 | 112.4 |

***Load Curve on High Demand Day***




***Forecast***

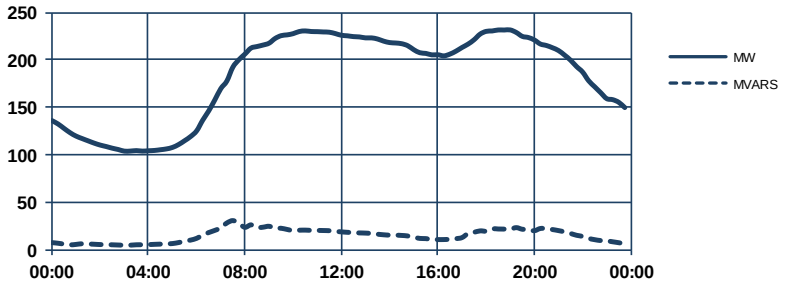



## *Winter Demand*

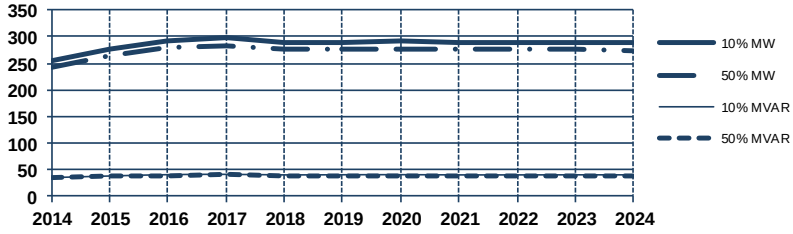
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 19:00 | 231.4 | 29.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 255.0 | 35.8 | 242.4 | 34.0 |
| 2015 | 275.7 | 38.9 | 262.6 | 37.0 |
| 2016 | 293.0 | 41.4 | 278.5 | 39.3 |
| 2017 | 297.2 | 42.0 | 282.9 | 39.9 |
| 2018 | 287.5 | 41.0 | 275.0 | 39.2 |
| 2019 | 289.4 | 41.2 | 275.0 | 39.1 |
| 2020 | 290.8 | 41.4 | 276.7 | 39.3 |
| 2021 | 288.4 | 41.0 | 275.7 | 39.1 |
| 2022 | 288.5 | 41.0 | 275.2 | 39.0 |
| 2023 | 289.7 | 41.1 | 275.8 | 39.1 |
| 2024 | 289.9 | 41.1 | 274.2 | 38.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 1 and 2, fed by transformers B1 and B4. In previous reports, this location was called RTS14 after the transformers, but it has been renamed by the buses for consistency with other locations.

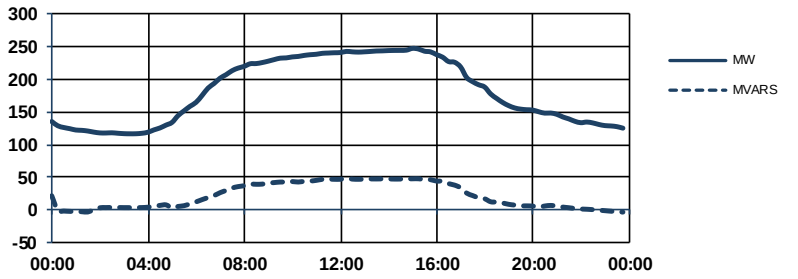
# RTS3466: Richmond Terminal Station 3&4 66 kV bus

## Summer Demand

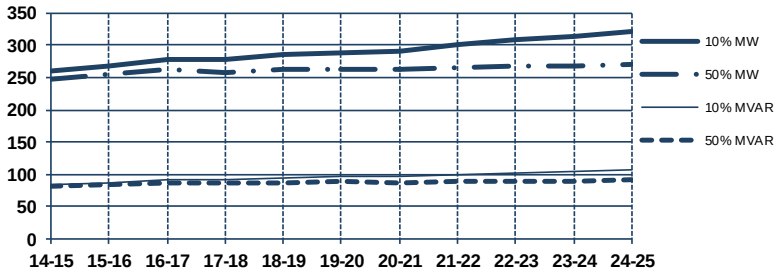
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 15:00 | 247.1 | 47.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 259.9 | 85.1 | 247.3 | 81.0 |
| 15-16 | 268.3 | 87.8 | 255.2 | 83.6 |
| 16-17 | 277.2 | 90.8 | 262.1 | 85.9 |
| 17-18 | 277.2 | 92.4 | 258.2 | 86.2 |
| 18-19 | 284.5 | 94.9 | 261.3 | 87.3 |
| 19-20 | 287.2 | 95.8 | 263.5 | 88.0 |
| 20-21 | 291.8 | 97.3 | 261.9 | 87.5 |
| 21-22 | 299.6 | 99.9 | 265.1 | 88.6 |
| 22-23 | 307.1 | 102.5 | 268.1 | 89.6 |
| 23-24 | 314.2 | 104.8 | 268.8 | 89.9 |
| 24-25 | 320.7 | 107.0 | 270.5 | 90.5 |

***Load Curve on High Demand Day***




***Forecast***

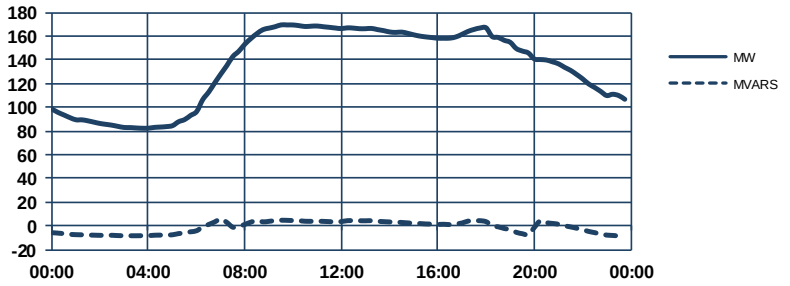



## Winter Demand

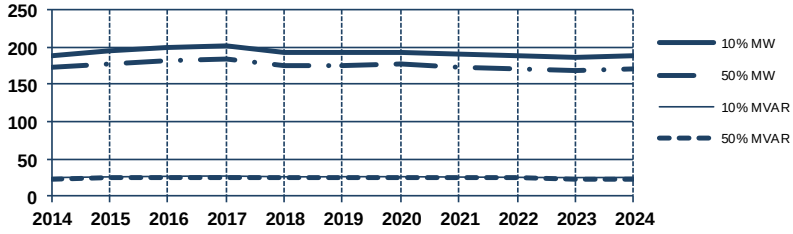
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:00 | 169.2 | 5.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 188.7 | 26.3 | 172.5 | 24.0 |
| 2015 | 194.2 | 27.1 | 177.8 | 24.8 |
| 2016 | 198.7 | 27.7 | 182.2 | 25.4 |
| 2017 | 201.1 | 28.0 | 184.2 | 25.7 |
| 2018 | 192.4 | 27.2 | 175.7 | 24.8 |
| 2019 | 193.0 | 27.3 | 175.6 | 24.8 |
| 2020 | 193.2 | 27.3 | 177.4 | 25.1 |
| 2021 | 190.3 | 26.9 | 172.8 | 24.4 |
| 2022 | 188.3 | 26.6 | 171.1 | 24.1 |
| 2023 | 186.3 | 26.3 | 169.0 | 23.8 |
| 2024 | 188.0 | 26.5 | 170.4 | 24.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 3 and 4, fed by transformers B2 and B3. In previous reports, this location was called RTS23 after the transformers, but it has been renamed by the buses for consistency with other locations.

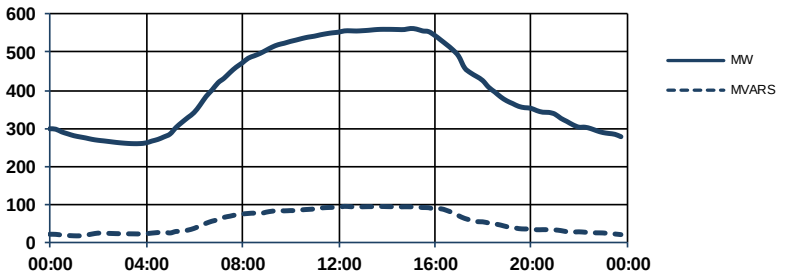
# RTS66: Richmond Terminal Station 66 kV bus

## Summer Demand

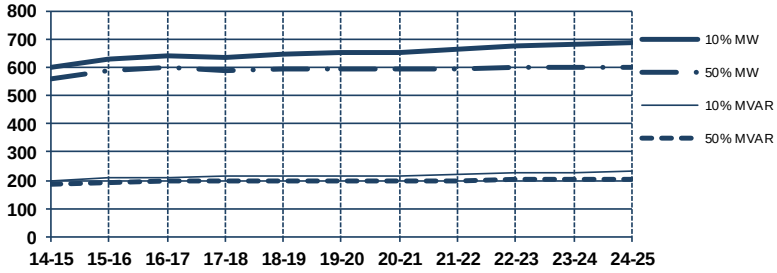
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 15:00 | 560.1 | 96.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 598.8 | 196.6 | 561.9 | 184.5 |
| 15-16 | 630.1 | 206.8 | 588.1 | 193.0 |
| 16-17 | 642.4 | 210.9 | 598.1 | 196.3 |
| 17-18 | 637.7 | 212.7 | 588.4 | 196.4 |
| 18-19 | 648.3 | 216.3 | 594.3 | 198.4 |
| 19-20 | 649.6 | 216.8 | 596.0 | 199.1 |
| 20-21 | 652.6 | 218.0 | 593.4 | 198.4 |
| 21-22 | 662.6 | 221.4 | 596.4 | 199.5 |
| 22-23 | 675.9 | 225.9 | 600.9 | 201.1 |
| 23-24 | 679.7 | 227.4 | 600.6 | 201.2 |
| 24-25 | 688.9 | 230.5 | 602.7 | 202.0 |

***Load Curve on High Demand Day***




***Forecast***

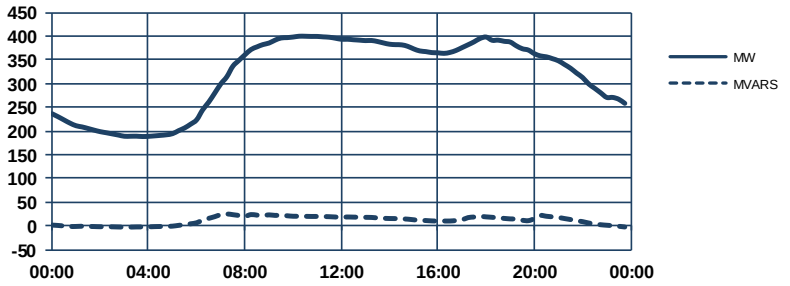



## Winter Demand

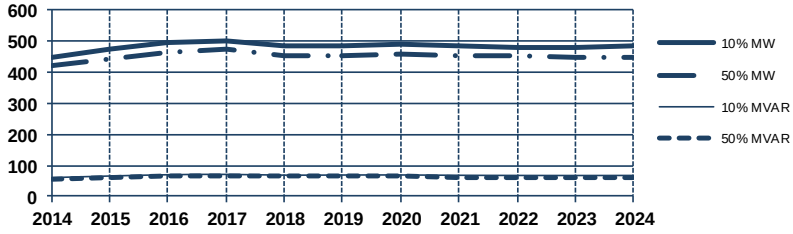
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:30 | 398.3 | 23.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 447.2 | 61.6 | 418.6 | 57.6 |
| 2015 | 473.9 | 65.5 | 444.2 | 61.3 |
| 2016 | 495.7 | 68.6 | 464.5 | 64.2 |
| 2017 | 502.4 | 69.5 | 471.0 | 65.1 |
| 2018 | 484.0 | 67.7 | 454.6 | 63.5 |
| 2019 | 486.6 | 68.0 | 454.6 | 63.4 |
| 2020 | 488.3 | 68.1 | 458.1 | 63.9 |
| 2021 | 482.9 | 67.3 | 452.4 | 63.0 |
| 2022 | 481.1 | 67.0 | 450.3 | 62.6 |
| 2023 | 480.4 | 66.8 | 448.9 | 62.3 |
| 2024 | 482.3 | 67.0 | 448.8 | 62.2 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Please see the comments for RTS12 and RTS34. Load will be transferred to the new Brunswick 66 kV Terminal Station in 2018. This transfer has been modelled in this forecast.

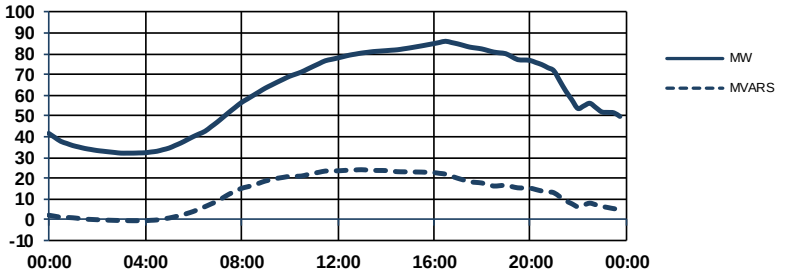
# RWTS22: Ringwood Terminal Station 22 kV bus

## *Summer Demand*

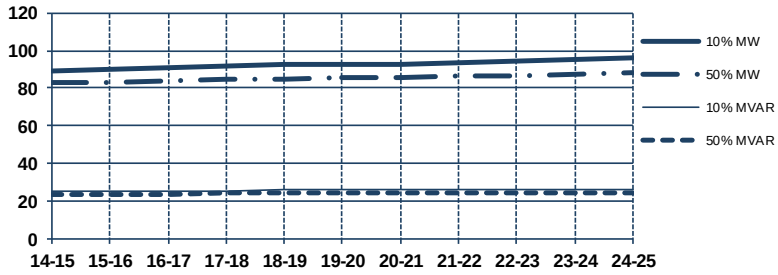
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 16:30 | 85.9 | 24.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 89.2 | 25.2 | 82.6 | 23.6 |
| 15-16 | 89.9 | 25.4 | 83.2 | 23.8 |
| 16-17 | 90.8 | 25.6 | 83.8 | 23.9 |
| 17-18 | 91.5 | 25.7 | 84.6 | 24.1 |
| 18-19 | 92.5 | 25.9 | 85.1 | 24.2 |
| 19-20 | 92.6 | 26.0 | 85.5 | 24.3 |
| 20-21 | 92.9 | 26.0 | 85.8 | 24.3 |
| 21-22 | 93.3 | 26.1 | 86.1 | 24.4 |
| 22-23 | 94.7 | 26.4 | 86.9 | 24.5 |
| 23-24 | 95.3 | 26.5 | 87.5 | 24.7 |
| 24-25 | 95.7 | 26.6 | 87.9 | 24.7 |

***Load Curve on High Demand Day***




***Forecast***

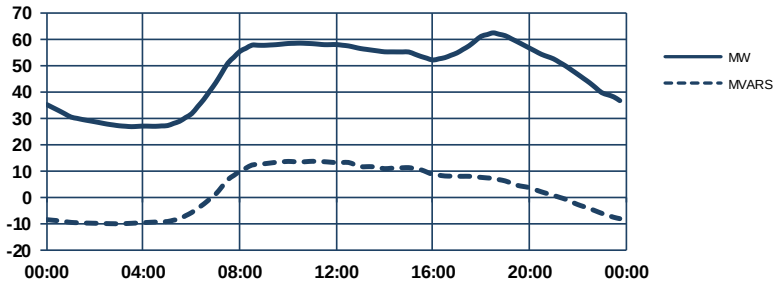



## *Winter Demand*

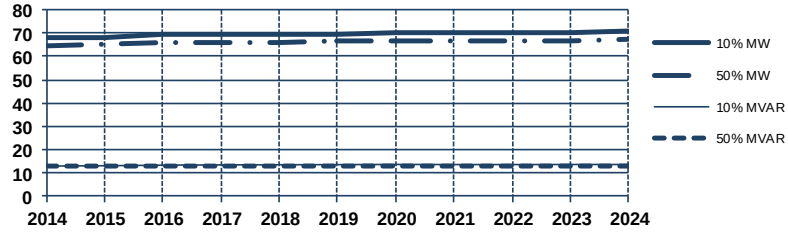
| 2013 MD | MW | MVAR |
|---|---|---|
| 20 Aug 2013 18:30 | 62.3 | 13.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 68.0 | 13.3 | 64.9 | 12.8 |
| 2015 | 68.4 | 13.4 | 65.2 | 12.9 |
| 2016 | 69.2 | 13.5 | 65.9 | 12.9 |
| 2017 | 69.5 | 13.5 | 66.2 | 13.0 |
| 2018 | 69.6 | 13.5 | 66.3 | 13.0 |
| 2019 | 69.8 | 13.5 | 66.5 | 13.0 |
| 2020 | 70.2 | 13.6 | 66.8 | 13.0 |
| 2021 | 70.1 | 13.6 | 66.6 | 13.0 |
| 2022 | 70.1 | 13.5 | 66.6 | 13.0 |
| 2023 | 70.4 | 13.6 | 66.9 | 13.0 |
| 2024 | 70.6 | 13.6 | 67.1 | 13.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the 22 kV supply from RWTS, which is not split into bus groups.

