

PUBLICATION OF HISTDEMAND DATA - BUSINESS SPECIFICATION

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1. Reference

1.1 Abbreviations

ABBREVIATION	ABBREVIATION EXPLANATION
AEMO	Australian Energy Market Operator (formerly NEMMCO)
MMS	Market Management System; software, hardware, network and related processes to implement the National Electricity Market (NEM); a AEMO department responsible for maintaining the system
NER/ Rules	National Electricity Rules
SOO	AEMO's annual Statement of Opportunities

TABLE 1: ABBREVIATIONS

1.2 References

1. "Regional Demand Definition", AEMO website:
http://www.aemo.com.au/dispatchandpricing/dispatch_pricing.htm

2. Introduction

2.1 Overview

This Business Specification describes the new process for the publication of Historical Demand (HistDemand) data to NEM Participants.

The new HistDemand data publication process was implemented as part of the June 2004 MMS release.

2.2 Background to Change

AEMO publishes various types of energy demand data to the market to assist Market Participants in making their business decisions.

In July 2003 Market Participants made a request to AEMO for access to the half-hourly historical demand (HistDemand) data that is used by AEMO in the preparation of the annual Statement of Opportunities (SOO) and used in half-hourly demand forecasting in the Pre-dispatch and PASA timeframes. At that stage this data was only available within AEMO.

AEMO agreed to publish the HistDemand data, as it was not sensitive in nature and the information was being used in important Participant business processes.

3. Status Prior to Change

AEMO uses half-hourly “as generated” region-based historical demand (HistDemand) data as the basis for its half-hourly demand forecasts that are used as inputs to the Pre-dispatch & STPASA processes. Every 30 minutes this HistDemand data is automatically calculated within AEMO’s real-time EMS SCADA database then transferred & stored within AEMO’s MMS database.

HistDemand is based on the calculated half-hourly average of actual 4-second regional Operational Demand for each NEM region excluding SNOWY1. Refer to Table 1 below for the definition of Operational Demand.

The following Table 1 summarises the various types of demand data made available to NEM Participants through AEMO’s systems (excluding HistDemand data).

These demand definitions are explained in greater detail in the AEMO website document “Regional Demand Definition” (Reference #1).

TABLE 1:

NAME	DESCRIPTION	RELATED TO:	SOURCE TABLE	USES	UPDATE & REPORTING CYCLE
Total Demand	Region demand, excluding inter-regional losses & scheduled loads.	DISPATCH GENERATION - NET INTERCHANGE	DISPATCHREGIONSUM PREDISPATCHREGIONSUM	Load Forecasting for Dispatch, 5MPD & Pre-dispatch Used in NEMDE central dispatch algorithm	Dispatch: 5 mins 5MPD: 5 mins Pre-Dispatch: 30 mins
Operational Demand	Region demand, including inter-regional losses & normally-on scheduled loads	TOTALDEMAND + CLEAREDSUPPLY - DISPATCHABLEGENERATION + NETINTERCHANGE	DISPATCHREGIONSUM PREDISPATCHREGIONSUM	SOO	Dispatch: 5 mins 5MPD: 5 mins Pre-Dispatch: 30 mins

NAME	DESCRIPTION	RELATED TO:	SOURCE TABLE	USES	UPDATE & REPORTING CYCLE
ResDemand	Region 50% POE demand forecast by AEMO, based on Historical demand data. Publication of this historical demand is the subject of this Business Specification		PERDEMAND	Load Forecasting for Pre-dispatch & STPASA Used in NEMDE central dispatch algorithm	Ad-Hoc, when updated by AEMO
Demand Forecast	Forecast change from initial demand over next 5 minutes		DISPATCHREGIONSUM PREDISPATCHREGIONSUM	Load Forecasting for Dispatch, 5MPD Used in NEMDE central dispatch algorithm	Dispatch: 5 mins 5MPD: 5 mins
Demand50	50% Probability of Exceedence forecast demand	ResDemand	PASAREGIONSOLUTION PERDEMAND	Load Forecasting for STPASA	Ad-Hoc, when updated by AEMO

