EMMS PRUDENTIAL FORECAST USER INTERFACE GUIDE

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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Further Information

For further information, please visit AEMO's website www.aemo.com.au or contact:

AEMO Help Desk	Phone: 1300 236 600 (1300 AEMO 00) and follow the prompts. E-mail: helpdesk@aemo.com.au

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Abbreviations and Symbols

These abbreviations, symbols, and special terms assist the reader's understanding of the terms used in this document. For definitions of these terms, the reader should always refer to the applicable market Rules.

Abbreviation	Abbreviation explanation
AEMO	Australian Energy Market Operator
EST	Australian Eastern Standard Time
EMMS	[wholesale] Electricity Market Management System; software, hardware, network and related processes to implement the National Electricity Market (NEM)
MSATS	[retail electricity] Market Settlement and Transfer Solution
MW	Megawatt
MWh	Megawatt hour
NEM	National Electricity Market
NER	National Electricity Rules; also often just called the Rules
PCO	Participant current outstandings
POE	Probability of exceedence
RRP	Region reference price
RSF	Regional scaling factor

Special terms

Term	Definition
Rules	National Electricity Rules

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Term	Definition
Like-day	A like-day refers to a similar, previous day where meter data exists. Like-days are determined by stepping back 7n days until a day with meter data is available. In the case where the initial like-day is a NEM public holiday, the like-day determination continues to step back in steps of 7 days until a non-NEM holiday day is available. When a forecast day is a NEM holiday the like-day is the latest Sunday where meter data is available.
Like-period	The like period refers to the same half-hour interval on the respective like-day.

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1 Introduction

1.1 Purpose

This document provides an understanding of the Prudential Forecast interface in the EMMS web portal.

1.2 Audience

This document is relevant to market participants in the NEM who require an understanding of the Prudential Forecast web interface in the EMMS web portal.

1.3 What's in this guide

- Chapter 2 provides an overview of the Prudential Forecast, who it is for, and how to use it, see Overview, on page 2.
- Chapter 3 explains the interface and provides an understanding of how the Prudential Forecast is calculated, see View prudential forecast on page 5.
- Chapter 4 contains a list of references mentioned throughout this guide and where to find them, see References on page 10.

Text in this format indicates the details of a document, help desk, or web page are listed in the "References" on page 10.

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2 Overview

2.1 What the Prudential Forecast is for

The Prudential Forecast provides participants with a forecast of their expected prudential position for the next NEM business day, enabling participants to better manage their prudential obligations.

2.2 How do you use the Prudential Forecast

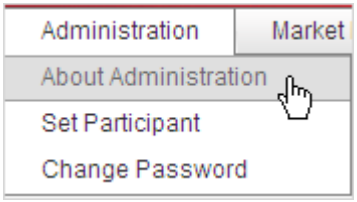
The Prudential Forecast is part of AEMO's Electricity Market Management System (EMMS) web portal. It is a web-based application accessed using MarketNet and a web browser (for system requirements, see § 2.4).

2.3 Who can use the Prudential Forecast

Your company's participant administrator grants you permission to use the Prudential Forecast using the "MSATS User Administration" interface. For further information about user administration, see the Participant Rights Administration User Interface Guide.

The entity required for access to View Prudentials is:

- EMMS - Settlements - View Prudentials
- Where a participant user has user rights assigned by more than one participant, they interactively choose the participant they represent, using the **Set Participant** option from the **Administration menu**. To learn more, see **About Administration** in the EMMS Web Portal.



2.4 System requirements

The Prudential Forecast is accessed by using a web browser and requires:

- Microsoft Internet Explorer 8.
- A monitor capable of 1024 x 768 screen resolution.

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- Access to MarketNet.
- The URL of the EMMS Web Portal, a user ID, and password, provided by your system administrator, which is set up to have access to the Prudential Forecaster (see § 2.3). User accounts are created in the MSATS system. See the *MSATS Participant Administration User Interface Guide* (see § 4.1).
- The Prudential Forecaster runs on both Windows and UNIX-like operating systems.