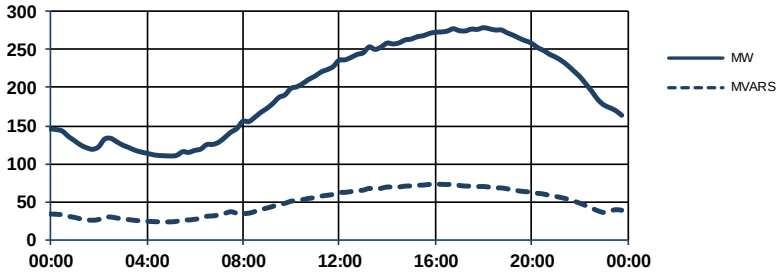
# RWTS1366: Ringwood Terminal Station 1&3 66 kV bus

## Summer Demand

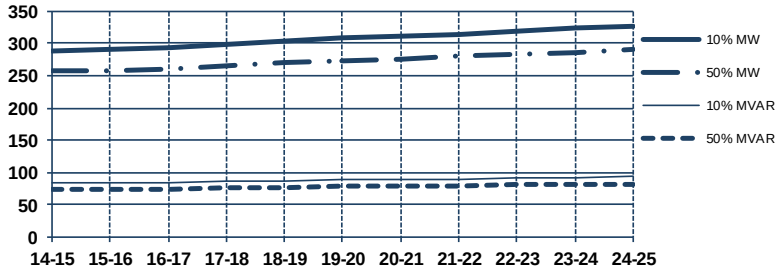
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 17:30 | 278.6 | 72.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 287.8 | 82.8 | 256.2 | 73.7 |
| 15-16 | 289.4 | 83.3 | 257.5 | 74.2 |
| 16-17 | 294.0 | 84.5 | 260.9 | 75.1 |
| 17-18 | 298.9 | 85.8 | 265.7 | 76.3 |
| 18-19 | 304.5 | 87.2 | 269.6 | 77.3 |
| 19-20 | 307.4 | 88.0 | 273.4 | 78.3 |
| 20-21 | 310.8 | 88.9 | 276.5 | 79.1 |
| 21-22 | 314.1 | 89.8 | 279.3 | 79.9 |
| 22-23 | 319.2 | 91.1 | 282.3 | 80.7 |
| 23-24 | 322.9 | 92.1 | 285.8 | 81.6 |
| 24-25 | 326.8 | 93.1 | 289.4 | 82.5 |

***Load Curve on High Demand Day***




***Forecast***

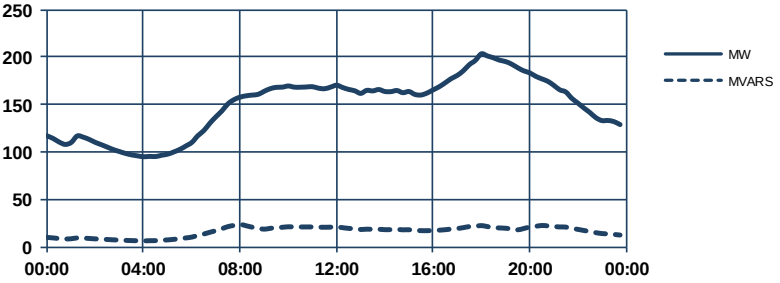



## Winter Demand

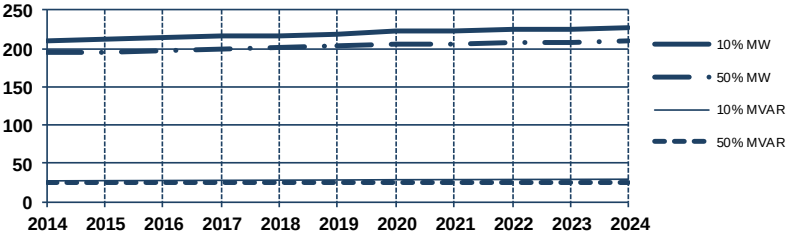
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 203.6 | 23.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 209.8 | 26.4 | 193.7 | 24.0 |
| 2015 | 211.8 | 26.6 | 195.5 | 24.3 |
| 2016 | 213.3 | 26.8 | 196.9 | 24.4 |
| 2017 | 215.2 | 27.1 | 198.6 | 24.6 |
| 2018 | 217.2 | 27.3 | 200.4 | 24.8 |
| 2019 | 219.3 | 27.5 | 202.3 | 25.0 |
| 2020 | 222.4 | 27.8 | 205.2 | 25.3 |
| 2021 | 223.3 | 27.9 | 206.0 | 25.4 |
| 2022 | 224.6 | 28.1 | 207.1 | 25.6 |
| 2023 | 225.7 | 28.2 | 208.0 | 25.7 |
| 2024 | 227.2 | 28.4 | 209.4 | 25.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2 on page 70.*

This is the demand on buses 1 and 3, separated out for planning purposes.

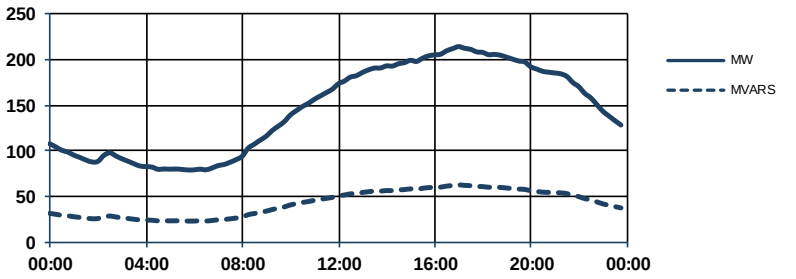
# RWTS2466: Ringwood Terminal Station 2&4 66 kV bus

## *Summer Demand*

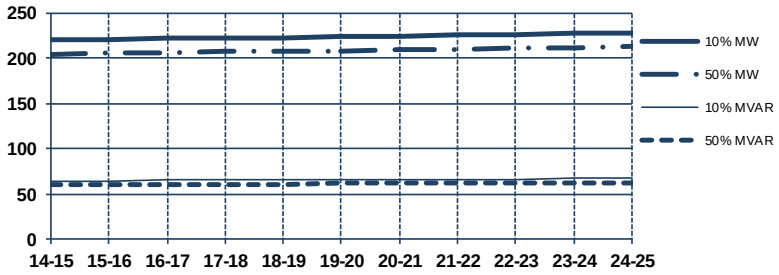
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 15 Jan 2014 14:30 | 215.2 | 63.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 219.6 | 64.3 | 204.5 | 59.9 |
| 15-16 | 220.6 | 64.6 | 205.4 | 60.1 |
| 16-17 | 221.5 | 64.8 | 206.3 | 60.4 |
| 17-18 | 222.0 | 65.0 | 206.8 | 60.5 |
| 18-19 | 223.0 | 65.3 | 207.6 | 60.8 |
| 19-20 | 223.8 | 65.5 | 208.4 | 61.0 |
| 20-21 | 224.6 | 65.7 | 209.2 | 61.2 |
| 21-22 | 225.5 | 66.0 | 210.0 | 61.5 |
| 22-23 | 226.4 | 66.3 | 210.8 | 61.7 |
| 23-24 | 227.3 | 66.5 | 211.6 | 62.0 |
| 24-25 | 228.1 | 66.8 | 212.4 | 62.2 |

***Load Curve on High Demand Day***




***Forecast***

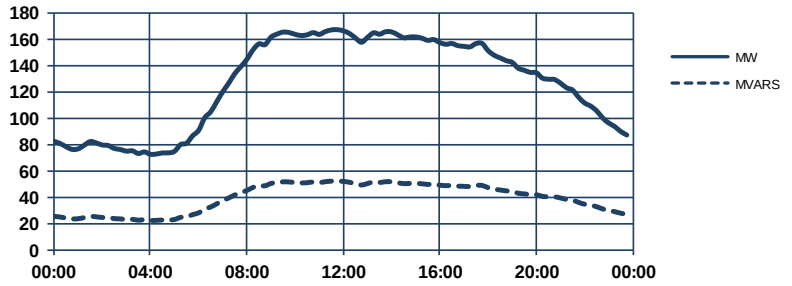



## *Winter Demand*

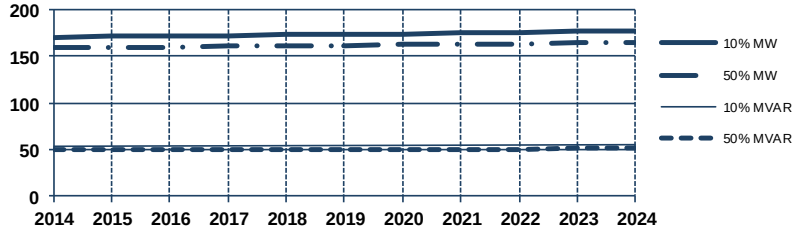
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:30 | 166.9 | 51.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 170.5 | 53.1 | 158.8 | 49.4 |
| 2015 | 171.3 | 53.3 | 159.5 | 49.6 |
| 2016 | 172.0 | 53.5 | 160.2 | 49.8 |
| 2017 | 172.4 | 53.6 | 160.6 | 50.0 |
| 2018 | 173.2 | 53.9 | 161.3 | 50.2 |
| 2019 | 173.8 | 54.1 | 161.8 | 50.4 |
| 2020 | 174.4 | 54.3 | 162.4 | 50.5 |
| 2021 | 175.1 | 54.5 | 163.1 | 50.7 |
| 2022 | 175.8 | 54.7 | 163.7 | 50.9 |
| 2023 | 176.5 | 54.9 | 164.4 | 51.1 |
| 2024 | 177.2 | 55.1 | 165.0 | 51.3 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 2 and 4, separated out for planning purposes.

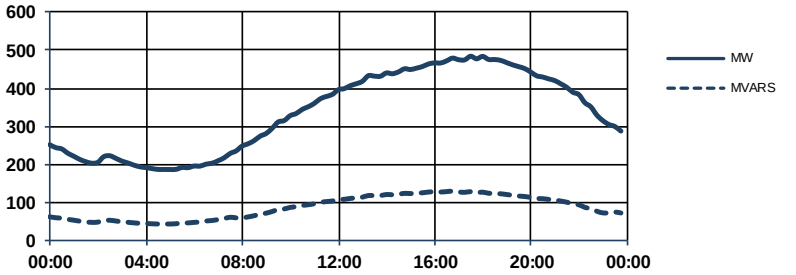
# RWTS66: Ringwood Terminal Station 66 kV bus

## *Summer Demand*

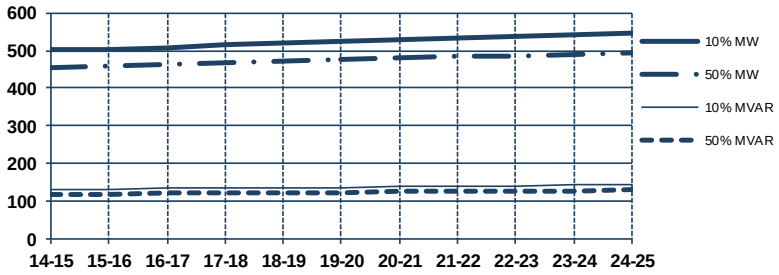
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:00 | 485.4 | 129.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 500.7 | 131.2 | 454.6 | 119.2 |
| 15-16 | 503.2 | 131.9 | 456.8 | 119.8 |
| 16-17 | 508.7 | 133.3 | 461.0 | 120.8 |
| 17-18 | 514.1 | 134.6 | 466.2 | 122.1 |
| 18-19 | 520.7 | 136.3 | 471.1 | 123.3 |
| 19-20 | 524.4 | 137.2 | 475.6 | 124.5 |
| 20-21 | 528.7 | 138.3 | 479.5 | 125.5 |
| 21-22 | 532.9 | 139.3 | 483.1 | 126.4 |
| 22-23 | 538.8 | 140.8 | 487.0 | 127.4 |
| 23-24 | 543.4 | 142.0 | 491.2 | 128.4 |
| 24-25 | 548.2 | 143.2 | 495.7 | 129.6 |

***Load Curve on High Demand Day***




***Forecast***

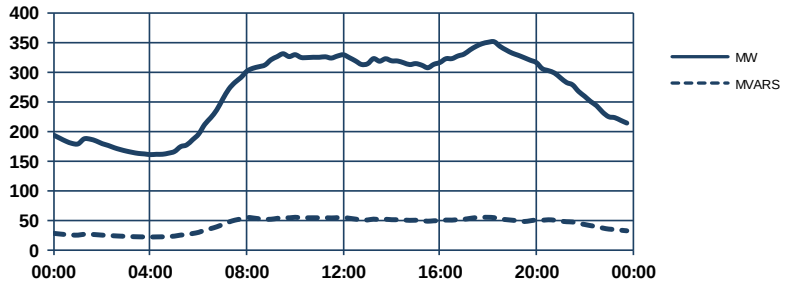



## *Winter Demand*

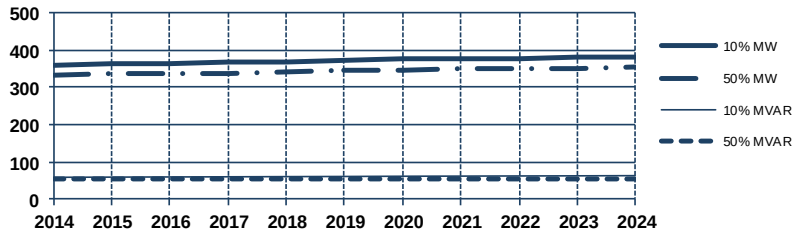
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 350.3 | 55.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 359.3 | 58.4 | 333.1 | 53.7 |
| 2015 | 361.9 | 58.8 | 335.5 | 54.1 |
| 2016 | 364.0 | 59.2 | 337.4 | 54.4 |
| 2017 | 366.2 | 59.5 | 339.4 | 54.7 |
| 2018 | 368.9 | 59.8 | 341.9 | 55.0 |
| 2019 | 371.5 | 60.2 | 344.3 | 55.3 |
| 2020 | 375.1 | 60.6 | 347.7 | 55.7 |
| 2021 | 376.7 | 60.9 | 349.0 | 56.0 |
| 2022 | 378.6 | 61.2 | 350.7 | 56.2 |
| 2023 | 380.2 | 61.5 | 352.1 | 56.5 |
| 2024 | 382.3 | 61.8 | 354.0 | 56.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Please see the comments for RWTS13 and RWTS24.

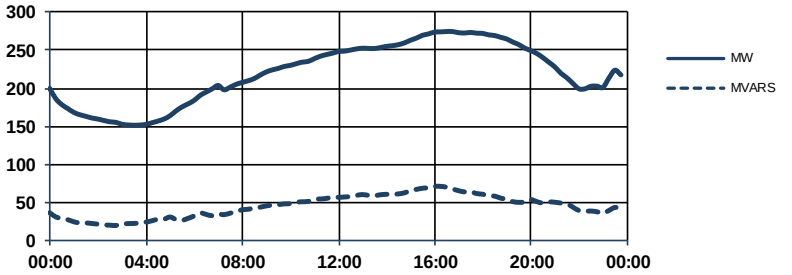
# SHTS66: Shepparton Terminal Station 66 kV bus

## *Summer Demand*

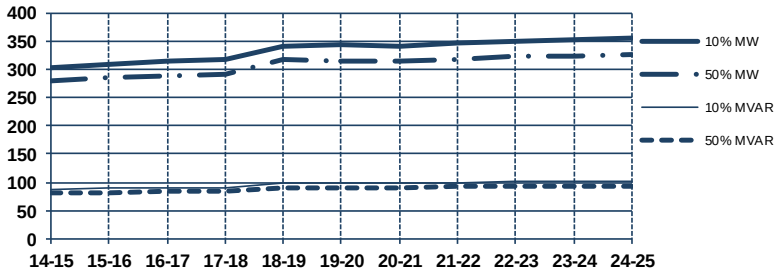
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 16:30 | 275.4 | 72.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 302.6 | 87.1 | 279.5 | 80.5 |
| 15-16 | 309.4 | 89.1 | 284.4 | 81.9 |
| 16-17 | 315.8 | 90.9 | 289.6 | 83.4 |
| 17-18 | 317.3 | 91.3 | 291.5 | 83.9 |
| 18-19 | 342.2 | 98.5 | 318.3 | 91.6 |
| 19-20 | 342.6 | 98.6 | 314.8 | 90.6 |
| 20-21 | 342.0 | 98.5 | 313.7 | 90.3 |
| 21-22 | 346.2 | 99.7 | 318.7 | 91.8 |
| 22-23 | 350.7 | 101.0 | 322.1 | 92.7 |
| 23-24 | 353.8 | 101.9 | 322.2 | 92.8 |
| 24-25 | 356.4 | 102.6 | 325.2 | 93.6 |

***Load Curve on High Demand Day***




***Forecast***

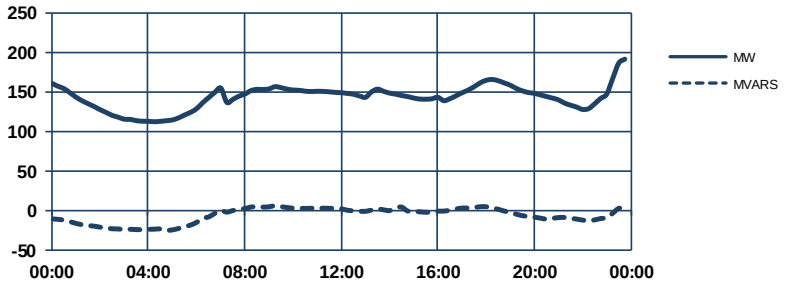



## *Winter Demand*

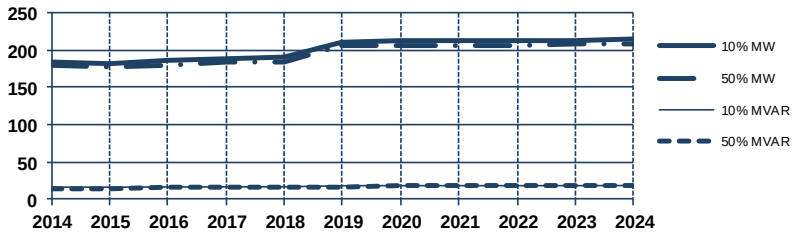
| 2013 MD | MW | MVAR |
|---|---|---|
| 08 Jul 2013 00:00 | 191.0 | -1.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 184.3 | 15.6 | 179.1 | 15.2 |
| 2015 | 181.6 | 15.4 | 176.7 | 15.0 |
| 2016 | 185.5 | 15.8 | 180.4 | 15.3 |
| 2017 | 187.7 | 15.9 | 183.1 | 15.5 |
| 2018 | 190.4 | 16.2 | 185.1 | 15.7 |
| 2019 | 210.5 | 17.9 | 205.5 | 17.4 |
| 2020 | 212.4 | 18.0 | 207.0 | 17.6 |
| 2021 | 212.5 | 18.0 | 207.2 | 17.6 |
| 2022 | 212.4 | 18.0 | 207.1 | 17.6 |
| 2023 | 213.6 | 18.1 | 208.2 | 17.7 |
| 2024 | 215.1 | 18.3 | 208.6 | 17.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

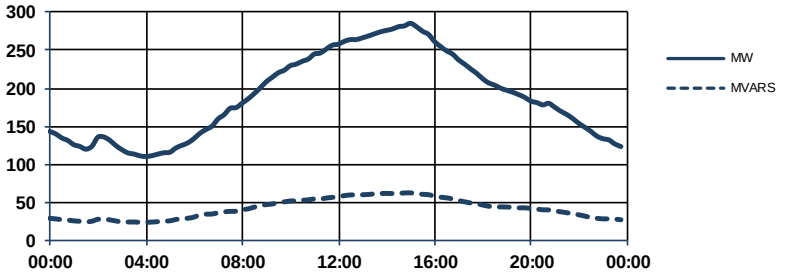
# SMTS66: South Morang Terminal Station 66 kV bus

