Guide to the Market Suspension Pricing Schedule

NER 3.14.5(e)(1)-(3)

Prepared by:	AEMO Operations
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Approved for distribution and use by:

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Date:	12 / 10 / 23

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Current version release details

Version	Effective date	Summary of changes
2.2	9 October 2023	• Modified for start of Very Fast FCAS markets

Note: There is a full version history at the end of this document.

1. Introduction

1.1. Purpose and scope

The Australian Energy Market Operator (AEMO) publishes the Guide to the Market Suspension Pricing Schedule to help market participants understand the calculation and publication of the market suspension pricing schedule, as at the date of publication.

The market suspension pricing schedule is developed and published as required by clauses 3.14.5(e)(1)-(3) of the National Electricity Rules (Rules).

1.2. Definitions and interpretation

1.2.1. Glossary

(a)   Terms defined in the NER have the same meanings in the Methodology. Those terms are intended to be identified in this Methodology by italicising them, but failure to italicise a defined term does not affect its meaning.

(b)   The words, phrases and abbreviations set out below have the meanings set out opposite them when used in the Methodology.

Term	Definition
AEMO	Australian Energy Market Operator Limited
CSV	Comma separated variables, a type of flat-file format
EMMS	Electricity Market Management System
FCAS	Frequency Control Ancillary Service
NEM	National Electricity Market
NER or Rules	National Electricity Rules

1.3. Related documents

Title	Location
SO_OP_3706 – Failure of Market or Market Systems	AEMO | Guide to Market Suspension in the NEM
Market Suspension Pricing Methodology	AEMO | Guide to Market Suspension in the NEM
Market Suspension Pricing Schedule	AEMO | Guide to Market Suspension in the NEM
Market Suspension Compensation Methodology	AEMO | Guide to Market Suspension in the NEM

2. Calculation

Under clause 3.14.5(e)(3) of the NER, AEMO must prepare and publish market suspension pricing schedules for use during a market suspension.

These schedules are calculated using the market suspension pricing methodology[1] developed by AEMO in consultation with stakeholders and published on the AEMO website.

Each market suspension pricing schedule consists of two sets of half-hourly prices over a calendar day for each region and market (energy and FCAS markets). One set applies to weekday day-types, other than public holidays in the majority of the region. The other set applies to weekend day-types and public holidays in the majority of the region.

Each half-hourly price in a market suspension pricing schedule is calculated as the historical average of prices in the EMMS database for the relevant region, market, day-type and 30-minute period over the 28 day-period to the end of the NEM billing week (end of Saturday).[2]

For the calculation, reporting and application of the market suspension pricing schedule, time refers to market time (Australian Eastern Standard Time) and dates refer to calendar dates.

3. Reporting

3.1. Structure

3.1.1. Website report

The market suspension pricing schedule report files are in AEMO's standard ".CSV" flat-file format.[3] Each file follows the naming convention and format shown below:

PUBLIC_MARKET_SUSPENSION_SCHEDULE_<#REPORT_DATETIME>_<#EVENT_QUEUE_ID>.CSV

Where:

- #REPORT_DATETIME is the market date & time (YYYYMMDDhhmiss) when this report was created (usually a Saturday just after 2355 hrs when the last dispatch run for the calendar day is complete).

- #EVENT_QUEUE_ID is the unique job identification number for creating the report.

Inside each report file:

- In the first row, the first two cells across after 'PUBLIC' show the market date and time when this report was created and published – which matches the #REPORT_DATETIME in the filename.

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[1] The market suspension pricing methodology can be accessed at AEMO | Emergency management

[2] AEMO consulted on the market suspension pricing methodology in 2018 and added a final step in the calculations to cap and floor the market suspension prices at the prevailing administered price cap and floor (currently ±$600/MWh). The consultation documents are available at http://aemo.com.au/Stakeholder-Consultation/Consultations/Market-Suspension-Pricing-Consultation?Convenor=AEMO%20NEM.

[3] The market suspension pricing schedule report files are available at:
http://www.nemweb.com.au/REPORTS/CURRENT/MKTSUSP_PRICING/

- In the second row, the data fields "AUTHORISEDDATE" and "LASTCHANGED" refer to the date time that the data in the report was determined and written in AEMO's internal database. The publication date time is generally a few seconds after the "AUTHORISEDDATE" and "LASTCHANGED" date time.