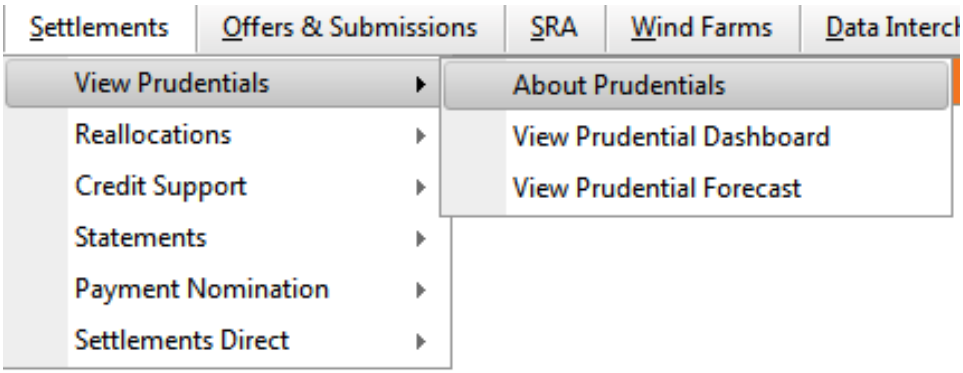
AEMO recommends the use of SSL (https) for better security.

2.5 About Prudentials

The **About Prudentials** menu has a brief summary of the Prudential Forecast and links to other useful resources.

To access **About Prudentials**:

1. Place your cursor over **Settlements**, then **View Prudentials** and then click **About Prudentials**.



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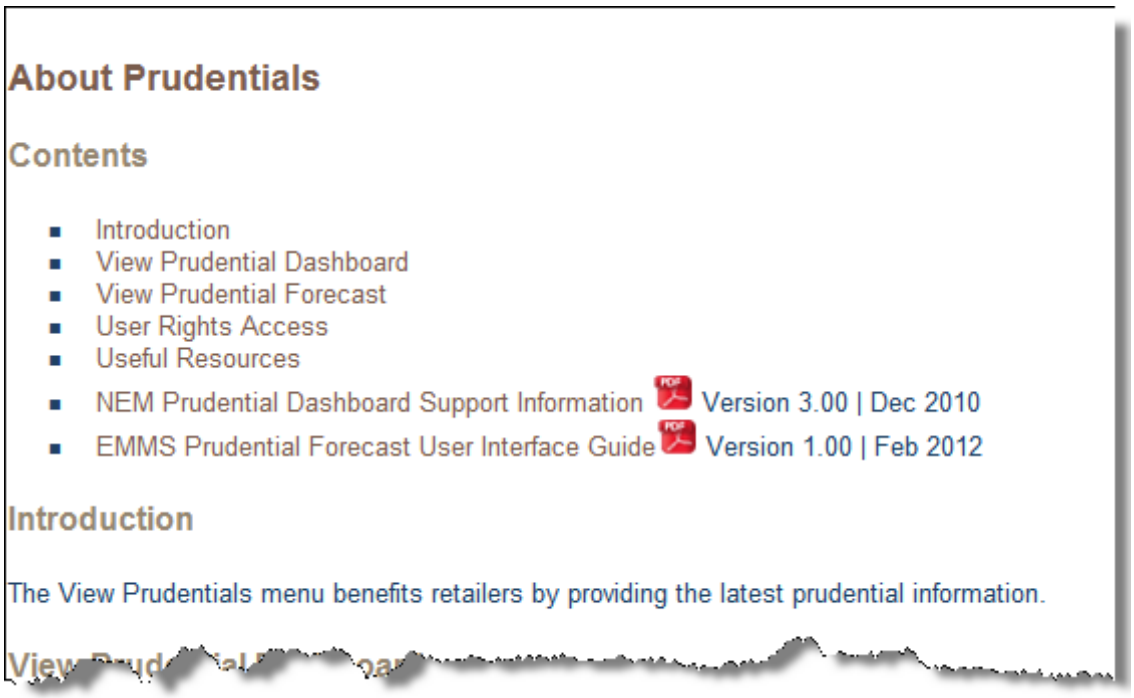
2. The **About Prudentials** web page displays, similar to the example below.