## *Summer Demand*

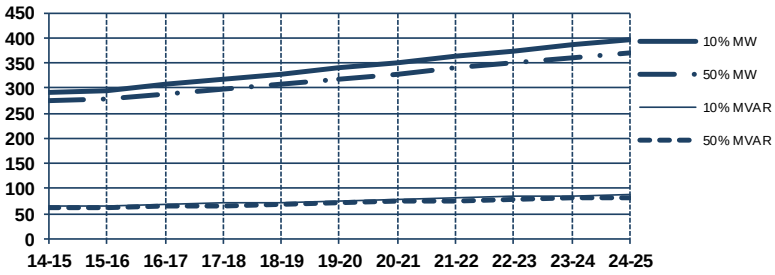
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 13 Jan 2014 17:00 | 284.7 | 62.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 291.5 | 64.7 | 273.8 | 61.0 |
| 15-16 | 296.5 | 66.2 | 278.4 | 62.2 |
| 16-17 | 306.9 | 68.6 | 288.1 | 64.6 |
| 17-18 | 317.9 | 71.1 | 298.2 | 66.8 |
| 18-19 | 328.8 | 73.5 | 308.2 | 69.0 |
| 19-20 | 340.1 | 76.1 | 318.6 | 71.4 |
| 20-21 | 351.3 | 78.6 | 328.9 | 73.7 |
| 21-22 | 362.6 | 81.2 | 339.7 | 76.2 |
| 22-23 | 374.7 | 84.0 | 350.4 | 78.6 |
| 23-24 | 385.7 | 86.5 | 360.4 | 80.8 |
| 24-25 | 397.0 | 89.0 | 370.5 | 83.1 |

***Load Curve on High Demand Day***




***Forecast***

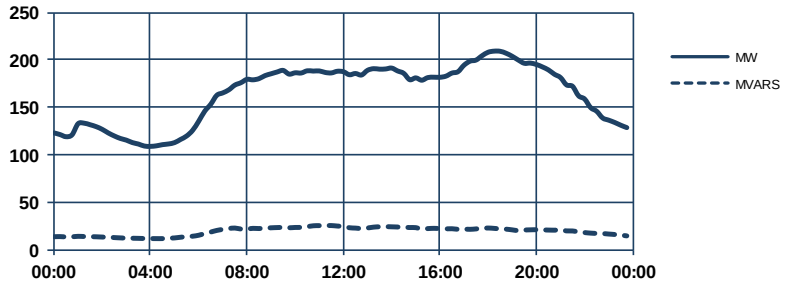



## *Winter Demand*

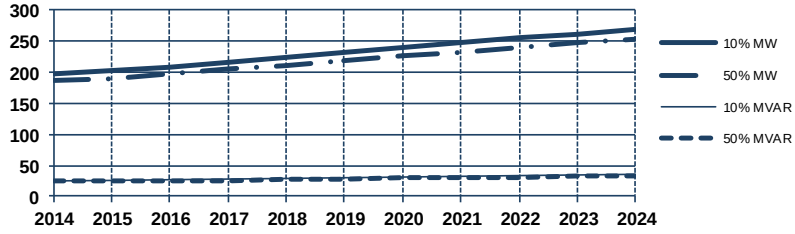
| 2013 MD | MW | MVAR |
|---|---|---|
| 14 May 2013 19:00 | 209.5 | 25.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 197.7 | 24.8 | 186.8 | 23.7 |
| 2015 | 201.2 | 25.5 | 190.3 | 24.4 |
| 2016 | 208.5 | 26.5 | 197.1 | 25.4 |
| 2017 | 215.8 | 27.4 | 204.0 | 26.2 |
| 2018 | 223.1 | 28.3 | 210.8 | 27.1 |
| 2019 | 230.7 | 29.3 | 218.0 | 28.1 |
| 2020 | 238.3 | 30.3 | 225.1 | 29.0 |
| 2021 | 246.2 | 31.4 | 232.5 | 30.0 |
| 2022 | 254.1 | 32.4 | 239.8 | 31.0 |
| 2023 | 261.4 | 33.3 | 246.7 | 31.8 |
| 2024 | 268.8 | 34.2 | 253.6 | 32.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Somerton Power Station is assumed to be switched off at the time of maximum demand for forecasts, and is not netted off actual previous year summer and winter generation.

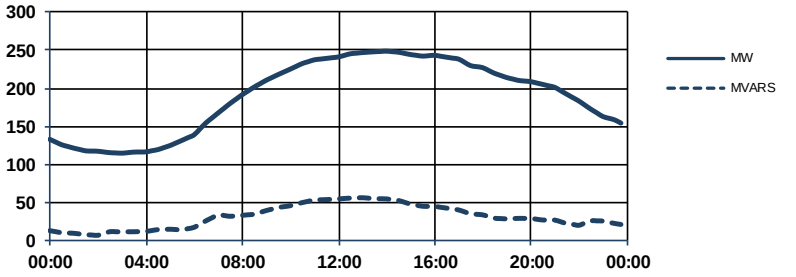
# SVTS1266: Springvale Terminal Station buses 1&2 66 kV bus

## *Summer Demand*

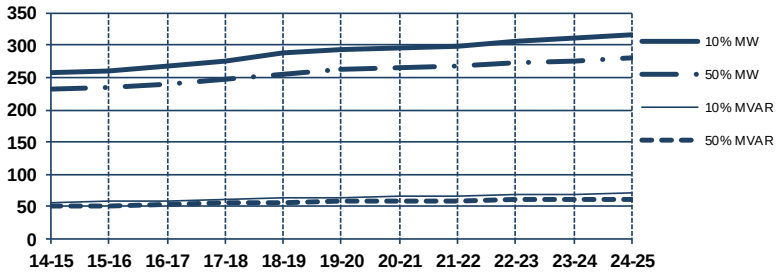
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 14:00 | 249.2 | 55.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 257.2 | 57.2 | 232.2 | 51.6 |
| 15-16 | 259.3 | 57.6 | 233.8 | 52.0 |
| 16-17 | 267.6 | 59.5 | 239.5 | 53.2 |
| 17-18 | 276.3 | 61.4 | 248.3 | 55.2 |
| 18-19 | 287.1 | 63.8 | 255.5 | 56.8 |
| 19-20 | 291.8 | 64.9 | 262.4 | 58.3 |
| 20-21 | 294.5 | 65.5 | 264.9 | 58.9 |
| 21-22 | 297.5 | 66.1 | 267.0 | 59.4 |
| 22-23 | 306.5 | 68.1 | 271.9 | 60.4 |
| 23-24 | 310.7 | 69.1 | 275.9 | 61.3 |
| 24-25 | 315.3 | 70.1 | 280.4 | 62.3 |

***Load Curve on High Demand Day***




***Forecast***

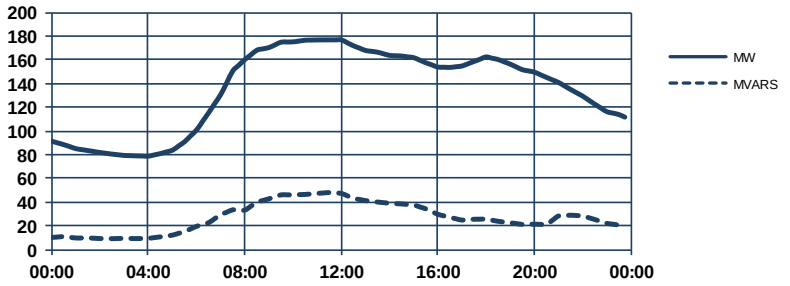



## *Winter Demand*

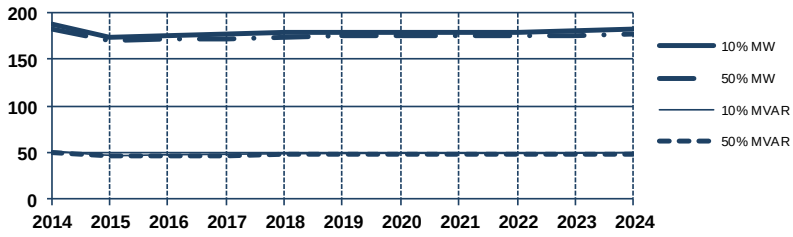
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Aug 2013 12:00 | 176.3 | 48.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 187.3 | 51.4 | 182.6 | 50.1 |
| 2015 | 173.7 | 47.7 | 169.9 | 46.6 |
| 2016 | 175.2 | 48.1 | 171.2 | 47.0 |
| 2017 | 176.8 | 48.6 | 172.7 | 47.4 |
| 2018 | 178.4 | 49.0 | 174.2 | 47.8 |
| 2019 | 179.3 | 49.2 | 174.9 | 48.0 |
| 2020 | 179.9 | 49.4 | 175.4 | 48.2 |
| 2021 | 179.9 | 49.4 | 175.2 | 48.1 |
| 2022 | 179.7 | 49.3 | 174.8 | 48.0 |
| 2023 | 180.1 | 49.4 | 175.1 | 48.1 |
| 2024 | 182.3 | 50.1 | 177.2 | 48.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 1 and 2, separated out for planning purposes.

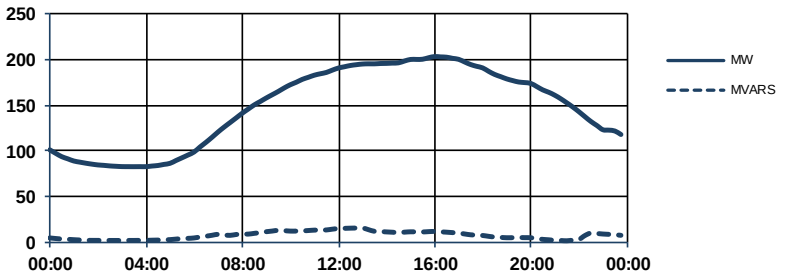
# SVTS3466: Springvale Terminal Station buses 3&4 66 kV bus

## *Summer Demand*

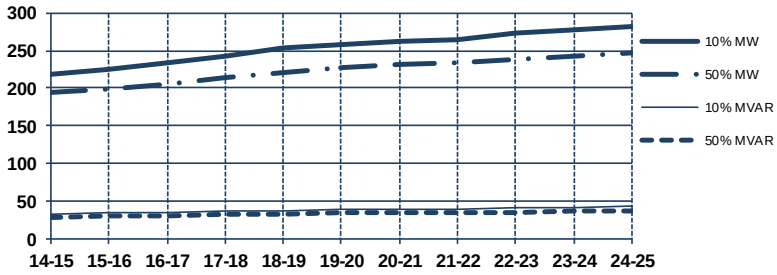
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 18:00 | 203.6 | 16.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 219.2 | 33.2 | 194.8 | 29.2 |
| 15-16 | 224.2 | 34.0 | 198.9 | 29.8 |
| 16-17 | 234.0 | 35.4 | 206.4 | 30.9 |
| 17-18 | 243.2 | 36.8 | 214.9 | 32.1 |
| 18-19 | 253.2 | 38.2 | 221.5 | 33.0 |
| 19-20 | 258.5 | 39.0 | 228.2 | 33.9 |
| 20-21 | 261.8 | 39.6 | 231.0 | 34.4 |
| 21-22 | 265.2 | 40.2 | 233.4 | 34.8 |
| 22-23 | 273.5 | 41.4 | 238.3 | 35.5 |
| 23-24 | 277.6 | 42.0 | 241.9 | 36.1 |
| 24-25 | 282.2 | 42.8 | 246.0 | 36.7 |

***Load Curve on High Demand Day***




***Forecast***

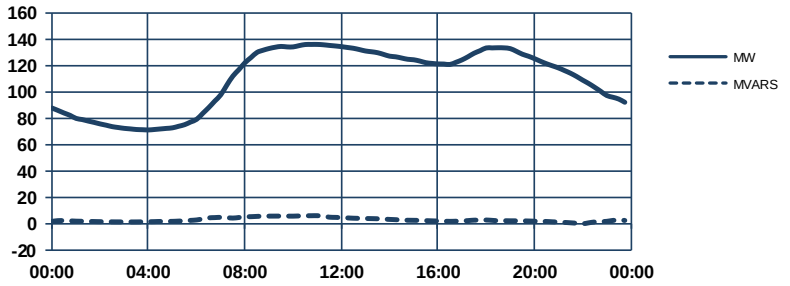



## *Winter Demand*

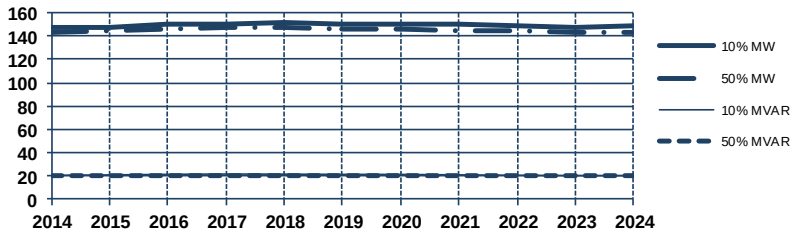
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:00 | 136.0 | 5.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 146.8 | 20.8 | 142.8 | 20.2 |
| 2015 | 148.0 | 21.0 | 144.3 | 20.4 |
| 2016 | 149.8 | 21.3 | 145.9 | 20.7 |
| 2017 | 150.9 | 21.4 | 146.9 | 20.8 |
| 2018 | 151.1 | 21.4 | 147.1 | 20.8 |
| 2019 | 150.9 | 21.3 | 146.6 | 20.6 |
| 2020 | 150.9 | 21.3 | 146.4 | 20.6 |
| 2021 | 149.8 | 21.0 | 145.2 | 20.3 |
| 2022 | 148.8 | 20.8 | 144.1 | 20.1 |
| 2023 | 148.1 | 20.7 | 143.3 | 19.9 |
| 2024 | 148.6 | 20.6 | 143.5 | 19.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 3 and 4, separated out for planning purposes.

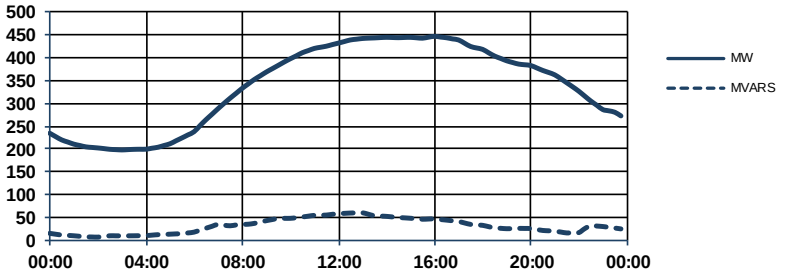
# SVTS66: Springvale Terminal Station 66 kV bus

## *Summer Demand*

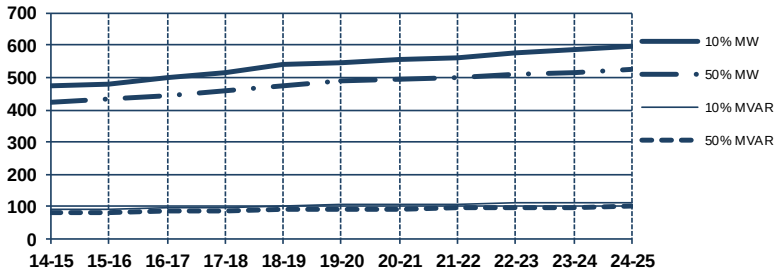
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 18:00 | 447.4 | 61.5 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 474.1 | 90.6 | 425.1 | 81.1 |
| 15-16 | 481.1 | 92.1 | 430.8 | 82.2 |
| 16-17 | 499.1 | 95.5 | 443.8 | 84.7 |
| 17-18 | 517.0 | 98.9 | 461.1 | 87.9 |
| 18-19 | 537.8 | 102.8 | 475.0 | 90.5 |
| 19-20 | 547.7 | 104.7 | 488.5 | 93.1 |
| 20-21 | 553.6 | 105.9 | 493.7 | 94.1 |
| 21-22 | 559.9 | 107.2 | 498.3 | 95.0 |
| 22-23 | 577.1 | 110.4 | 507.9 | 96.9 |
| 23-24 | 585.5 | 112.0 | 515.5 | 98.3 |
| 24-25 | 594.6 | 113.8 | 524.1 | 100.0 |

***Load Curve on High Demand Day***




***Forecast***

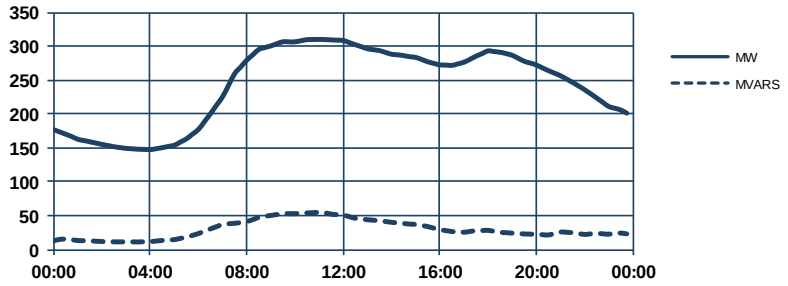



## *Winter Demand*

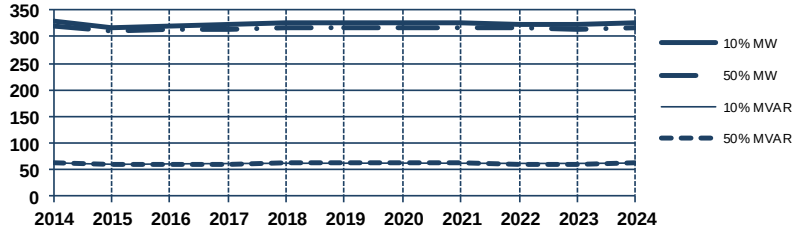
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 11:00 | 310.1 | 54.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 329.0 | 64.1 | 320.4 | 62.4 |
| 2015 | 316.7 | 61.7 | 309.3 | 60.3 |
| 2016 | 319.9 | 62.3 | 312.2 | 60.8 |
| 2017 | 322.6 | 62.9 | 314.7 | 61.3 |
| 2018 | 324.6 | 63.2 | 316.5 | 61.6 |
| 2019 | 325.4 | 63.4 | 317.0 | 61.7 |
| 2020 | 326.1 | 63.5 | 317.4 | 61.8 |
| 2021 | 325.3 | 63.3 | 316.2 | 61.6 |
| 2022 | 324.1 | 63.1 | 314.9 | 61.3 |
| 2023 | 324.0 | 63.1 | 314.5 | 61.2 |
| 2024 | 327.1 | 63.6 | 317.1 | 61.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

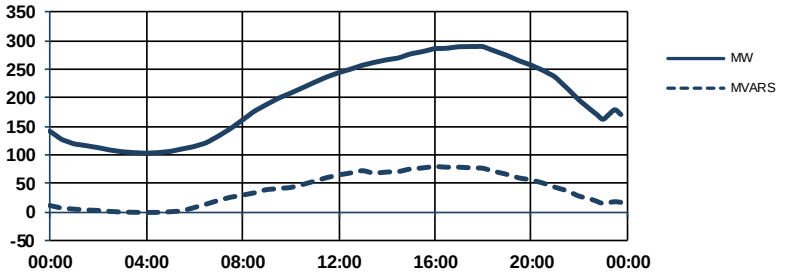
# TBTS66: Tyabb Terminal Station 66 kV bus