NAME	DESCRIPTION	RELATED TO:	SOURCE TABLE	USES	UPDATE & REPORTING CYCLE
Demand10	10% Probability of Exceedence forecast demand	Demand50 x Area ScalingFactor (1.04)	PASAREGIONSOLUTION PERDEMAND	Load Forecasting for STPASA	Ad-Hoc, when updated by AEMO
Demand90	90% Probability of Exceedence forecast demand	Demand50 x Area ScalingFactor (0.96)	PASAREGIONSOLUTION PERDEMAND	Load Forecasting for STPASA	Ad-Hoc, when updated by AEMO
Initial Supply	Region total initial generation plus inter-regional imports . Calculated by NEMDE based on telemetered SCADA data.		DISPATCHREGIONSUM PREDISPATCHREGIONSUM TRADINGREGIONSUM		Dispatch: 5 mins 5MPD: 5 mins Pre-Dispatch: 30 mins

NAME	DESCRIPTION	RELATED TO:	SOURCE TABLE	USES	UPDATE & REPORTING CYCLE
Cleared Supply	<p>Region total cleared generation plus cleared inter-regional imports.</p> <p>Calculated by NEMDE based on market solution.</p>		<p>DISPATCHREGIONSUM</p> <p>PREDISPATCHREGIONSUM</p> <p>TRADINGREGIONSUM</p>		<p>Dispatch: 5 mins</p> <p>5MPD: 5 mins</p> <p>Pre-Dispatch: 30 mins</p>

4. New Business Requirements

The changes covered in this Business Specifications are:

- Creation of a new daily HistDemand report
- Publication of HistDemand report file

4.1 Report Design

The new HistDemand report extracts data from the LFCST.HistDemand table in the MMS database.

The data items in the report are:

TABLE 2:

ITEM	DESCRIPTION
REGIONID	NEM Region Identifier (eg 'NSW1')
SETTLEMENTDATE	Calendar Date, in format "yyyy/mm/dd hh:mm:ss" (eg '2004/04/16 00:00:00' = 16 th April 2004) The Time part of string should be ignored.
PERIODID	Calendar-based half-hour ended number (eg '1' = 00:30 HH ended; '48' = 00:00 HH ended)
DEMAND	Operational Demand, in MW

A sample extract from a HistDemand report is shown in Diagram 1 below.

Diagram 1: Sample HistDemand report

C	NEMTO.WORLD	LFCST_HISTDEMAND	NEMMCO	PUBLIC	2004/04/17	02:00:00	
I	DEMAND	HISTORIC		1 REGIONID	SETTLEMENTDATE	PERIODID	DEMAND
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	1	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	2	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	3	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	4	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	5	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	6	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	7	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	8	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	9	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	10	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	11	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	12	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	13	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	14	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	15	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	16	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	17	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	18	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	19	9128
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	20	9319
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	21	9392
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	22	9198
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	23	9286
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	24	9350
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	25	9384
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	26	9384
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	27	9372
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	28	9386
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	29	9350
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	30	9361
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	31	9320
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	32	9628
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	33	9508
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	34	9458
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	35	9506
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	36	10014
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	37	9780
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	38	9664
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	39	9250
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	40	8998
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	41	8874
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	42	8348
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	43	8328
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	44	8254
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	45	8346
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	46	8478
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	47	8682
D	DEMAND	HISTORIC		1 NSW1	2004/04/16 00:00:00	48	8382
D	DEMAND	HISTORIC		1 QLD1	2004/04/16 00:00:00	1	6231
D	DEMAND	HISTORIC		1 QLD1	2004/04/16 00:00:00	2	6231
ETC.....						
C	END OF REPORT		243				

4.2 Report Format

HistDemand report files are in AEMO's standard CSV flat-file format.

Each file has the following filename format:

PUBLIC_HISTDEMAND_<#CASE_DATE>_<#EVENT_QUEUE_ID>.CSV

Where;

#CASE_DATE = Market Date (YYYYMMDD) when the previous report was created
- usually the Sunday before last

#EVENT_QUEUE_ID = Unique Job ID for creating this report

4.3 Report Publication Timing & Frequency

HistDemand report files are published to Market Participants & to the public at large.