- In the second row, the data field "EFFECTIVEDATE" refers to the start date that the pricing schedules will apply from. The start date is at least two weeks from the report's publication date (typically the Monday two weeks after publication of the report). The report is effective until another report published at a later time becomes effective. The period that the report applies to is typically one week as the reports are generated weekly, but it can be shorter if another report is triggered due to price revision (discussed in section 3.2).

- In the second row, the data fields "SOURCE_START_DATE" and "SOURCE_END_DATE" refer to the start date time and end date time of the period that the calculation is based on. This period is the previous 28 days up to the end of the billing period (midnight Saturday).

- From the second row, the second column provides the name of the EMMS Data Model package and the third column provides the name of the EMMS Data Model table where the information in the corresponding row can be found.

- "PERIODID" in the report is based on the calendar day starting at midnight, not the NEM trading day starting at 0400 hrs market time. For example, Period ID 1 is for the 30-minute period ending at 0030 hrs and Period ID 2 is for the 30-minute period ending at 0100 hrs.

An extract from a sample Market Suspension Pricing Schedule report file is shown in Figure 1 below.

Figure 1   Market suspension pricing schedule

Note:

- The above schedule was published on Saturday 9/09/2023 at 23:55:10.

- The schedule will be effective from Monday 25/09/2023, 14 days after its publication.

- The schedule was calculated based on the data in the previous 28-day period from Sunday 13/08/2023 at 0000 hours to Sunday 10/09/2023 at 0000 hours (midnight Saturday 9/09/2023).

3.1.2. MMS Data Model

There are two MMS Data Model tables in relation to the market suspension pricing schedule. These are:

- MARKET_SUSPEND_SCHEDULE_TRK

- MARKET_SUSPEND_SCHEDULE

The structure of the MMS Data Model tables is similar to that of the CSV file discussed in section 3.1.1.

The MARKET_SUSPEND_SCHEDULE_TRK table provides information for tracking purposes. The EFFECTIVEDATE, SOURCE_START_DATE, SOURCE_END_DATE, AUTHORISEDDATE and LASTCHANGED in the table have the same definition as those in the second row of the CSV file discussed in section 3.1.1.

The MARKET_SUSPEND_SCHEDULE table provides the market suspension pricing schedules. The data in the table corresponds to the data provided from the fourth row in the CSV file discussed in section 3.1.1. The PERIODID has the same definition as the CSV file and the period count starts from midnight (not from 0400 hrs).

Sample data from the tables are shown in Figure 2 and Figure 3 below.

Figure 2   MARKET_SUSPEND_SCHEDULE_TRK table

	EFFECTIVEDATE		SOURCE_START_DATE		SOURCE_END_DATE		COMMENTS		AUTHORISEDDATE		LASTCHANGED	
1	16/10/2023	⋯	3/09/2023	⋯	1/10/2023	⋯		⋯	30/09/2023 11:55:19 PM	⋯	30/09/2023 11:55:19 PM	⋯
2	9/10/2023	⋯	27/08/2023	⋯	24/09/2023	⋯		⋯	23/09/2023 11:55:10 PM	⋯	23/09/2023 11:55:10 PM	⋯
3	2/10/2023	⋯	20/08/2023	⋯	17/09/2023	⋯		⋯	16/09/2023 11:55:07 PM	⋯	16/09/2023 11:55:07 PM	⋯
4	25/09/2023	⋯	13/08/2023	⋯	10/09/2023	⋯		⋯	9/09/2023 11:55:07 PM	⋯	9/09/2023 11:55:07 PM	⋯
5	18/07/2023	⋯	4/06/2023	⋯	2/07/2023	⋯		⋯	3/07/2023 3:51:19 PM	⋯	3/07/2023 3:51:19 PM	⋯
6	3/07/2023	⋯	21/05/2023	⋯	18/06/2023	⋯		⋯	17/06/2023 11:55:07 PM	⋯	17/06/2023 11:55:07 PM	⋯
7	26/06/2023	⋯	14/05/2023	⋯	11/06/2023	⋯		⋯	10/06/2023 11:55:07 PM	⋯	10/06/2023 11:55:07 PM	⋯