## *Summer Demand*

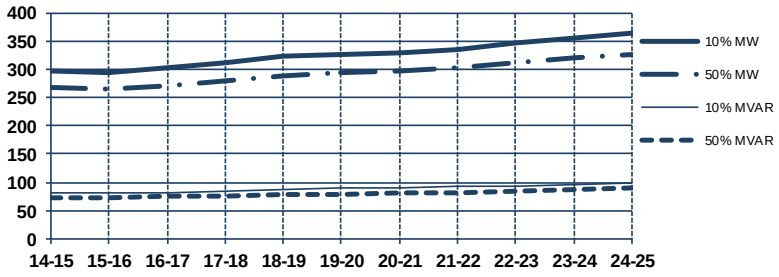
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:30 | 290.0 | 79.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 297.8 | 81.4 | 267.8 | 73.2 |
| 15-16 | 295.4 | 80.7 | 265.6 | 72.6 |
| 16-17 | 302.7 | 82.7 | 272.2 | 74.4 |
| 17-18 | 311.2 | 85.0 | 279.8 | 76.5 |
| 18-19 | 321.9 | 87.9 | 289.4 | 79.1 |
| 19-20 | 325.7 | 89.0 | 292.9 | 80.0 |
| 20-21 | 329.3 | 90.0 | 296.1 | 80.9 |
| 21-22 | 336.2 | 91.8 | 302.3 | 82.6 |
| 22-23 | 345.6 | 94.4 | 310.7 | 84.9 |
| 23-24 | 355.6 | 97.1 | 319.8 | 87.4 |
| 24-25 | 362.7 | 99.1 | 326.1 | 89.1 |

***Load Curve on High Demand Day***




***Forecast***

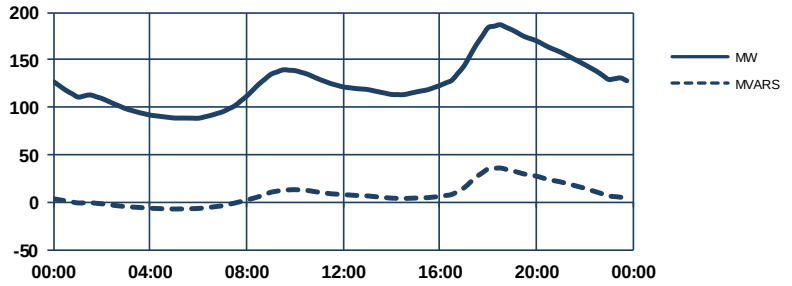



## *Winter Demand*

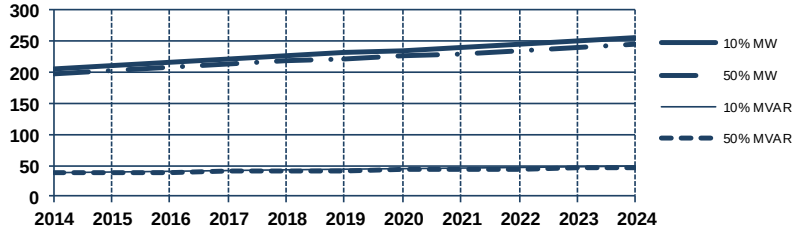
| 2013 MD | MW | MVAR |
|---|---|---|
| 09 Jun 2013 18:30 | 187.0 | 35.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 204.9 | 38.5 | 197.7 | 37.1 |
| 2015 | 209.7 | 39.4 | 202.2 | 38.0 |
| 2016 | 215.2 | 40.4 | 207.4 | 38.9 |
| 2017 | 220.9 | 41.5 | 212.8 | 40.0 |
| 2018 | 226.3 | 42.5 | 217.8 | 40.9 |
| 2019 | 231.0 | 43.4 | 222.2 | 41.7 |
| 2020 | 235.3 | 44.2 | 226.3 | 42.5 |
| 2021 | 239.5 | 45.0 | 230.1 | 43.2 |
| 2022 | 243.9 | 45.8 | 234.3 | 44.0 |
| 2023 | 249.2 | 46.8 | 239.2 | 44.9 |
| 2024 | 254.5 | 47.8 | 244.2 | 45.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

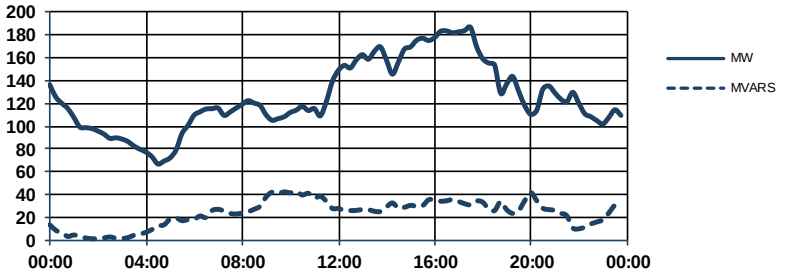
# TGTS66: Terang Terminal Station 66 kV bus

## *Summer Demand*

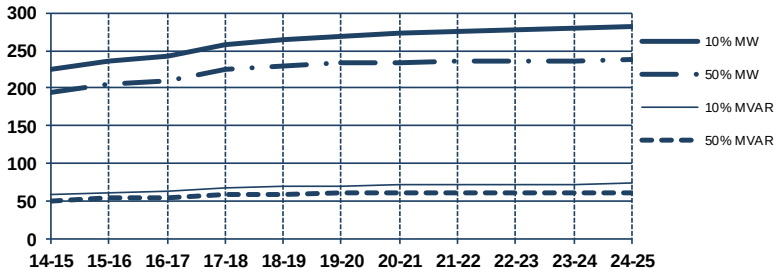
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 17:30 | 186.4 | 42.4 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **14-15** | 224.5 | 58.8 | 194.6 | 51.0 |
| **15-16** | 236.7 | 62.0 | 205.6 | 53.9 |
| **16-17** | 242.6 | 63.6 | 210.2 | 55.1 |
| **17-18** | 258.7 | 67.8 | 225.0 | 59.0 |
| **18-19** | 264.1 | 69.2 | 229.1 | 60.0 |
| **19-20** | 269.7 | 70.7 | 233.3 | 61.1 |
| **20-21** | 272.5 | 71.4 | 234.6 | 61.5 |
| **21-22** | 274.8 | 72.0 | 235.5 | 61.7 |
| **22-23** | 276.9 | 72.5 | 236.0 | 61.8 |
| **23-24** | 278.6 | 73.0 | 236.1 | 61.9 |
| **24-25** | 281.2 | 73.7 | 237.2 | 62.1 |

***Load Curve on High Demand Day***




***Forecast***

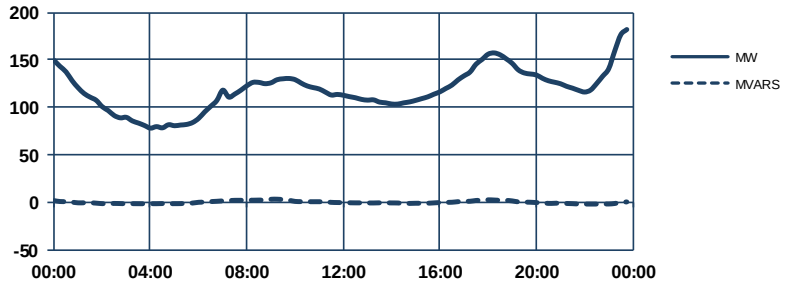



## *Winter Demand*

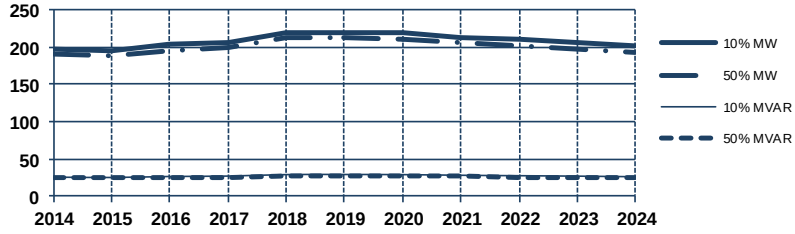
| 2013 MD | MW | MVAR |
|---|---|---|
| 08 Jul 2013 00:00 | 182.3 | 3.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| **2014** | 197.7 | 25.7 | 190.4 | 24.8 |
| **2015** | 194.6 | 25.3 | 188.1 | 24.4 |
| **2016** | 203.4 | 26.4 | 196.0 | 25.5 |
| **2017** | 206.8 | 26.9 | 199.4 | 25.9 |
| **2018** | 219.8 | 28.6 | 212.0 | 27.6 |
| **2019** | 220.5 | 28.7 | 212.3 | 27.6 |
| **2020** | 219.4 | 28.5 | 211.4 | 27.5 |
| **2021** | 213.8 | 27.8 | 206.1 | 26.8 |
| **2022** | 210.0 | 27.3 | 201.4 | 26.2 |
| **2023** | 206.3 | 26.8 | 197.4 | 25.7 |
| **2024** | 201.3 | 26.2 | 192.8 | 25.1 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

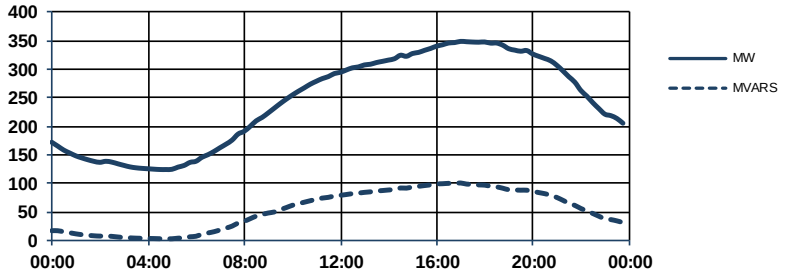
# TSTS66: Templestowe Terminal Station 66 kV bus

## *Summer Demand*

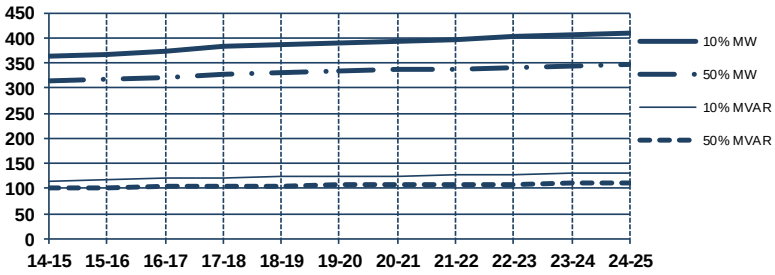
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 18:00 | 347.5 | 101.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 363.6 | 116.0 | 315.1 | 100.7 |
| 15-16 | 367.4 | 117.3 | 317.8 | 101.7 |
| 16-17 | 374.8 | 119.7 | 322.4 | 103.2 |
| 17-18 | 382.8 | 122.3 | 328.9 | 105.3 |
| 18-19 | 388.2 | 124.0 | 332.0 | 106.3 |
| 19-20 | 390.5 | 124.8 | 335.1 | 107.3 |
| 20-21 | 393.6 | 126.0 | 336.4 | 107.8 |
| 21-22 | 396.4 | 126.9 | 338.2 | 108.5 |
| 22-23 | 404.2 | 129.4 | 341.9 | 109.7 |
| 23-24 | 407.2 | 130.5 | 343.9 | 110.4 |
| 24-25 | 410.4 | 131.6 | 345.9 | 111.1 |

***Load Curve on High Demand Day***




***Forecast***

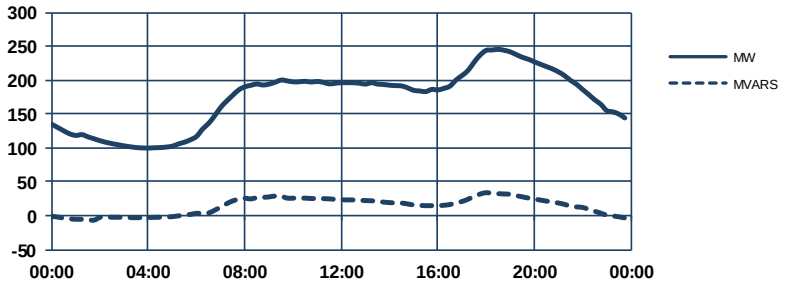



## *Winter Demand*

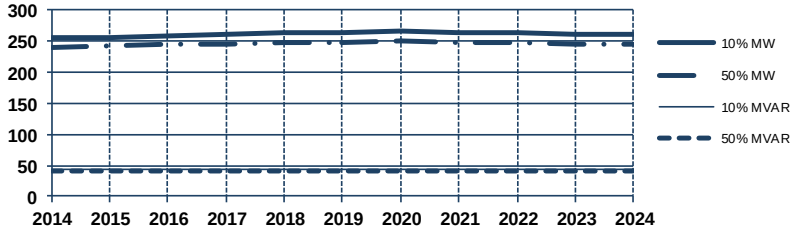
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:30 | 244.8 | 34.8 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 254.7 | 42.3 | 240.0 | 39.8 |
| 2015 | 256.1 | 42.6 | 241.9 | 40.1 |
| 2016 | 259.0 | 43.1 | 243.9 | 40.5 |
| 2017 | 260.9 | 43.3 | 245.8 | 40.7 |
| 2018 | 262.6 | 43.5 | 247.5 | 40.9 |
| 2019 | 263.3 | 43.5 | 247.8 | 40.9 |
| 2020 | 265.1 | 43.7 | 249.3 | 41.0 |
| 2021 | 263.2 | 43.4 | 247.0 | 40.6 |
| 2022 | 262.4 | 43.2 | 246.2 | 40.4 |
| 2023 | 261.7 | 42.9 | 245.4 | 40.1 |
| 2024 | 260.9 | 42.7 | 243.9 | 39.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

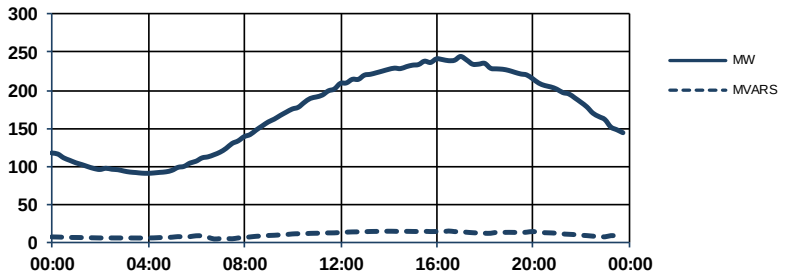
# TTS1266: Thomastown Terminal Station 1&2 66 kV bus

## *Summer Demand*

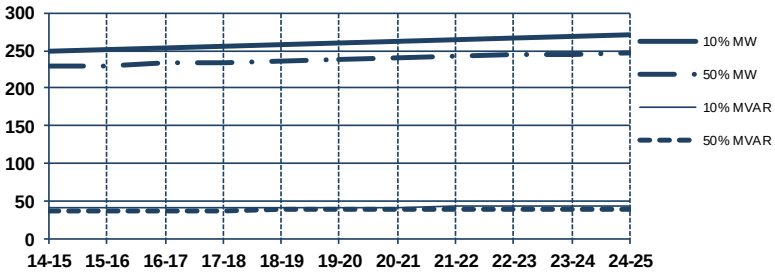
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 16:00 | 244.4 | 15.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 248.9 | 40.8 | 228.6 | 37.6 |
| 15-16 | 250.5 | 40.9 | 229.7 | 37.6 |
| 16-17 | 253.9 | 41.4 | 232.9 | 38.1 |
| 17-18 | 256.0 | 41.6 | 234.6 | 38.2 |
| 18-19 | 258.3 | 41.8 | 236.5 | 38.4 |
| 19-20 | 260.9 | 42.2 | 238.7 | 38.6 |
| 20-21 | 263.0 | 42.4 | 240.5 | 38.8 |
| 21-22 | 264.7 | 42.6 | 242.4 | 39.1 |
| 22-23 | 267.1 | 43.0 | 244.0 | 39.3 |
| 23-24 | 269.2 | 43.2 | 245.6 | 39.4 |
| 24-25 | 271.2 | 43.5 | 247.1 | 39.5 |

***Load Curve on High Demand Day***




***Forecast***

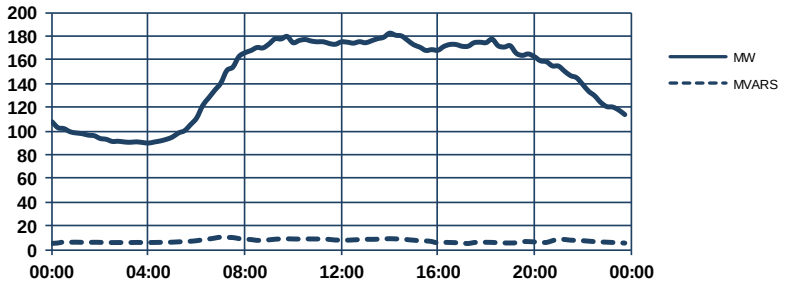



## *Winter Demand*

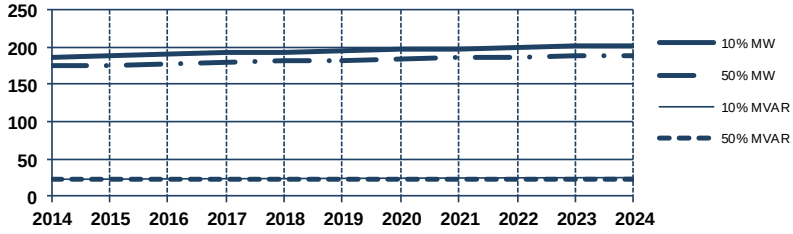
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:00 | 182.5 | 9.9 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 187.1 | 23.8 | 175.2 | 22.6 |
| 2015 | 188.0 | 23.9 | 176.0 | 22.7 |
| 2016 | 190.6 | 24.2 | 178.4 | 23.0 |
| 2017 | 191.9 | 24.3 | 179.7 | 23.0 |
| 2018 | 193.5 | 24.4 | 181.1 | 23.2 |
| 2019 | 195.3 | 24.6 | 182.8 | 23.3 |
| 2020 | 196.7 | 24.7 | 184.1 | 23.5 |
| 2021 | 198.2 | 24.9 | 185.5 | 23.6 |
| 2022 | 199.5 | 25.0 | 186.7 | 23.8 |
| 2023 | 200.8 | 25.1 | 187.9 | 23.8 |
| 2024 | 202.0 | 25.2 | 189.0 | 23.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 1 and 2, separated out for planning purposes.

