

**Direction to Market Participants During the
Market Suspension and Administered Pricing
Periods in June 2022 – BW 25-26 2022**

24 December 2022

Final Determination Report

Disclaimer

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Notes to this report

Units and dollars

Unless otherwise specified:

- Dollars refer to Australian dollars.
- The claim determination amounts do not include interest payable to participants. For clarity amounts that may be payable for claims under Administered Pricing periods included in the term '*OTHt*' are not included.



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1 Introduction

IES has been appointed by AEMO as independent expert to assess claims for additional compensation submitted by *Directed Participants* in relation to the directions issued during Billing Weeks 25 and 26 in 2022. Most of the claims assessed herein relate to the period when market suspension pricing schedules applied (MSPS) applied; some claims relate to directions issued outside of MSPS, but within the intervention period and one claim relates to a direction operating on 25 June, which is outside the intervention period.

The applicable version of the National Electricity Rules (NER) is Version 182 with Start Date Thu, 19 May 2022 and End Date Thu, 30 June 2022.

1.1 Background

Figure 1 depicts a summary of the intervention during billing weeks 25 and 26 in 2022. As can be seen in the figure, Administered Pricing applied to the Queensland (Qld) region on 12 June and was extended to the mainland NEM states on 13 June. Administered Pricing ended in South Australia (SA) on 22 June and in Qld, New South Wales (NSW) and Victoria (Vic) at 0400 hrs 23 June.¹ The NEM spot market was suspended in all regions from 14:00 (dispatch interval (DI) ending 14:05) on 15 June 2022, until DI ending 0400 on 23 June 2022. The market suspension pricing schedules (MSPS) applied during that period. Provisional compensation during the MSPS period was determined under NER 3.14.5A for both directed and non-directed units. During the MSPS, additional compensation claims for directed units can be made under NER clauses 3.15.7B while for non-directed units, the applicable NER clauses are 3.14.5B.²

Figure 1 Intervention summary. Billing week 25 (top panel) and billing week 26 (bottom panel)

Settlement Day	Sunday 12 June	Monday 13 June	Tuesday 14 June	Wednesday 15 June	Thursday 16 June	Friday 17 June	Saturday 18 June
Directions		[Yellow bar]					
Administered Pricing	Qld only	Qld, NSW, Vic, SA					
Market Suspension				MSPS in all regions			
RERT			NSW	NSW, Qld		NSW	
Intervention Pricing (AP/EP)		[Teal bar]					

¹ AEMO/AEMC Compensation Mechanism Briefing 23 June 2022

² Documents relating to this period can be found at AEMO's website on <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-events-and-reports>



AEMO DIRECTIONS TO PARTICIPANTS DURING MSP AND APP JUNE 2022 – BW 25-26 2022

Settlement Day	Sunday 19 June	Monday 20 June	Tuesday 21 June	Wednesday 22 June	Thursday 23 June	Friday 24 June	Saturday 25 June
Directions							
Administered Pricing	Qld, NSW, Vic, SA				Qld, NSW, Vic		
Market Suspension	MSPS in all regions					Dispatch pricing	
RERT							
Intervention Pricing (AP/EP)							

SOURCE: ADDITIONAL COMPENSATION CLAIM, Q&A SESSION, 3 AUGUST 2022

Where it is considered important for clarity, terms defined in the NER have been italicised in the report. A reference to a clause in this report is a reference to the clause in the NER unless stated otherwise.

The remainder of this report is organised as follows:

Section 2 – contains a summary of claims for additional cost mechanisms,

Sections 3 to 11 – contains assessment of the claims submitted by each of Claimant1 to Claimant 9 respectively, and

Section 12 – relates to submissions on matters in the Draft Determination Report.