Figure 3   MARKET_SUSPEND_SCHEDULE table

|	EFFECTIVEDATE		VERSION_DATETIME		DAY_TYPE		REGIONID		PERIODID	ENERGY_RRP	R6_RRP	R60_RRP	R5_RRP	RREG_RRP	L6_RRP	L60_RRP	L5_RRP	LREG_RRP	L1_RRP	R1_RRP
49	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	1	10.97000	2.96000	2.91000	0.99000	18.79000	0.37000	0.83000	0.25000	75.29000	36.32000	25.65000
50	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	2	9.63000	2.12000	2.28000	0.99000	16.89000	0.50000	0.95000	0.27000	82.67000	38.45000	25.65000
51	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	3	9.91000	1.92000	1.94000	0.94000	22.88000	0.56000	1.29000	0.32000	93.57000	38.45000	25.65000
52	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	4	8.34000	1.98000	1.91000	0.94000	23.81000	0.61000	1.65000	0.35000	93.87000	38.45000	25.65000
53	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	5	6.97000	1.84000	1.79000	0.87000	22.70000	0.74000	1.96000	0.43000	94.39000	38.45000	25.65000
54	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	6	7.03000	2.06000	1.93000	0.85000	23.24000	0.99000	2.25000	0.58000	92.72000	38.45000	25.65000
55	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	7	5.88000	1.87000	1.82000	0.83000	20.80000	0.71000	2.03000	0.53000	88.34000	38.45000	25.65000
56	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	8	6.17000	1.81000	1.78000	0.84000	21.04000	0.72000	1.93000	0.53000	86.26000	38.45000	25.65000
57	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	9	23.96000	2.64000	2.83000	0.87000	39.64000	1.27000	4.83000	0.63000	87.74000	38.50000	12.80000
58	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	10	19.87000	2.58000	2.58000	0.88000	27.53000	0.90000	3.13000	0.50000	84.43000	38.50000	12.80000
59	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	11	24.59000	2.61000	2.71000	0.91000	23.95000	0.79000	2.32000	0.51000	81.24000	38.50000	12.80000
60	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	12	39.30000	2.65000	3.32000	0.90000	23.19000	0.68000	2.10000	0.56000	70.84000	26.20000	12.80000
61	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	13	115.92000	6.48000	8.25000	1.02000	43.37000	0.43000	1.38000	0.45000	86.35000	26.70000	12.80000
62	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	14	131.48000	7.16000	8.77000	1.26000	62.73000	0.35000	1.07000	0.34000	66.68000	25.90000	12.80000
63	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	15	50.03000	6.11000	7.03000	1.08000	112.55000	0.39000	1.10000	0.32000	66.64000	28.20000	12.80000
64	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	16	7.41000	4.53000	4.50000	0.86000	93.64000	0.42000	0.91000	0.30000	64.39000	26.18000	12.80000
65	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	17	0.22000	3.95000	3.81000	0.83000	108.78000	0.45000	1.01000	0.35000	96.82000	30.70000	12.80000
66	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	18	-14.41000	3.68000	3.13000	0.79000	117.66000	0.54000	1.92000	0.97000	131.68000	26.70000	12.80000
67	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	19	-24.78000	2.49000	2.29000	0.72000	77.40000	0.97000	2.97000	2.25000	135.62000	35.70000	12.80000
68	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	20	-34.14000	2.28000	1.94000	0.66000	102.23000	1.22000	4.46000	2.76000	156.50000	27.95000	12.80000
69	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	21	-38.33000	1.15000	1.43000	0.67000	138.38000	1.91000	8.18000	3.49000	490.17000	37.20000	12.80000
70	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	22	-37.69000	1.18000	1.35000	0.63000	306.51000	7.14000	13.30000	3.23000	526.60000	24.58000	13.23000
71	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	23	-37.34000	1.02000	1.24000	0.57000	600.00000	2.15000	26.17000	6.33000	600.00000	24.76000	18.19000
72	25/09/2023	⋯	9/09/2023 11:55:07 PM	⋯	BUS_DAY	⋯	QLD1	⋯	24	-38.16000	0.77000	1.26000	0.53000	600.00000	4.94000	16.14000	3.45000	600.00000	22.90000	17.90000

3.2. Publication Timing and Frequency

In accordance with NER clause 3.14.5(e)(3), AEMO is required to publish the market suspension pricing schedule at least 14 days in advance of the first day to which the schedule relates.

An automatic process calculates, creates and publishes a new market suspension pricing schedule report file as soon as the prices in the calculation period are determined. This is usually around 23:55 hrs every Saturday.