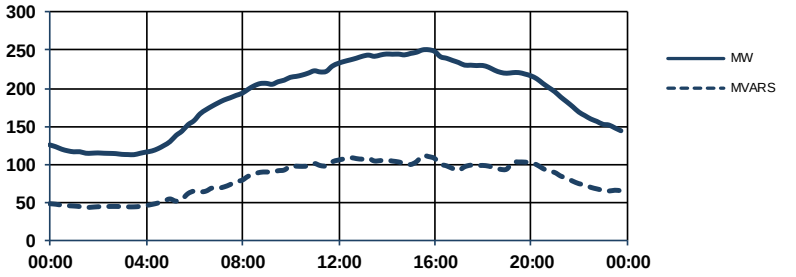
# TTS3466: Thomastown Terminal Station 3&4 66 kV bus

## *Summer Demand*

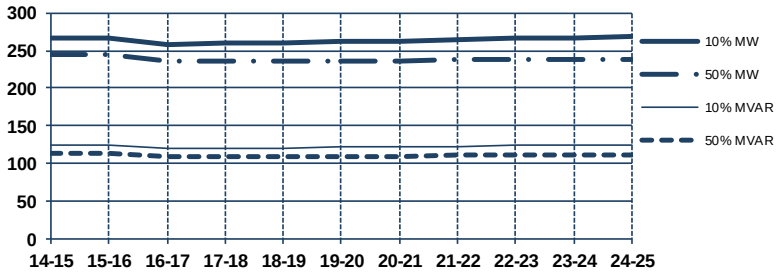
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 15:30 | 250.3 | 111.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 266.2 | 124.0 | 245.6 | 114.4 |
| 15-16 | 266.6 | 124.2 | 244.7 | 114.0 |
| 16-17 | 258.7 | 120.6 | 236.2 | 110.1 |
| 17-18 | 259.3 | 120.8 | 235.7 | 109.8 |
| 18-19 | 260.0 | 121.1 | 235.4 | 109.7 |
| 19-20 | 261.7 | 122.0 | 236.2 | 110.0 |
| 20-21 | 262.9 | 122.5 | 236.3 | 110.1 |
| 21-22 | 263.6 | 122.8 | 237.2 | 110.5 |
| 22-23 | 266.1 | 124.0 | 237.8 | 110.8 |
| 23-24 | 267.2 | 124.5 | 237.4 | 110.6 |
| 24-25 | 268.2 | 125.0 | 237.1 | 110.5 |

***Load Curve on High Demand Day***




***Forecast***

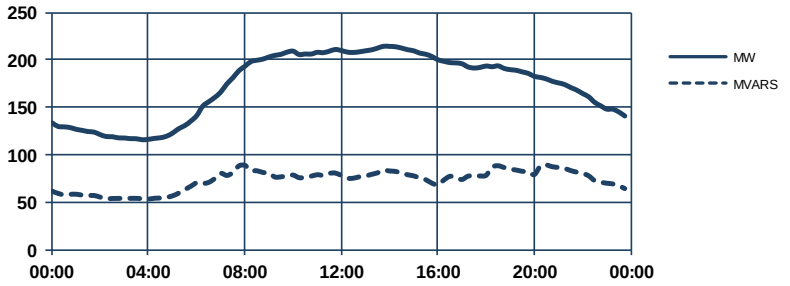



## *Winter Demand*

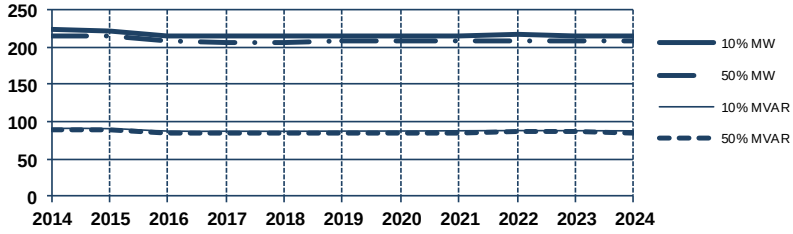
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:30 | 214.3 | 88.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 223.5 | 91.9 | 215.9 | 88.8 |
| 2015 | 222.7 | 91.6 | 215.2 | 88.5 |
| 2016 | 215.0 | 88.4 | 207.7 | 85.4 |
| 2017 | 214.5 | 88.2 | 207.2 | 85.3 |
| 2018 | 214.2 | 88.1 | 207.0 | 85.2 |
| 2019 | 214.9 | 88.4 | 207.6 | 85.4 |
| 2020 | 215.1 | 88.5 | 207.8 | 85.5 |
| 2021 | 215.9 | 88.8 | 208.6 | 85.8 |
| 2022 | 216.4 | 89.0 | 209.1 | 86.0 |
| 2023 | 216.1 | 88.9 | 208.8 | 85.9 |
| 2024 | 215.7 | 88.8 | 208.5 | 85.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

This is the demand on buses 3 and 4, separated out for planning purposes.

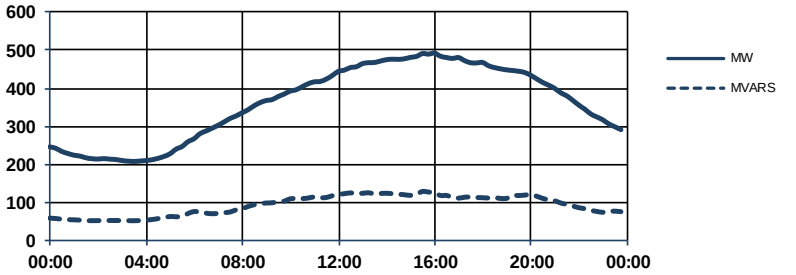
# TTS66: Thomastown Terminal Station 66 kV bus

## *Summer Demand*

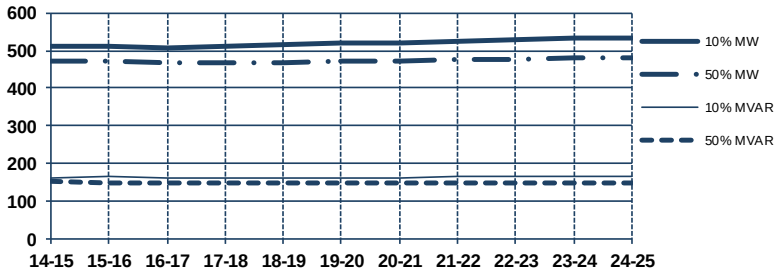
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 16:00 | 493.2 | 127.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 511.1 | 163.6 | 470.5 | 150.9 |
| 15-16 | 513.1 | 163.9 | 470.8 | 150.5 |
| 16-17 | 508.7 | 160.8 | 465.5 | 147.1 |
| 17-18 | 511.4 | 161.3 | 466.7 | 146.9 |
| 18-19 | 514.4 | 161.8 | 468.4 | 147.0 |
| 19-20 | 518.6 | 162.9 | 471.2 | 147.6 |
| 20-21 | 521.8 | 163.7 | 473.1 | 147.8 |
| 21-22 | 524.2 | 164.2 | 475.9 | 148.5 |
| 22-23 | 529.1 | 165.8 | 478.1 | 149.0 |
| 23-24 | 532.2 | 166.5 | 479.3 | 148.9 |
| 24-25 | 535.2 | 167.2 | 480.4 | 148.9 |

***Load Curve on High Demand Day***




***Forecast***

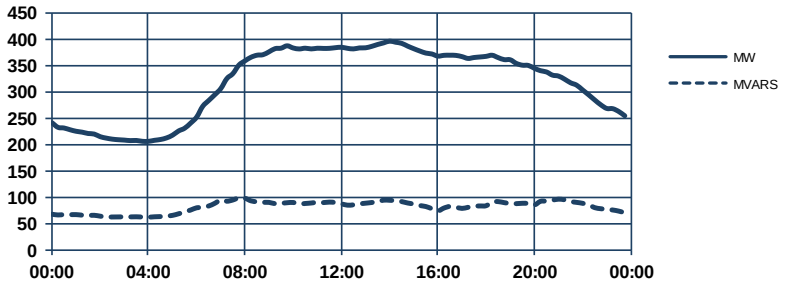



## *Winter Demand*

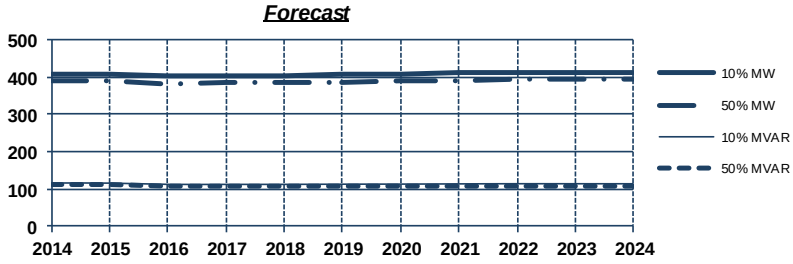
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 10:00 | 396.5 | 98.0 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 407.4 | 114.9 | 388.1 | 110.6 |
| 2015 | 407.5 | 114.6 | 388.2 | 110.3 |
| 2016 | 402.4 | 111.7 | 383.2 | 107.5 |
| 2017 | 403.3 | 111.6 | 383.9 | 107.4 |
| 2018 | 404.6 | 111.7 | 385.2 | 107.5 |
| 2019 | 407.0 | 112.1 | 387.4 | 107.9 |
| 2020 | 408.6 | 112.3 | 388.9 | 108.1 |
| 2021 | 410.9 | 112.8 | 391.1 | 108.6 |
| 2022 | 412.8 | 113.2 | 392.8 | 108.9 |
| 2023 | 413.7 | 113.1 | 393.6 | 108.9 |
| 2024 | 414.5 | 113.1 | 394.4 | 108.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

*For embedded generation details, please see section 3.2.*

Please see the comments for TTS12 and TTS34

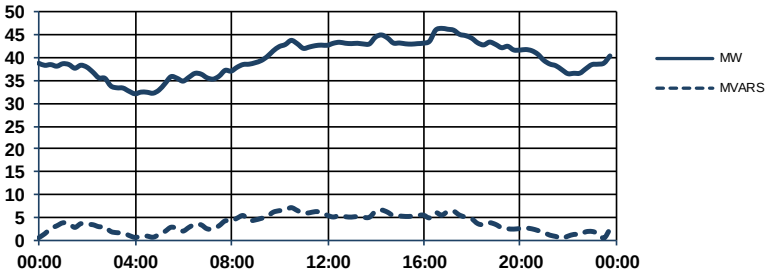
# WETS66: Wemen Terminal Station 66 kV bus

## *Summer Demand*

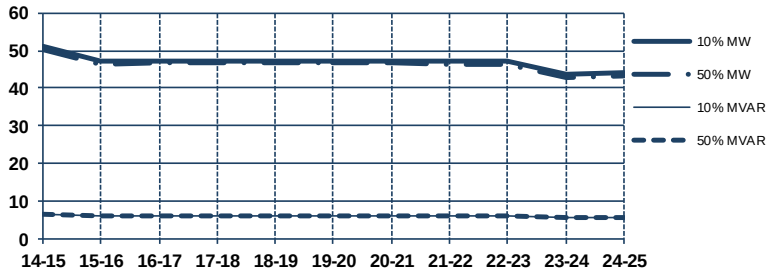
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 01 Feb 2014 17:00 | 46.3 | 7.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 51.0 | 6.6 | 50.4 | 6.6 |
| 15-16 | 47.1 | 6.1 | 46.5 | 6.1 |
| 16-17 | 47.2 | 6.2 | 46.6 | 6.1 |
| 17-18 | 47.3 | 6.2 | 46.6 | 6.1 |
| 18-19 | 47.3 | 6.2 | 46.7 | 6.1 |
| 19-20 | 47.3 | 6.2 | 46.6 | 6.1 |
| 20-21 | 47.3 | 6.2 | 46.6 | 6.1 |
| 21-22 | 47.2 | 6.2 | 46.5 | 6.1 |
| 22-23 | 47.1 | 6.1 | 46.3 | 6.0 |
| 23-24 | 43.5 | 5.7 | 42.7 | 5.6 |
| 24-25 | 44.1 | 5.8 | 43.3 | 5.6 |

***Load Curve on High Demand Day***




***Forecast***

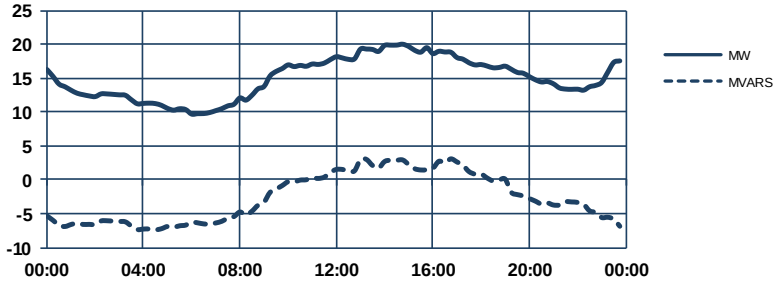



## *Winter Demand*

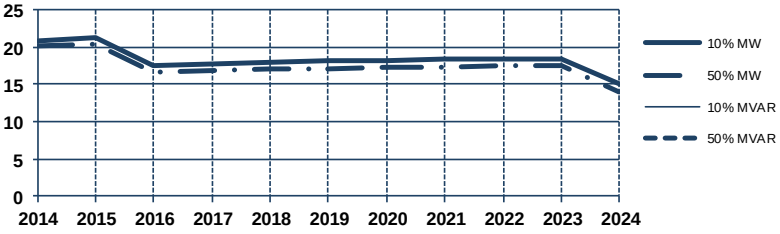
| 2013 MD | MW | MVAR |
|---|---|---|
| 27 Aug 2013 16:00 | 20.1 | -1.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 20.9 | -3.0 | 20.2 | -2.9 |
| 2015 | 21.2 | -3.0 | 20.4 | -2.9 |
| 2016 | 17.5 | -2.5 | 16.6 | -2.4 |
| 2017 | 17.7 | -2.5 | 16.8 | -2.4 |
| 2018 | 17.9 | -2.6 | 17.0 | -2.4 |
| 2019 | 18.1 | -2.6 | 17.2 | -2.5 |
| 2020 | 18.2 | -2.6 | 17.3 | -2.5 |
| 2021 | 18.4 | -2.6 | 17.4 | -2.5 |
| 2022 | 18.4 | -2.6 | 17.4 | -2.5 |
| 2023 | 18.5 | -2.7 | 17.4 | -2.5 |
| 2024 | 15.1 | -2.2 | 14.0 | -2.0 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

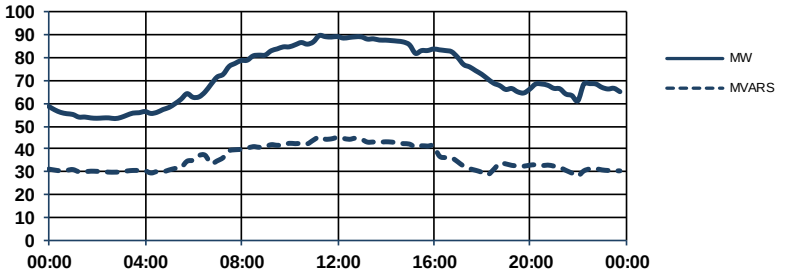
# WMTS22: West Melbourne Terminal Station 22 kV bus

## *Summer Demand*

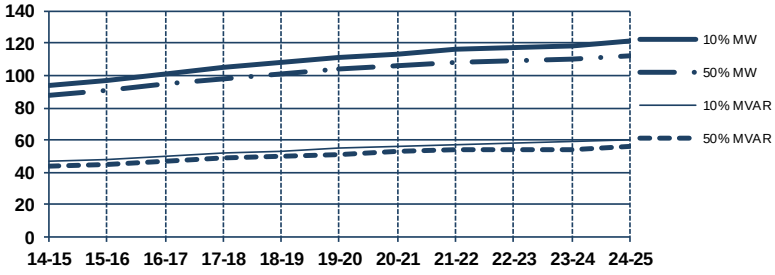
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 16 Jan 2014 11:30 | 90.1 | 45.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 93.6 | 46.4 | 87.6 | 43.4 |
| 15-16 | 97.3 | 48.3 | 91.1 | 45.2 |
| 16-17 | 101.0 | 50.1 | 94.6 | 46.9 |
| 17-18 | 104.6 | 51.9 | 97.8 | 48.5 |
| 18-19 | 107.9 | 53.5 | 100.9 | 50.0 |
| 19-20 | 110.8 | 54.9 | 103.5 | 51.3 |
| 20-21 | 113.6 | 56.3 | 106.0 | 52.6 |
| 21-22 | 115.9 | 57.5 | 108.0 | 53.6 |
| 22-23 | 117.5 | 58.3 | 109.3 | 54.2 |
| 23-24 | 118.3 | 58.7 | 109.8 | 54.5 |
| 24-25 | 120.9 | 60.0 | 112.1 | 55.6 |

***Load Curve on High Demand Day***




***Forecast***

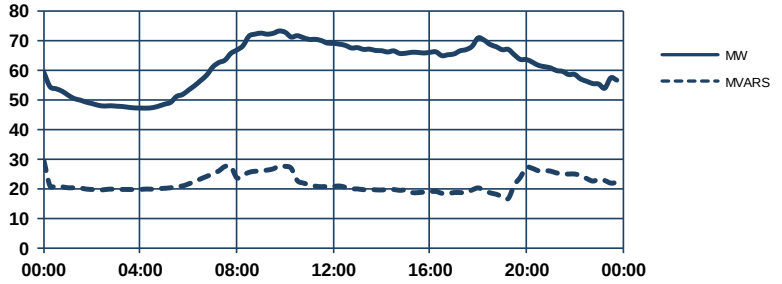



## *Winter Demand*

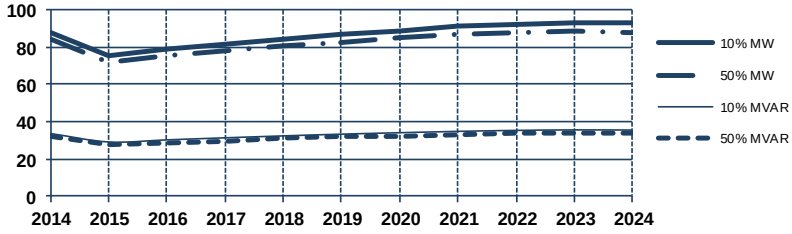
| 2013 MD | MW | MVAR |
|---|---|---|
| 10 Jul 2013 09:30 | 72.9 | 29.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 87.8 | 33.7 | 84.4 | 32.4 |
| 2015 | 75.7 | 29.1 | 72.2 | 27.7 |
| 2016 | 78.8 | 30.2 | 75.1 | 28.9 |
| 2017 | 81.7 | 31.4 | 77.9 | 29.9 |
| 2018 | 84.5 | 32.4 | 80.6 | 30.9 |
| 2019 | 87.0 | 33.4 | 82.9 | 31.8 |
| 2020 | 89.0 | 34.2 | 84.8 | 32.6 |
| 2021 | 91.0 | 34.9 | 86.5 | 33.2 |
| 2022 | 92.4 | 35.5 | 87.8 | 33.7 |
| 2023 | 93.1 | 35.7 | 88.3 | 33.9 |
| 2024 | 92.9 | 35.7 | 87.9 | 33.8 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

This includes only the 22 kV demand at WMTS.