The daily HistDemand report file is automatically created at around 02:00 hrs each day & archived into a WinZip file before delivery to:

- The Participant Server "Import\Reports\CSVReports" folder, for those market participants that have requested the report; &
- The AEMO Website (<http://www.aemo.com.au/data/csv.htm>), at location "Market Data – Market Management System (MMS) CSV Files – HISTORICAL DEMAND" (refer Diagram 2 below)

Diagram 2: HistDemand files on AEMO Website

Date	Time	File Name
Thursday, June 17, 2004	11:03 AM	1562 PUBLIC_HISTDEMAND_20040616_1110721.ZIP
Friday, June 18, 2004	2:00 AM	1578 PUBLIC_HISTDEMAND_20040617_1750136.ZIP
Saturday, June 19, 2004	2:00 AM	1577 PUBLIC_HISTDEMAND_20040618_1750143.ZIP
Sunday, June 20, 2004	2:01 AM	1550 PUBLIC_HISTDEMAND_20040619_1650128.ZIP
Monday, June 21, 2004	2:02 AM	1579 PUBLIC_HISTDEMAND_20040620_1750119.ZIP
Tuesday, June 22, 2004	2:01 AM	1573 PUBLIC_HISTDEMAND_20040621_1750537.ZIP
Wednesday, June 23, 2004	2:01 AM	1578 PUBLIC_HISTDEMAND_20040622_1850646.ZIP
Thursday, June 24, 2004	2:02 AM	1560 PUBLIC_HISTDEMAND_20040623_1750733.ZIP
Friday, June 25, 2004	2:00 AM	1549 PUBLIC_HISTDEMAND_20040624_1770751.ZIP
Saturday, June 26, 2004	2:01 AM	1556 PUBLIC_HISTDEMAND_20040625_1770849.ZIP
Sunday, June 27, 2004	2:00 AM	1576 PUBLIC_HISTDEMAND_20040626_1751020.ZIP
Monday, June 28, 2004	2:00 AM	1568 PUBLIC_HISTDEMAND_20040627_1121075.ZIP
Tuesday, June 29, 2004	2:00 AM	1566 PUBLIC_HISTDEMAND_20040628_1771090.ZIP
Wednesday, June 30, 2004	2:01 AM	1563 PUBLIC_HISTDEMAND_20040629_1751289.ZIP
Thursday, July 01, 2004	2:00 AM	1561 PUBLIC_HISTDEMAND_20040630_1771260.ZIP
Friday, July 02, 2004	2:02 AM	1585 PUBLIC_HISTDEMAND_20040701_1881502.ZIP
Saturday, July 03, 2004	2:01 AM	1576 PUBLIC_HISTDEMAND_20040702_1701270.ZIP
Sunday, July 04, 2004	2:00 AM	1559 PUBLIC_HISTDEMAND_20040703_1801725.ZIP
Monday, July 05, 2004	2:01 AM	1554 PUBLIC_HISTDEMAND_20040704_1751756.ZIP
Tuesday, July 06, 2004	2:00 AM	1535 PUBLIC_HISTDEMAND_20040705_1771688.ZIP
Wednesday, July 07, 2004	2:00 AM	1557 PUBLIC_HISTDEMAND_20040706_1802031.ZIP
Thursday, July 08, 2004	2:01 AM	1578 PUBLIC_HISTDEMAND_20040707_1121276.ZIP
Friday, July 09, 2004	2:02 AM	1585 PUBLIC_HISTDEMAND_20040708_1802190.ZIP
Saturday, July 10, 2004	2:02 AM	1575 PUBLIC_HISTDEMAND_20040709_1752132.ZIP
Sunday, July 11, 2004	2:01 AM	1526 PUBLIC_HISTDEMAND_20040710_1781673.ZIP
Monday, July 12, 2004	2:00 AM	1554 PUBLIC_HISTDEMAND_20040711_1781953.ZIP
Tuesday, July 13, 2004	2:00 AM	1545 PUBLIC_HISTDEMAND_20040712_1782025.ZIP
Wednesday, July 14, 2004	2:01 AM	1573 PUBLIC_HISTDEMAND_20040713_1121004.ZIP
Thursday, July 15, 2004	2:02 AM	1562 PUBLIC_HISTDEMAND_20040714_1121041.ZIP
Friday, July 16, 2004	2:00 AM	1575 PUBLIC_HISTDEMAND_20040715_1121059.ZIP
Saturday, July 17, 2004	2:00 AM	1577 PUBLIC_HISTDEMAND_20040716_1121099.ZIP

4.4 Report Archiving

There is no AEMO Website archiving of daily HistDemand files, with files older than 30 days automatically deleted from the website.

However the daily HistDemand files will appear on the monthly CSV CD-ROMs that are issued by AEMO to requesting market participants.