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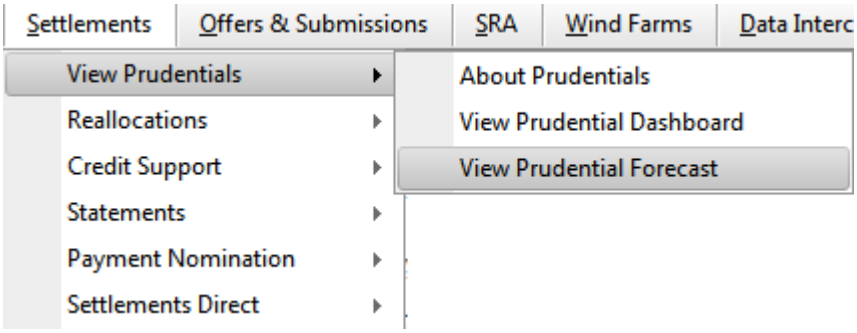
3 View prudential forecast

To access the Prudential Forecast:

1. Place your cursor over **Settlements**, then **View Prudentials**, and then click **View Prudential Forecast**.



2. The **Prudential Forecast** displays, similar to the screenshot below:

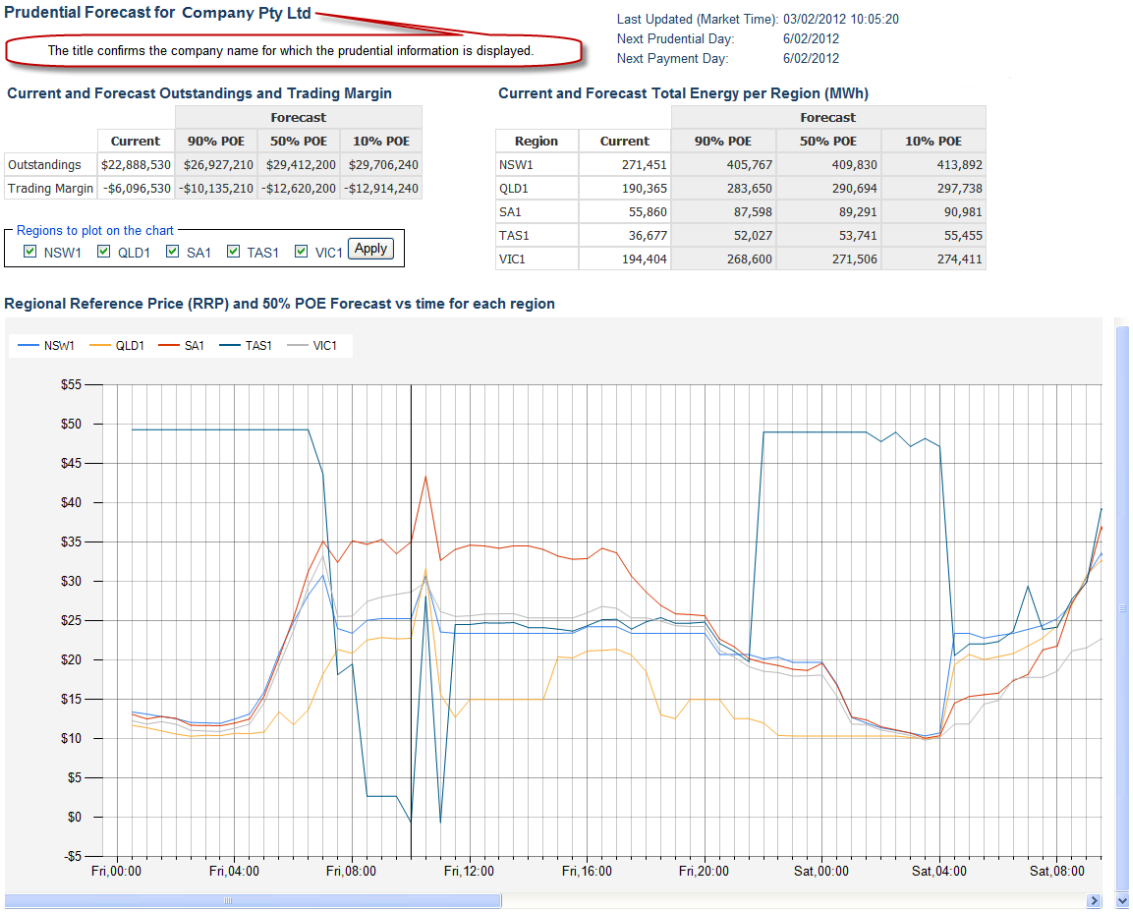


Figure 1: Prudential Forecast

New prudential forecast information is available every five minutes; click Refresh in your Internet browser to update the information.

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3.1 Current and forecast outstandings and trading margin

The **Current and Forecast Outstandings and Trading Margin** matrix displays the three forecast outstandings and trading margins for the requested participant with 10%, 50%, and 90% POE.