*For embedded generation details, please see section 3.2.*

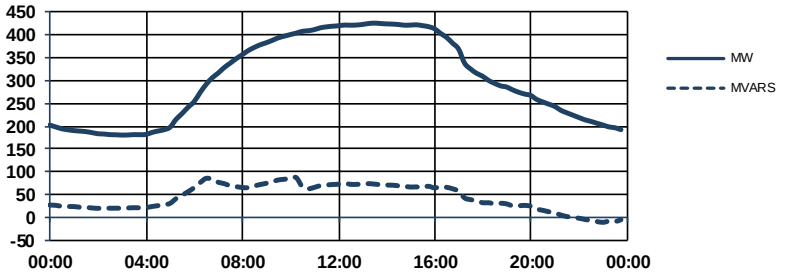
# WMTS66: West Melbourne Terminal Station 66 kV bus

## *Summer Demand*

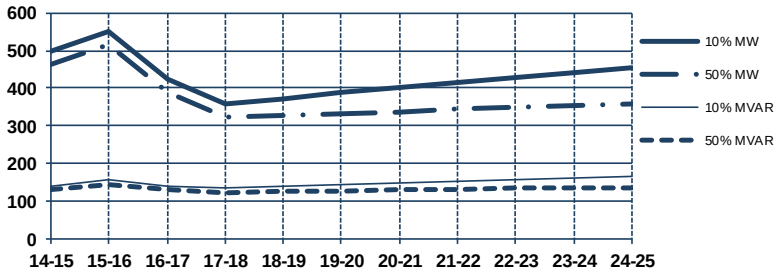
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 17 Jan 2014 15:30 | 424.5 | 86.1 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 500.0 | 140.3 | 462.5 | 129.8 |
| 15-16 | 552.5 | 155.2 | 513.4 | 144.3 |
| 16-17 | 425.2 | 140.9 | 388.9 | 130.1 |
| 17-18 | 358.7 | 134.8 | 321.8 | 123.4 |
| 18-19 | 373.0 | 139.5 | 328.9 | 126.1 |
| 19-20 | 390.3 | 144.7 | 333.4 | 127.7 |
| 20-21 | 402.5 | 148.5 | 338.2 | 129.4 |
| 21-22 | 417.0 | 153.1 | 343.4 | 131.3 |
| 22-23 | 429.6 | 157.4 | 349.6 | 133.8 |
| 23-24 | 440.5 | 161.2 | 354.5 | 135.8 |
| 24-25 | 452.6 | 165.3 | 358.1 | 137.6 |

***Load Curve on High Demand Day***




***Forecast***

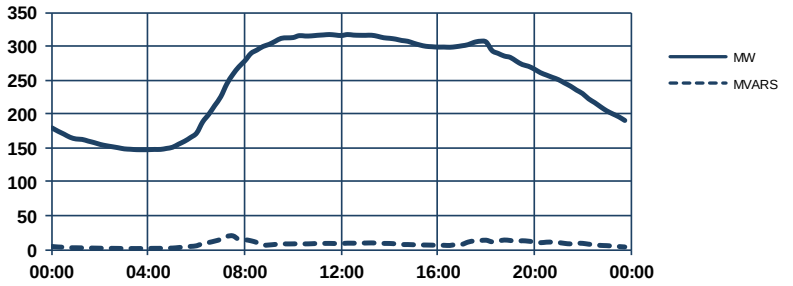



## *Winter Demand*

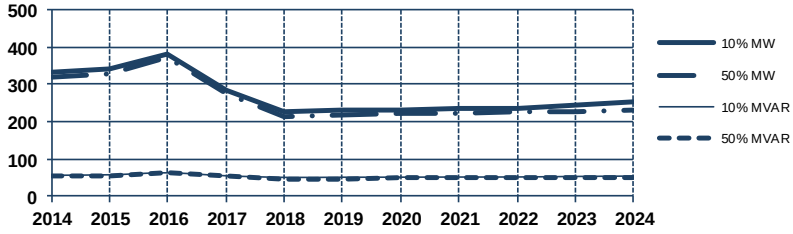
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 11:30 | 318.1 | 20.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 332.0 | 56.2 | 319.8 | 54.2 |
| 2015 | 342.7 | 57.9 | 328.2 | 55.6 |
| 2016 | 382.7 | 64.2 | 371.6 | 62.3 |
| 2017 | 284.0 | 54.6 | 275.4 | 52.9 |
| 2018 | 227.3 | 49.4 | 214.3 | 47.0 |
| 2019 | 229.9 | 49.9 | 218.4 | 47.7 |
| 2020 | 230.8 | 50.0 | 221.8 | 48.2 |
| 2021 | 233.7 | 50.5 | 224.6 | 48.7 |
| 2022 | 235.0 | 50.7 | 226.6 | 49.0 |
| 2023 | 245.9 | 52.4 | 227.9 | 49.2 |
| 2024 | 253.1 | 53.7 | 231.7 | 49.9 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Load will be transferred to the future Brunswick 66 kV Terminal Station in 2017. This transfer has been modelled in this forecast.

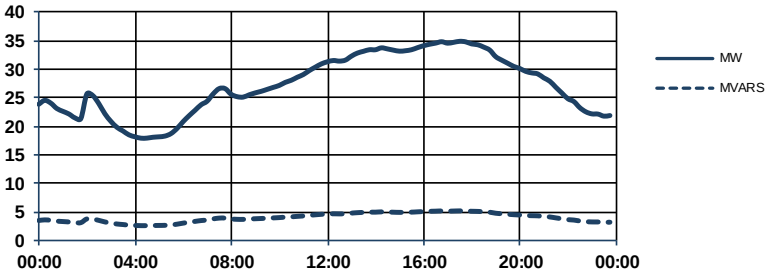
# WOTS22: Wodonga Terminal Station 22 kV bus

## *Summer Demand*

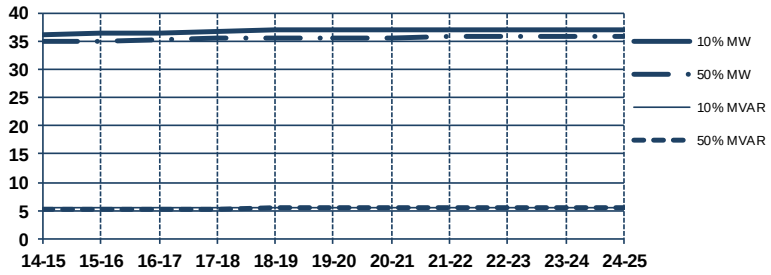
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 03 Feb 2014 17:00 | 35.0 | 5.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 36.3 | 5.5 | 35.0 | 5.3 |
| 15-16 | 36.3 | 5.5 | 35.1 | 5.3 |
| 16-17 | 36.4 | 5.5 | 35.2 | 5.3 |
| 17-18 | 36.7 | 5.6 | 35.5 | 5.4 |
| 18-19 | 36.9 | 5.6 | 35.6 | 5.4 |
| 19-20 | 36.9 | 5.6 | 35.6 | 5.4 |
| 20-21 | 36.9 | 5.6 | 35.7 | 5.4 |
| 21-22 | 37.0 | 5.6 | 35.7 | 5.4 |
| 22-23 | 37.0 | 5.6 | 35.7 | 5.4 |
| 23-24 | 37.0 | 5.6 | 35.7 | 5.4 |
| 24-25 | 37.0 | 5.6 | 35.7 | 5.4 |

***Load Curve on High Demand Day***




***Forecast***

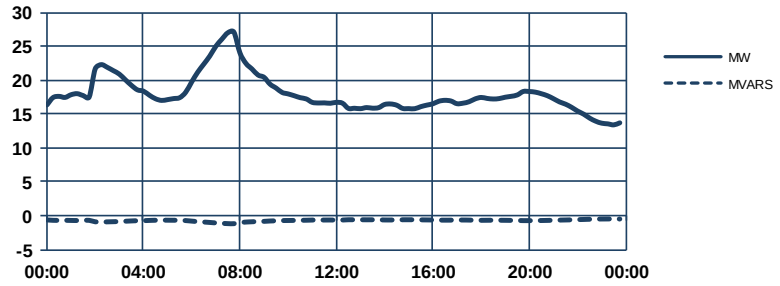



## *Winter Demand*

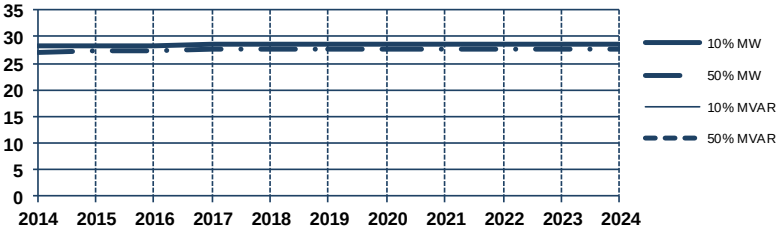
| 2013 MD | MW | MVAR |
|---|---|---|
| 18 Oct 2013 07:00 | 27.1 | -0.6 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 28.1 | -0.6 | 27.1 | -0.6 |
| 2015 | 28.2 | -0.6 | 27.2 | -0.6 |
| 2016 | 28.3 | -0.6 | 27.3 | -0.6 |
| 2017 | 28.5 | -0.6 | 27.5 | -0.6 |
| 2018 | 28.6 | -0.6 | 27.6 | -0.6 |
| 2019 | 28.6 | -0.6 | 27.6 | -0.6 |
| 2020 | 28.6 | -0.6 | 27.7 | -0.6 |
| 2021 | 28.7 | -0.6 | 27.7 | -0.6 |
| 2022 | 28.7 | -0.6 | 27.7 | -0.6 |
| 2023 | 28.7 | -0.6 | 27.7 | -0.6 |
| 2024 | 28.7 | -0.6 | 27.7 | -0.6 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

This includes only the 22 kV demand at WOTS.

*For embedded generation details, please see section 3.2.*

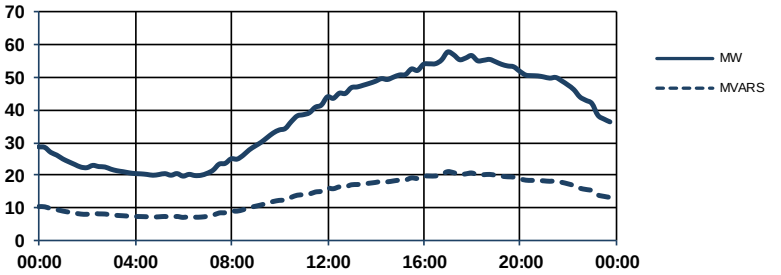
# WOTS66: Wodonga Terminal Station 66 kV bus

## Summer Demand

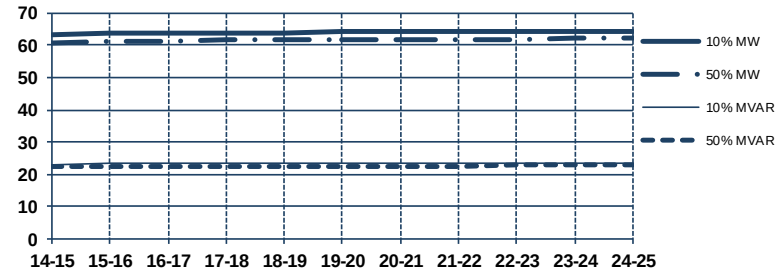
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 03 Feb 2014 16:00 | 57.8 | 21.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 63.2 | 23.2 | 60.8 | 22.3 |
| 15-16 | 63.5 | 23.3 | 61.1 | 22.4 |
| 16-17 | 63.7 | 23.4 | 61.3 | 22.5 |
| 17-18 | 63.9 | 23.4 | 61.5 | 22.5 |
| 18-19 | 64.0 | 23.4 | 61.6 | 22.6 |
| 19-20 | 64.1 | 23.5 | 61.7 | 22.6 |
| 20-21 | 64.2 | 23.5 | 61.8 | 22.6 |
| 21-22 | 64.2 | 23.5 | 61.8 | 22.7 |
| 22-23 | 64.3 | 23.6 | 61.9 | 22.7 |
| 23-24 | 64.4 | 23.6 | 62.0 | 22.7 |
| 24-25 | 64.5 | 23.6 | 62.1 | 22.7 |

***Load Curve on High Demand Day***




***Forecast***

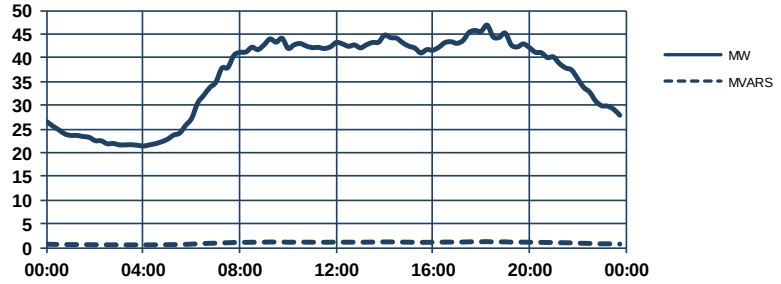



## Winter Demand

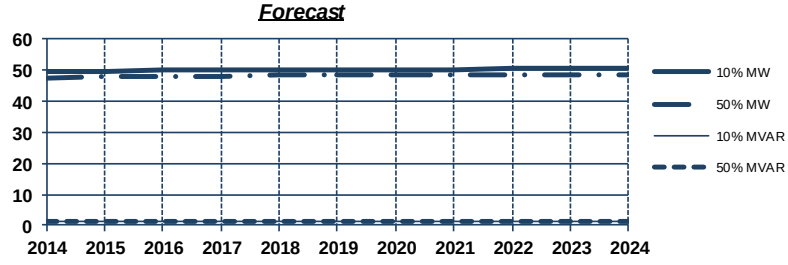
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 Jun 2013 18:00 | 46.9 | 1.3 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 49.4 | 1.4 | 47.6 | 1.3 |
| 2015 | 49.7 | 1.4 | 47.8 | 1.4 |
| 2016 | 49.8 | 1.4 | 48.0 | 1.4 |
| 2017 | 50.0 | 1.4 | 48.1 | 1.4 |
| 2018 | 50.0 | 1.4 | 48.2 | 1.4 |
| 2019 | 50.1 | 1.4 | 48.2 | 1.4 |
| 2020 | 50.2 | 1.4 | 48.3 | 1.4 |
| 2021 | 50.3 | 1.4 | 48.4 | 1.4 |
| 2022 | 50.3 | 1.4 | 48.4 | 1.4 |
| 2023 | 50.4 | 1.4 | 48.5 | 1.4 |
| 2024 | 50.4 | 1.4 | 48.6 | 1.4 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:*** *For embedded generation details, please see section 3.2.*

Hume Power Station is assumed to be switched off at the time of maximum demand for forecasts and is not netted off actual previous year summer and winter generation.

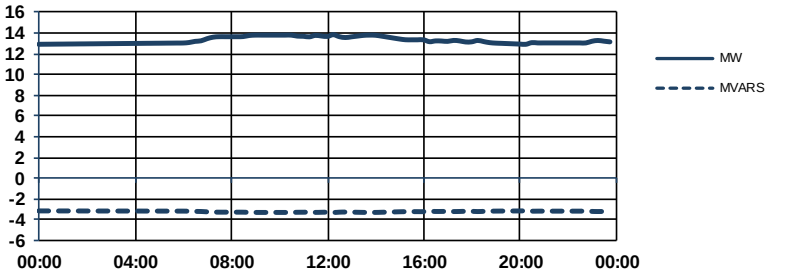
# YPS11: Yallourn PS Terminal Station 11 kV bus

## *Summer Demand*

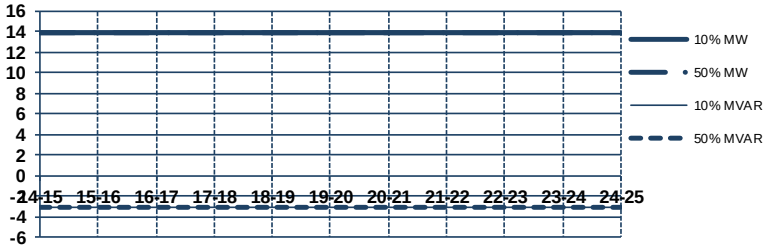
| 2013-14 MD | MW | MVAR |
|---|---|---|
| 10 Feb 2014 00:30 | 13.8 | -3.2 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 14-15 | 13.8 | -3.2 | 13.8 | -3.2 |
| 15-16 | 13.8 | -3.2 | 13.8 | -3.2 |
| 16-17 | 13.8 | -3.2 | 13.8 | -3.2 |
| 17-18 | 13.8 | -3.2 | 13.8 | -3.2 |
| 18-19 | 13.8 | -3.2 | 13.8 | -3.2 |
| 19-20 | 13.8 | -3.2 | 13.8 | -3.2 |
| 20-21 | 13.8 | -3.2 | 13.8 | -3.2 |
| 21-22 | 13.8 | -3.2 | 13.8 | -3.2 |
| 22-23 | 13.8 | -3.2 | 13.8 | -3.2 |
| 23-24 | 13.8 | -3.2 | 13.8 | -3.2 |
| 24-25 | 13.8 | -3.2 | 13.8 | -3.2 |

***Load Curve on High Demand Day***




***Forecast***

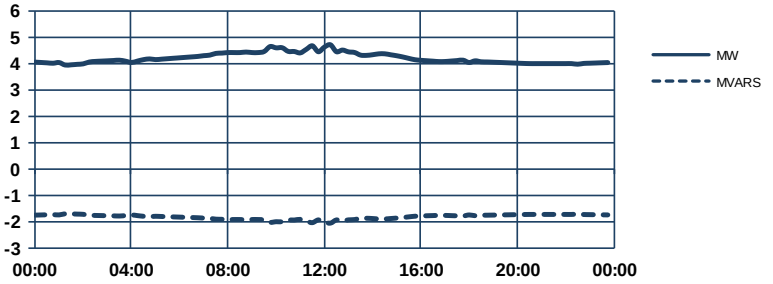



## *Winter Demand*

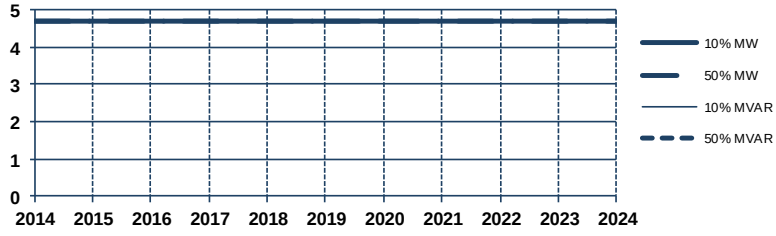
| 2013 MD | MW | MVAR |
|---|---|---|
| 24 May 2013 15:30 | 4.7 | -1.7 |

| | 10% POE | | 50% POE | |
|---|---|---|---|---|
| Year | MW | MVAR | MW | MVAR |
| 2014 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2015 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2016 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2017 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2018 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2019 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2020 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2021 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2022 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2023 | 4.7 | -1.7 | 4.7 | -1.7 |
| 2024 | 4.7 | -1.7 | 4.7 | -1.7 |

***Load Curve on High Demand Day***




***Forecast***




***Notes:***

#N/A

*For embedded generation details, please see section 3.2.*

# 3. METHODOLOGY

This section describes the methodology used to develop the terminal station demand forecasts. Where relevant, it provides methodology details for specific terminal stations.