The timeline of the example in Figure 1 is summarised in Figure 4 below.

Figure 4   Market suspension pricing schedule – timeline
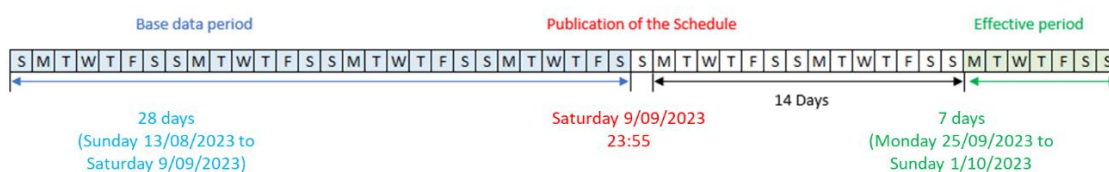

Note that the schedule prices are based on historical prices within a window of four NEM billing weeks (28 days) but are applied to a conventional week.[4]

If any energy or FCAS price within the 28-day calculation period is subject to review and AEMO performs an off-line after-the-event update to the price, AEMO's system would delay the calculation of the schedule until the final prices are entered into the EMMS database. The delay in the publication of the schedule may impact the effective date of the schedule.

For example, if a price within the 28-day calculation period in the above example was still subject to review at the end of that period, the schedule would not be published at 2355 hrs on Saturday. Instead, the schedule would be published when the final price is uploaded into the database. Figure 5 shows a case in which the final prices are uploaded to the database at 1500 hrs on Monday 11/09/2023 which triggers immediate publication of the schedule. In this case, the schedule will become effective on Tuesday 26/09/2023, 14 days after the publication. Thus, this schedule will be effective only for 6 days and the previous schedule will continue to be effective for 8 days until the end of Monday 25/09/2023.

Figure 5   Market suspension pricing schedule – timeline – price revision

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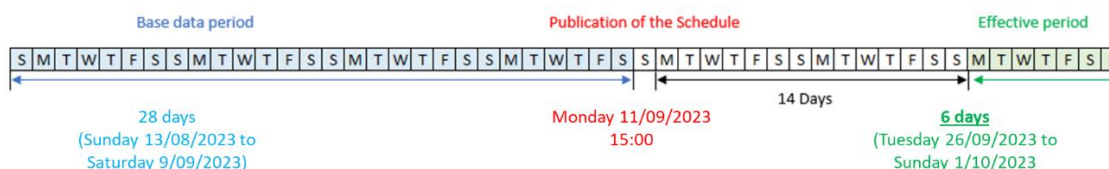
[4] A NEM billing week runs from Sunday to Saturday, whereas a conventional week runs from Monday to Sunday.

If AEMO has published multiple market suspension pricing schedule report files effective on the same day, then the latest report (that is, the report with the latest #REPORT_DATETIME in the filename) will take precedence for the overlapped period.

3.3. File Location and Archiving

Market suspension pricing schedules can be accessed in the following ways:

- The file is automatically posted onto the AEMO Website in .zip file format. To navigate to that location, either:

  – From AEMO's website home page, select "Energy Systems Electricity > National Electricity Market (NEM) > Data (NEM) > Market Management System (MMS) > Market Suspension Pricing Schedule." On the Market Suspension Pricing Schedule page, there is a link to Market Suspension Pricing Schedules, listed in order of publication date.

  – Or, use the direct link:
  http://www.nemweb.com.au/REPORTS/CURRENT/Mktsusp_Pricing/.

Click on the link for the particular report.

- The file is automatically issued via the Participant Server, to any market participant that requests receipt of these files.

Old Market Suspension Pricing Schedule report files archived from the website can be obtained from AEMO.

- MMS Data Model:

Market participants can subscribe to the market suspension tables via the MMS Data Model. The MARKET_SUSPEND_SCHEDULE_TRK and MARKET_SUSPEND_SCHEDULE tables are available under the FORCE_MAJEURE package.

Version release history

Version	Effective Date	Summary of Changes
2.2	9 October 2023	• Modified for start of Very Fast FCAS markets
2.1	31 December 2020	• Modified for delayed start date to 5-minute settlement
2.0	12 July 2019	• Updated to new AEMO template • Added EoY 2017 system changes • Modified for 5-minute settlement