The POE is the probability of the actual price exceeding the forecast price.

Current and Forecast Outstandings and Trading Margin

		Forecast		
	Current	90% POE	50% POE	10% POE
Outstandings	$22,888,530	$20,646,174	$29,137,356	$27,829,857
Trading Margin	$6,096,530	$10,972,471	$12,345,356	$13,136,857

Figure 2: current and forecast outstanding and trading margin

3.2 Current and forecast total energy per region (MWh)

The **Current and Forecast Total Energy per Region (MWh)** matrix displays the total energy demand for the current day for each region, in MWh. The 10%, 50%, and 90% POE are to the beginning of the next prudential day.

The POE is the probability of the actual energy exceeding the forecast energy.

Current and Forecast Total Energy per Region (MWh)

		Forecast		
Region	Current	90% POE	50% POE	10% POE
NSW1	159,513	429,561	438,631	447,700
QLD1	109,685	278,723	293,743	308,763
SA1	33,034	135,463	141,275	147,084
TAS1	21,718	50,610	54,242	57,874
VIC1	118,326	247,970	253,422	258,874

Figure 3: current and forecast total energy per region

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3.3 Regional Reference Price (RRP) and 50% POE Forecast vs time for each region

The **Regional Reference Price (RRP) and 50% POE Forecast vs time for each region** chart displays the actual and forecast price of 50% POE for each region.