The demand forecasts are compiled by AEMO from forecasts provided by Victorian participants (DNSPs and direct-connect customers), and reflect participant expectations of future demand. These forecasts are not developed by AEMO.

## 3.1 Date ranges and times

Summer 2013–14 is defined as 1 November 2013 to 30 April 2014.

Winter 2013 is defined as 1 May 2013 to 31 October 2013.

Demand values are based on 30-minute energy forecasts. Where an interval time is noted, it refers to the end time of the 30-minute interval.

Time-of-day is Australian Eastern Standard Time (EST). Daylight Saving Time is not used.

## 3.2 Embedded generation

The actual demands shown for summer 2013–14 and winter 2013 at a connection point represents the total of the following:

- Customer demand connected to the distribution networks.
- Losses in the distribution networks.
- A deduction representing generation from generators embedded in the distribution networks.

The forecasts assume that relatively large embedded generators will be modelled separately, and that they are switched off at times of maximum demand (MD). This applies to the following generators:

- Morwell Power Station units G1-3.
- Clover Power Station.
- Hume Power Station.
- Somerton Power Station.
- Bairnsdale Power Station.
- Anglesea Power Station.

Table 2 describes the treatment of each smaller embedded generator in the forecasts. The final two columns provide the assumed embedded generation at the time of peak demand; the forecast values have been reduced by this amount. Some terminal stations have multiple rows, for example for split bus group locations.

**Table 2 Terminal station and bus locations**

| Location | Location type | Voltage (kV) | Generator | Operating characteristics | Summer forecast load offset (MW) | Winter forecast load offset (MW) |
|---|---|---|---|---|---|---|
| ATS_BLTS | Hybrid | 66 | Qenos cogenerator | Daily | 0.05 | 21.46 |
| ATS_WEST | Hybrid | 66 | Boral and Wyndham Landfill and Werribee Treatment Plant | Daily | 7.39 | 5.14 |
| BATS | Entire | 66 | Challicum Hills Wind Farm | Wind dependent | 0.06 | 0 |
| BATS | Entire | 66 | Ballarat Hospital cogenerator | Sporadic | 0 | 0 |
| BATS | Entire | 66 | Charles Piggery | n.a | n.a | n.a |
| BATS | Entire | 66 | Smythesdale Tip cogenerator | Daily | 0.42 | 0.49 |
| BATS | Entire | 66 | Leonard's Hill Wind Farm | Wind dependent | 0.00 | 0.06 |

| Location | Location type | Voltage (kV) | Generator | Operating characteristics | Summer forecast load offset (MW) | Winter forecast load offset (MW) |
|---|---|---|---|---|---|---|
| CBTS | Entire | 66 | South Eastern Purification Plant | As required by the customer | 0 | 0 |
| ERTS | Entire | 66 | Berwick Tip | Daily | 5.15 | 5.15 |
| ERTS | Entire | 66 | Cardinia | Daily | 3.8 | 3.8 |
| ERTS | Entire | 66 | Hallam Tip | Daily | 6.6 | 6.6 |
| ERTS | Entire | 66 | Dandenong Hospital (likely to have 5 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| ERTS | Entire | 66 | Dandenong PEP (likely to have 2 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| ERTS34 | Split Bus | 66 | Dandenong Hospital (likely to have 5 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| ERTS34 | Split Bus | 66 | Dandenong PEP (likely to have 2 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| FBTS | Entire | 66 | Crown Casino | n.a | n.a | n.a |
| FBTS | Entire | 66 | ANZ | n.a | n.a | n.a |
| FBTS | Entire | 66 | Next DC | n.a | n.a | n.a |
| GNTS | Entire | 66 | Lake William Hovell | Seasonal | 0.3 | 1.6 |
| GTS | Entire | 66 | Corio Tip cogenerator | Daily | 0.50 | 1.0 |
| GTS | Entire | 66 | Geelong Hospital export | Daily | n.a | n.a |
| GTS | Entire | 66 | Breamlea Wind Generator | Wind dependent | n.a | n.a |
| GTS | Entire | 66 | Shell Refinery Corio (SRC) | n.a | n.a | n.a |
| HOTS | Entire | 66 | Challicum Hills Wind Farm (CHW) | Wind dependant | 0.06 | 0.00 |
| MWTS | Entire | 66 | Blue Rock Dam | Daily | 2.8 | 2.8 |
| MWTS | Entire | 66 | Thompson Dam | Daily | 7.6 | 7.6 |
| MWTS | Entire | 66 | Lake Glenmaggie | Daily | 3.8 | 3.8 |
| MWTS | Entire | 66 | Toora Wind Farm | Wind related | 21 | 21 |
| MWTS | Entire | 66 | Wonthaggi Wind Farm | Wind related | 12 | 12 |
| RCTS | Entire | 22 | Mildura Solar CPV Power Station | Concentrated PV | n.a | n.a |
| RCTS | Entire | 22 | Mildura Solar Park #1 (Thurla) | Solar PV | 0 | 0 |
| RTS | Entire | 66 | St Vincent Hospital | n.a | 4.5 | 3.2 |
| RTS | Entire | 66 | Alfred Hospital | n.a | 4.9 | 0 |
| RTS12 | Split Bus | 66 | St Vincent Hospital | n.a | 4.5 | 3.2 |
| RTS34 | Split Bus | 66 | Alfred Hospital | n.a | 4.9 | 0 |
| RWTS13 | Split Bus | 66 | Olinda Creek Hydro | Daily | 1 | 1 |
| RWTS13 | Split Bus | 66 | Upper Yarra Hydro | Daily | 1 | 1 |
| RWTS13 | Split Bus | 66 | Silvan Inlet Hydro | Daily | 1.8 | 1.8 |
| SHTS | Entire | 66 | Tatura Biomass | Biomass | 0.52 | 0 |
| SHTS | Entire | 66 | Shepparton Wastewater Treatment Facility | Biomass | n.a | n.a |
| SHTS | Entire | 66 | Lake Mulwala Hydro | Daily | 6.98 | 1.67 |
| SMTS | Entire | 66 | Wollert Tip | Daily | 4.4 | 4.4 |
| SMTS | Entire | 66 | Eildon Pondage | Seasonal | 3.8 | 0 |
| SVTS | Entire | 66 | Springvale Landfill (likely to have 2 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| SVTS | Entire | 66 | Clayton Landfill (likely to have 5 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| SVTS12 | Split Bus | 66 | Springvale Landfill (likely to have 2 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |

| Location | Location type | Voltage (kV) | Generator | Operating characteristics | Summer forecast load offset (MW) | Winter forecast load offset (MW) |
|---|---|---|---|---|---|---|
| SVTS12 | Split Bus | 66 | Clayton Landfill (likely to have 5 MW generation during peak demand) | 7 AM to 11 PM, Mon to Fri | 0 | 0 |
| TGTS | Entire | 66 | Codrington Wind Farm (CWF) | Wind dependant | 2.76 | 2.62 |
| TGTS | Entire | 66 | Yambuk Wind Farm (YWF) | Wind dependant | 2.85 | 3.35 |
| TGTS | Entire | 66 | Oakland's Hill Wind Farm (OWF) | Wind dependant | 0 | 4.21 |
| TGTS | Entire | 66 | Morton's Lane Wind Farm (MLW) | Wind dependant | 0 | 5.04 |
| WMTS | Entire | 22 | Royal Children's Hospital | n.a | n.a | n.a |
| WMTS | Entire | 22 | Royal Melbourne Hospital | n.a | n.a | n.a |
| WMTS | Entire | 22 | Channel 7 | n.a | n.a | n.a |

n.a: not available.

## 3.3 Capacitance and reactance

Reactive loading forecasts are the reactive loading levels that licensed distribution areas are expected to impose on locations. They incorporate the reactive losses of the distribution network, including any reactors, and are offset by line and cable charging and those capacitors in the distribution network assessed by participants (DNSPs and direct-connect customers) as being in service at the relevant time. Terminal station capacitors, compensators, reactors, and transformation reactive losses are not considered as part of the demand.

## 3.4 Demand diversity

### 3.4.1 Terminal station diversity

Where more than one participant connects to a connection point, a participant's MD may not occur at the same time as the connection point as a whole. AEMO refers to this as diversity between participant MD and connection point MD. This diversity is represented by a "terminal station diversity factor", which is a number between zero and one.

AEMO calculates a terminal station diversity factor based on metered historical demand at the connection point. This is then agreed with the participant. To obtain an aggregate demand forecast for each connection point, demand forecasts contributed by participants are multiplied by the terminal station diversity factor before being summed.

Where only one participant connects to a connection point, demand forecasts are presented as provided by the participant.

### 3.4.2 System diversity

Points of connection typically do not experience MD at the same time. To obtain an aggregate demand forecast for Victoria as a whole, AEMO allows for this diversity between points of connection.

AEMO determines a "system diversity factor" by following a process similar to that for the terminal station diversity factor, but based on historical times of high demand for Victoria as a whole.

# 4. VICTORIAN MAXIMUM DEMAND FORECASTS

This section compares the aggregate total of the terminal station demand forecasts with AEMO's regional forecasts (summer and winter) for Victoria in the 2014 National Electricity Forecast Report (NEFR).[3] This comparison is undertaken for coincident forecasts.

## 4.1 NEFR forecast

AEMO's NEFR MD forecasts are determined using a "top-down" approach, based on the following factors:

- Historical electricity demand.
- Economic and demographic forecasts.
- Drivers of future changes in demand, such as rooftop photo voltaic (PV) PV and energy efficiency.
- AEMO obtains electricity demand forecasts directly from large industrial customers and TNSPs or DNSPs. Information on the forecasts and the methodology used is available in the NEFR and the Forecasting Methodology Information Paper.[4]

## 4.2 TSDF system forecast

AEMO derives an overall Victorian forecast from the individual participant forecasts at 10% and 50% POE for summer and winter using the following steps:

1. Multiply each participant's points of connection demand forecasts by the relevant system diversity factor to produce terminal station demand forecasts for the time of system MD (see Section 3, Methodology).
2. Aggregate these system-diversified participant demand forecasts.
3. Eliminate double-counting, such as split bus groups within a single connection point and Loy Yang Switching Station within Morwell Terminal Station.
4. Adjust the overall forecast by adding forecast transmission losses and generator auxiliaries.

## 4.3 Summer MD

Figure 1 compares TSDF system forecast (as described in section 4.2) and the 2014 NEFR summer MD forecasts at 10% and 50% POE. It shows that summer TSDF forecast demand exceeds the NEFR forecast.

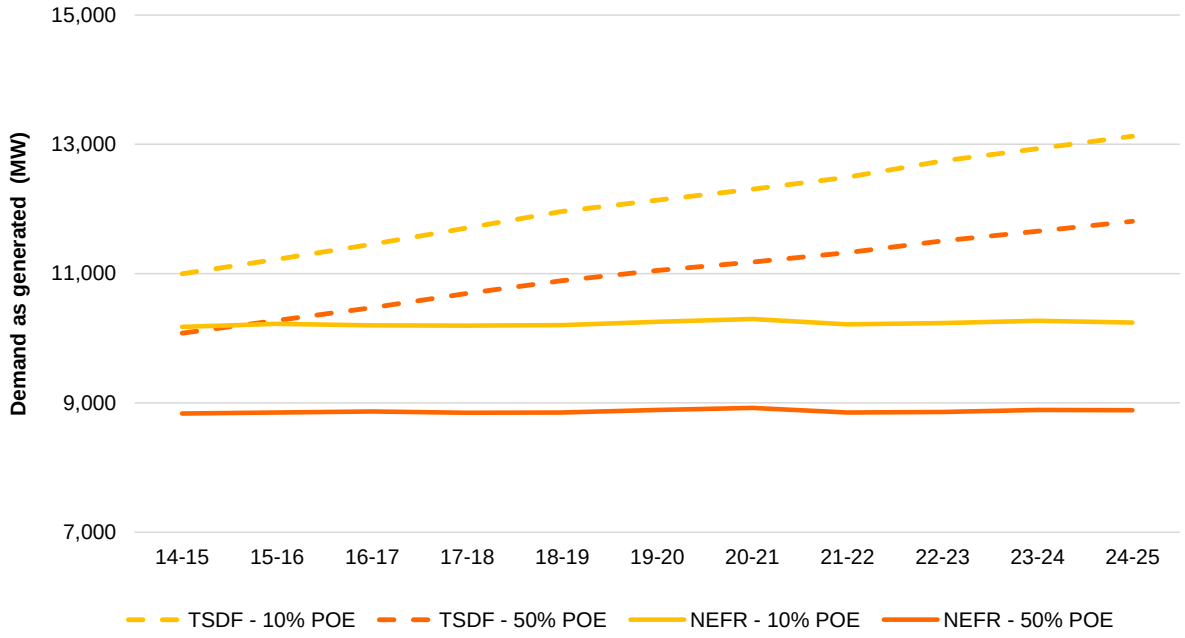
For 10% POE, the difference is an increase from 821 MW (approximately 8% of the NEFR regional total) in 2014–15 to 2,881 MW (approximately 28.1%) in 2024–25.

For 50% POE, the difference is an increase from 1,243 MW (approximately 14% of the NEFR regional total) to 2,824 MW (approximately 32.9%) in 2024–25.

[3] AEMO.*2014 National Electricity Forecasting Report*
Available at: http://www.aemo.com.au/Electricity/Planning/Forecasting. Viewed 17/9/2014.

[4] AEMO. *2014 Forecasting methodology information paper*
Available at: http://www.aemo.com.au/Electricity/Planning/Forecasting/National-Electricity-Forecasting-Report/NEFR-Supplementary-Information. Viewed 17/09/2014.

**Figure 1 TSDF and NEFR summer MD forecasts**




## 4.4 Winter MD

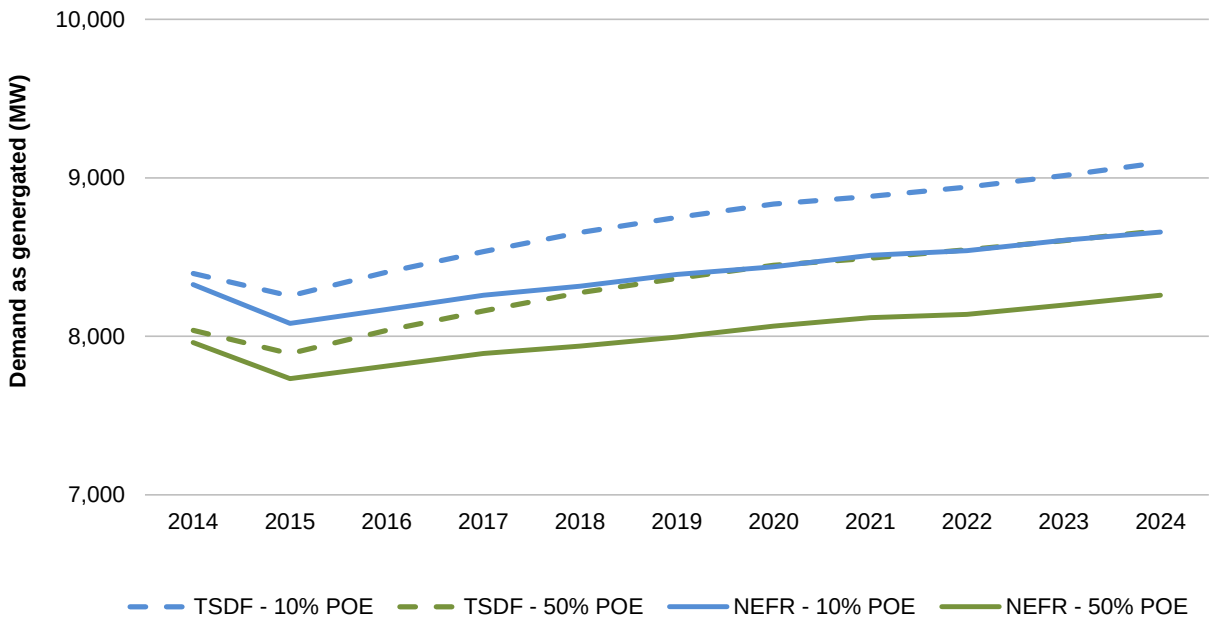
Figure 2 compares TSDF system forecast and NEFR winter MD forecasts at the 10% POE and 50% POE levels. Overall, winter NEFR forecasts is less than the TSDF forecasts.

For 10% POE, the difference is an increase from 70 MW (approximately 0.8% of the NEFR regional total) in 2014 to 439 MW (approximately 5%) in 2024.

For 50% POE, the difference is an increase from 73 MW (approximately 0.9% of the NEFR regional total) in 2014 to 407 MW (approximately 4.9%) in 2024.

Demand is forecast to reduce from winter 2014 due to the closure of Alcoa's Point Henry smelter. The smelter closed on 31 July 2014 and had a capacity of around 370 MW.

**Figure 2 TSDF and NEFR winter MD forecasts**




## 4.5 Difference between the NEFR and TSDF forecasts

Differences between the NEFR forecasts and the aggregated TSDF forecasts are partly due to the different methods used to develop them.

The NEFR focusses on forecasting total regional demand for each NEM region (including Victoria), whereas the TSDF uses local information to develop forecasts for each connection point. The TSDF is aggregated to a system total for comparative purposes only.

### 4.5.1 Summer

The TSDF 2014 summer forecast grows at an annual average of 1.6% for 50% POE throughout the forecast horizon. By comparison, the NEFR 50% POE growth rate for the same period is 0.06%. This difference is influenced by different forecasts for rooftop PV, energy efficiency, and economic and demographic assumptions.

### 4.5.2 Winter

Differences between the NEFR and the TSDF are smaller for winter than for summer. Winter MD levels are generally more stable than summer levels, as they are less subject to extreme weather events. Also, rooftop PV makes no contribution to the NEFR winter MD forecast, because winter MD typically occurs after sunset.

## 4.6 Reactive demand forecasts

Figure 3 and Figure 4 show the aggregate reactive demand forecasts to be drawn from terminal station points of connection (usually stations' lower voltage terminals) at times of Victorian system maximum summer and winter active power demand. The higher levels of motorised cooling demand in summer are considered mainly responsible for the higher reactive demand in summer compared to winter.

Power factor calculations indicate little change over the forecast horizon, regardless of POE or season.

**Figure 3 Summer MD reactive demand forecast**

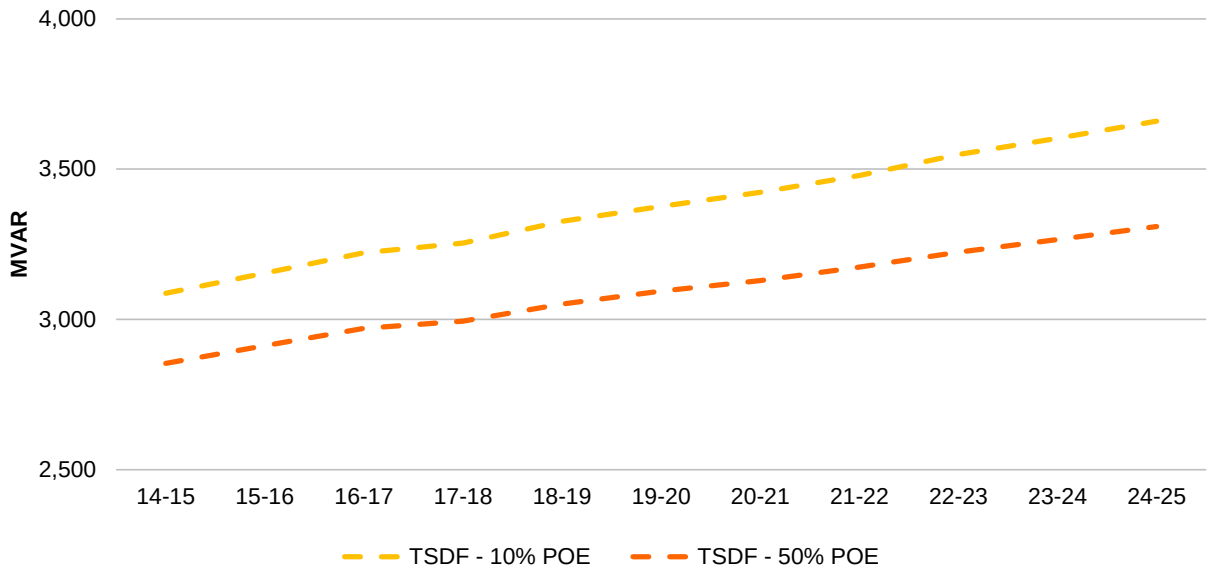
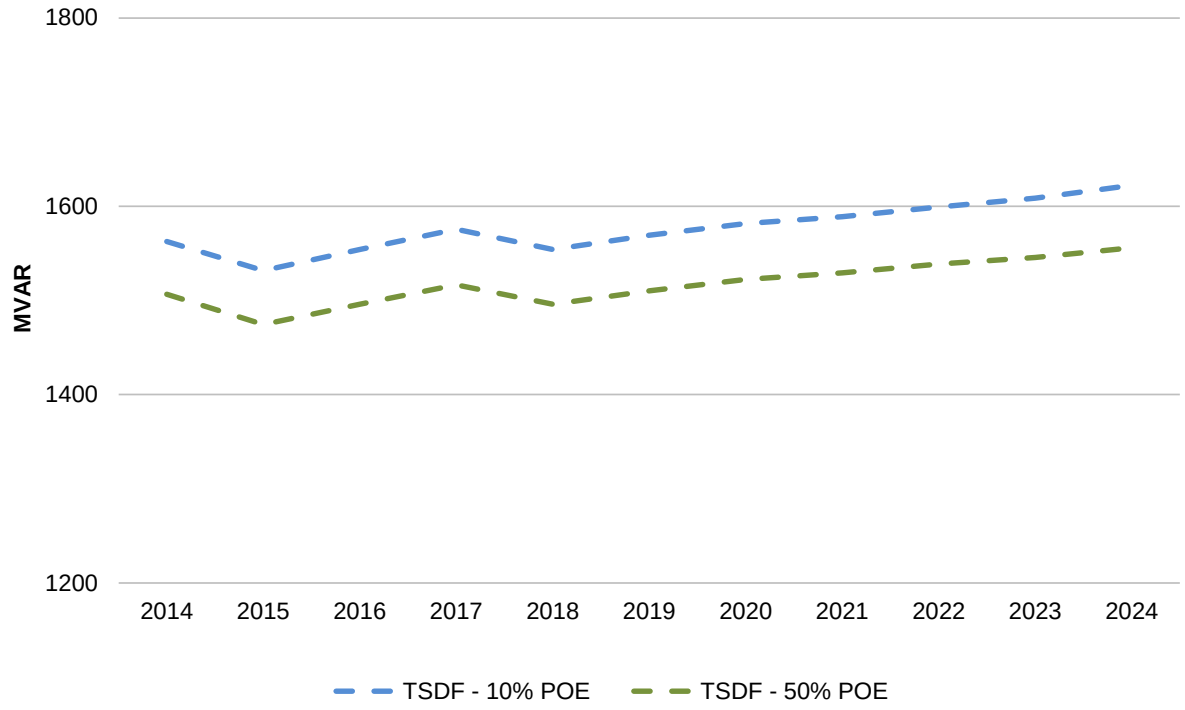



**Figure 4 Winter MD reactive demand forecast**



# 5. ACTUAL DEMAND AND PREVIOUS FORECAST COMPARISONS

## 5.1 Summer MD

AEMO assessed the temperature conditions at time of Victorian MD during 2013–14. The highest summer half-hourly demand of 10,313 MW occurred at 4:30 PM Australian EST on Tuesday, 28 January 2014. On that day maximum temperatures in Melbourne reached 42 °C. For more information on the actual summer MD level, see the 2014 NEFR Demand Review.[5]

At the time of this year's MD, the most recent TSDF was the 2013 report, which covers 2013–14 to 2023–24.

Figure 5 and Figure 6 compare the unadjusted MD against the TSDF 2013 forecast demand for summer 2013–14 for each connection point.

For many locations, actual MD was less than the 2013 50% POE forecast. Summer MD rose compared to 2012–13 due to warmer weather. Despite this growth in summer MD, average demand has continued to decline; most likely due to increased energy efficiency standards and greater penetration of rooftop PV.

## 5.2 Winter MD

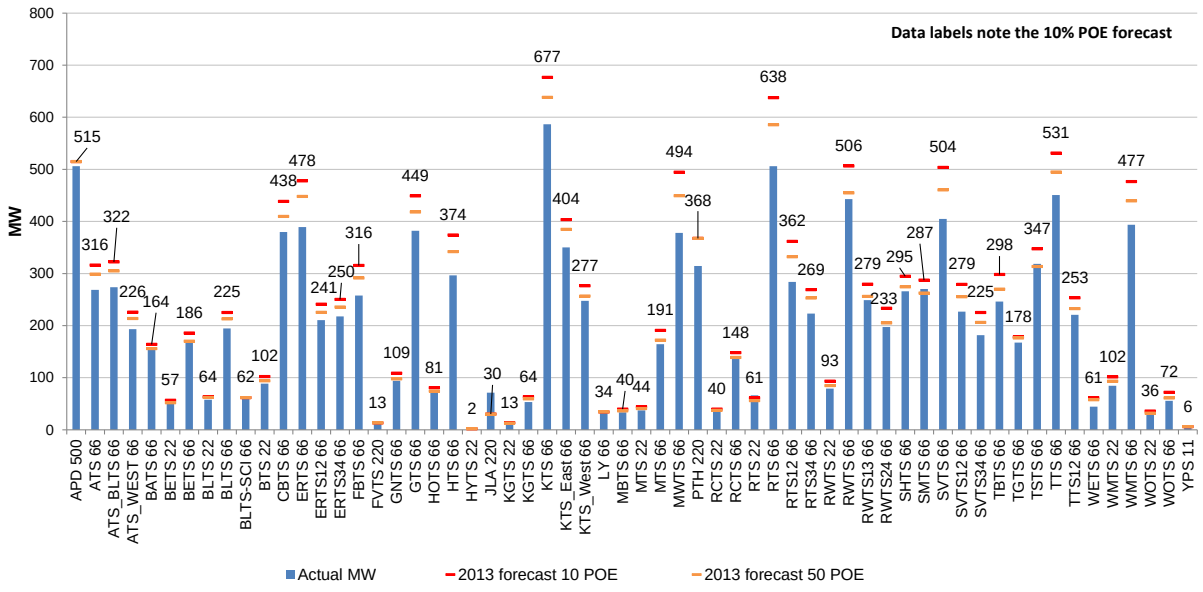
AEMO assessed the temperature conditions for the 2013 winter MD, recorded as 7,930 MW at 5:30 PM Australian EST on 24 June 2013.

Figure 7 and Figure 8 compare the unadjusted actual MD against the TSDF 2013 forecast demand for winter 2013 for each connection point.

## 5.3 Chart notes

For brevity, the following charts present only the "entire station" locations, not their split bus locations (if they exist). In the 2013 TSDF, some of these stations were not forecast as "entire stations"; the forecasts are zero in such cases.

**Figure 5 Summer MD actual and forecast comparison by location**




[5] AEMO.*2014 NEFR Demand Review*
Available at: http://www.aemo.com.au/Electricity/Planning/Forecasting/National-Electricity-Forecasting-Report/NEFR-Supplementary-Information. Viewed 17/09/2014.

**Figure 6 Summer MD actual and forecast reactive demand comparison by location**

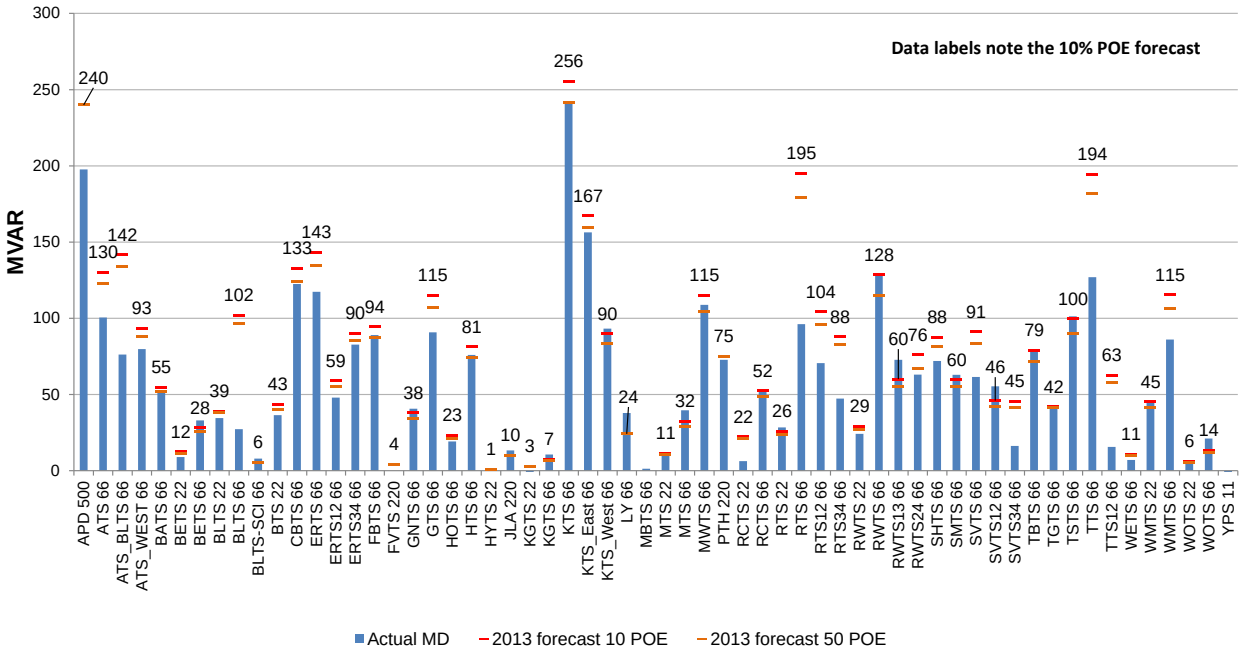



**Figure 7 Winter MD actual and forecast comparison by location**

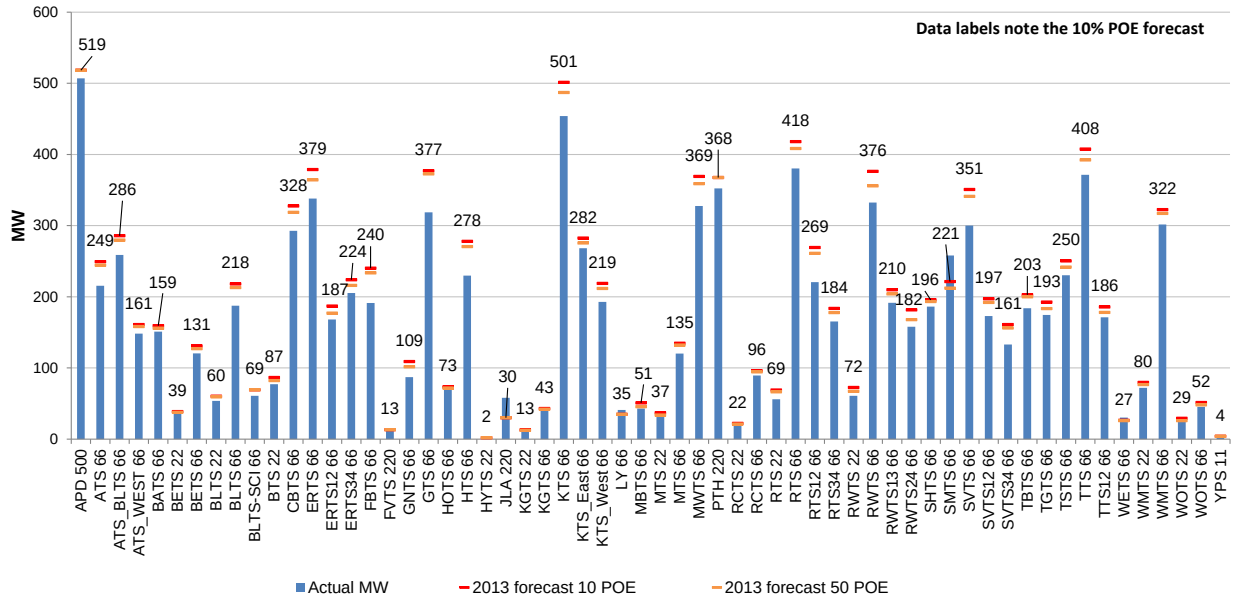
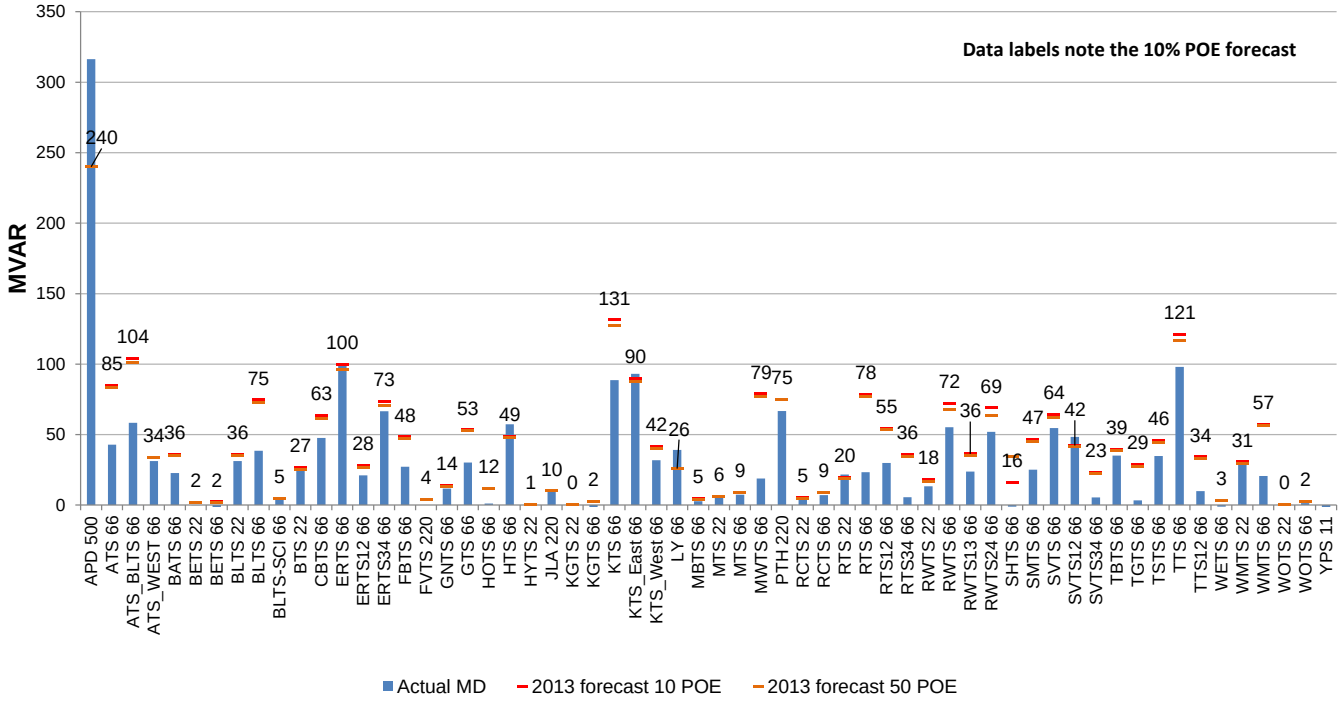


**Figure 8 Winter MD actual and forecast reactive demand comparison by location**



# MEASURES AND ABBREVIATIONS

## Units of measure

| Abbreviation | Unit of measure |
|---|---|
| kV | Kilo volt |
| MW | Megawatt |
| MWh | Megawatt hour |
| MVAr | Megavolt ampere reactive |

## Abbreviations

| Abbreviation | Expanded name |
|---|---|
| AEMO | Australian Energy Market Operator |
| AER | Australian Energy Regulator |
| COAG | Council of Australian Governments |
| DNSP | Distribution Network Service Provider |
| MD | Maximum demand |
| NEFR | National Electricity Forecast Report |
| NEM | National Electricity Market |
| NER | National Electricity Rules |
| NMI | Network Meter Identifier |
| NSP | Network Service Provider |
| POE | Probability of Exceedance |
| PV | Photovoltaic |
| RRN | Regional Reference Node |
| TNI | Transmission Node Identifier |
| TNSP | Transmission Network Service Provider |