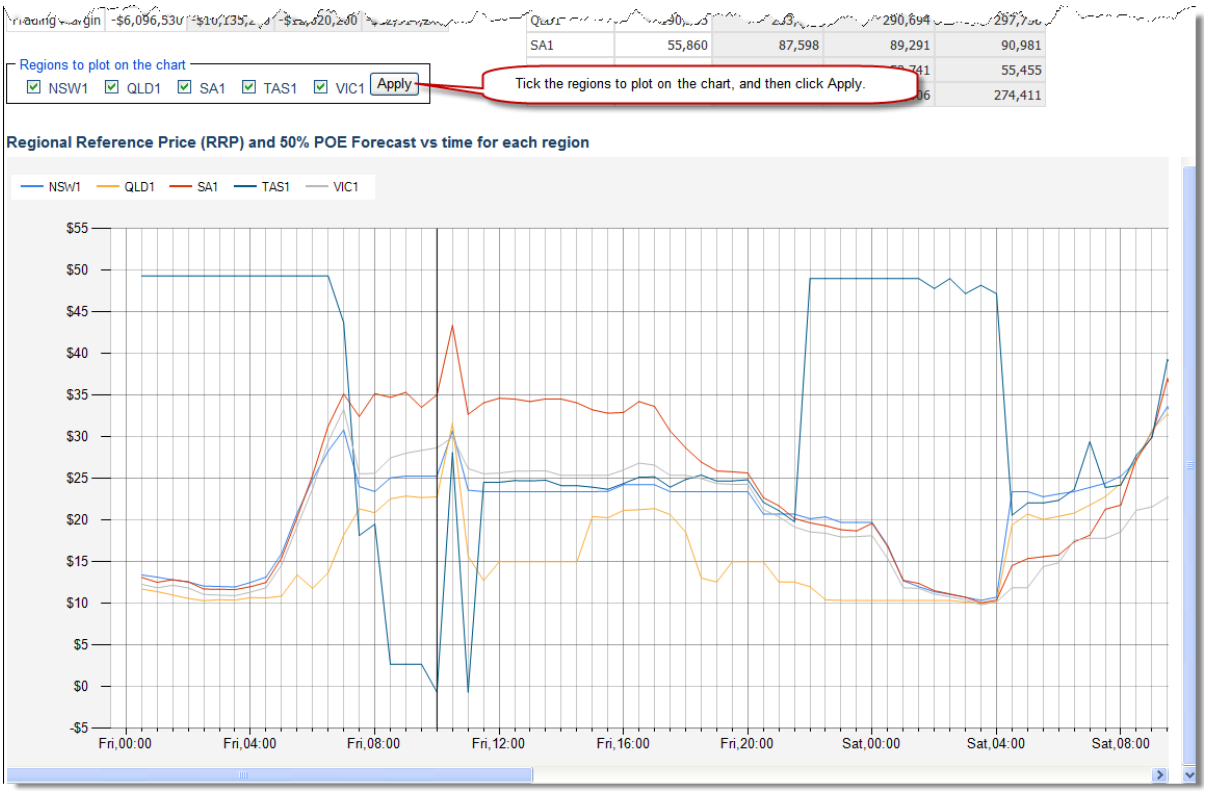

Figure 4: RRP and 50% POE forecast vs time for each region

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3.4 Calculation

The forecast prudential position of a company is determined using a forecast price curve (see 3.4.1) and a forecast energy curve (see 3.4.2), that includes both generation and consumption. The forecast position includes security deposits, reallocations, credit support, early payments, and GST, and does not take into account any ancillary service amounts.

For an explanation of like-days and like-periods, see § Special terms on page iii.

3.4.1 Forecast price curve

Where available the known regional reference price (RRP) is used. For the forecast price curve, three scenarios are used to provide the required forecast price curves.

Table 1: forecast price bands

POE	Description	Stage 1	Stage 2	Stage 3
10%	High forecast price curve	Actual RRP where available.	Pre-dispatch sensitivity 27	1.1 x maximum of the last 5 like-periods
50%	Mid forecast price curve	Actual RRP where available.	P5 then Predispatch	Median price of the last 3 like-periods
90%	Low forecast price curve	Actual RRP where available.	Predispatch Sensitivity 28	0.7 x Median price of the last 3 like-periods

- POE is the probability of the actual price exceeding the forecast price.
- Stage 1 refers to periods where an RRP is available.
- Stage 2 refers to periods where an RRP is not available, but a pre-dispatch solution exists.
- Stage 3 refers to periods where neither an RRP or pre-dispatch price is available.

3.4.2 Forecast energy curve

- The 50 and 90 percent POE calculations use generation data (known or pre-dispatch) when these values are available.
- The 10 percent POE scenario assumes zero generation.
- Zero generation is assumed when no generation data is available.
- Energy consumption data is determined using like-days and regional demand forecasts. A participant's energy consumption is scaled by a regional scaling factor (RSF). The regional scaling factor is a period-by-period comparison of known regional energy demand from a like day and a forecast period.

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Table 2: sample calculation of RSF

$$\boldsymbol{RSF = RE_t / RE_l}$$

$RSF = Regional\ Scaling\ Factor$
$RE_t = Regional\ Energy\ Today\ or\ Future\ Date$
$RE_l = Like\ Day\ Regional\ Energy$

	Like day, like period				Forecast		
Region	Date	Period	Demand	Date	Period	Demand	RSF
VIC	15/09/2010	23	6217	22/09/2010	23	6366	1.023967
VIC	15/09/2010	24	6205	22/09/2010	24	6345	1.022562
VIC	15/09/2010	25	6258	22/09/2010	25	6349	1.014541
VIC	15/09/2010	26	6298	22/09/2010	26	6388	1.01429

Table 3: forecast price bands

$$\boldsymbol{E_f = E_l \times RSF}$$

$Where$:
$E_f = Energy\ Forecast$
$E_l = Like\ Day\ Energy$
$RSF = Regional\ Scaling\ Factor$

	Like day, like period					Forecast	
Company	Date	Period	Demand	RSF	Date	Period	Demand
COMP_1	15/09/2010	23	12	1.023967	22/09/2010	23	12.2876
COMP_1	15/09/2010	24	12.7	1.022562	22/09/2010	24	12.98654
COMP_1	15/09/2010	25	11.6	1.014541	22/09/2010	25	11.76868
COMP_1	15/09/2010	26	9.5	1.01429	22/09/2010	26	9.635757

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4 References

The resources listed in this section contain additional information that may assist you.

- AEMO Help Desk: phone: 1300 236 600 (1300 AEMO 00), and follow the prompts; e-mail: helpdesk@aemo.com.au.

4.1 AEMO's website

The following are found on AEMO's website:

- *NEM Settlement Prudential Supervision Process*: for help with prudential terms, http://www.aemo.com.au/electricityops/sett_prud_intro.html (Home->Electricity Settlements->Overview). Viewed 6 February 2012.
- *Participant Rights Administration User Interface Guide*, for information about managing a web portal account (accounts are created in MSATS), *http://www.aemo.com.au/electricityops/userguide.html* (Home>Electricity Retail & Metering>MSATS>MSATS Participant User Interface Guides). Viewed 6 February 2012.

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