2 Summary of claims for additional cost mechanisms

NER clause 3.15.7(a1) requires AEMO to compensate a directed participant for the provision of energy or ancillary services. clause 3.15.7(a2) lists the services considered to be energy or ancillary services for the purposes of clause 3.15.7(a1) which include system per clause 3.15.7(a2)(4)(iii). NER clause 3.15.7B(a3) lists, without limitation, components included in the calculation of additional net direct costs. Clause 3.15.7B(b) sets out the requirements a submission for additional net direct costs must adhere to:

- Each component must be itemised,
- Provide sufficient information to substantiate each component of the, and
- Be signed by an authorised officer certifying the information to be true and correct.

2.1.1 Directions outside MSPS – provisional compensation

Provisional compensation for directions issued outside the MSPS is calculated in accordance with clause 3.15.7(c) and referred to as ‘DCP’ and notified per 3.15.7(e). The price used to determine DCP is the 90th percentile of prices for energy a year immediately preceding the trading day of the direction.

2.1.2 Directions during MSPS – provisional compensation

Provisional compensation for directions during the MSPS period ‘C’ is calculated with reference to a different formula per clause 3.14.5A(d) and notified per 3.14.5A(g). The amount ‘C’ is equal to the amount ‘CO’ calculated using benchmark values published by AEMO less the



trading amount 'RE' payable to the claimant during the MSPS period. The difference 'C' is deemed to be zero if 'RE' is greater than 'CO'. Clause 3.15.5A(a) states that the objective of the compensation is to maintain the incentive during MSPS periods for Scheduled Generators to supply energy, Ancillary Service Providers to supply market ancillary services and Demand Response Service Providers to supply wholesale demand response.

2.1.3 Claims during Administered Pricing periods

The AEMC has published compensation guidelines³ that apply to claims made during an Administered Pricing period (APP). The equation given in the AEMC guidelines is replicated in Equation 1.

Equation 1 **Components of total claimable amount**

$$TCA = \sum_t (DCt + OCt + OTHt - REVt)$$

Where:

TCA = Total Claimable Amount.

DCt = Direct costs incurred in the eligibility period(s).

OCt = Opportunity costs incurred over the relevant period of time.

REVt = Actual or potential revenue.

OTHt = Any other adjustments to the amount of compensation payable to be taken into consideration by the Commission.

t = relevant period of time for which a claim is being made.

This equation caters for claims that include opportunity costs, which are not included in the claims assessed in this report. For claims involving additional direct costs the term '*Oct*' is zero. The term '*OTHt*' includes financing costs that the AEMC may take into account and is not included in the amounts specified in this determination.

2.1.4 Claims for additional compensation of direct costs

Clause 3.14.5B sets out the rules for claims for additional compensation during MSPS periods. 3.14.5B(a) states that Market Suspension Compensation Claimants may make a written submission to AEMO claiming an amount equal to the amount by which its direct costs of supplying energy during the MSPS period exceed the sum of:

- any compensation payable to the claimant under clause 3.14.5A with respect to that MSPS period;
- the 'RE' as calculated under clause 3.14.5A(d); and
- any other compensation which the claimant has received or is entitled to receive in connection with the relevant generating unit during that MSPS period.

3.14.5B(b) clarifies that a Market Suspension Compensation Claimant who is also a Directed Participant with respect to any trading interval during a MSPS period is entitled to make a claim under clause 3.15.7B(a); but not entitled to make a claim under clause 3.14.5B.

³ AEMC, Compensation guidelines, Final guidelines, 21 October 2021 available at https://www.aemc.gov.au/sites/default/files/documents/final_amended_compensation_guidelines.pdf



3 Claims for additional compensation – Claimant1

AEMO issued a number of directions to Claimant1. Two directions shown in Table 1 were issued and ended before the MSPS period. The claimant was notified pursuant to 3.15.7(e) of amounts calculated under 3.15.7(c) in connection with these two directions. The claims for these events, refer to Table 1, were not provided to the independent expert for assessment. They may have been submitted to the AEMC as they fell in the APP.

Table 1 Claimant1 directions ending prior to the start of the MSPS period

Directed unit	Event number	Issued	Ended	Type	BW
PS6	127-17	14/06/2022 4:25	15/06/2022 14:00	Energy	25
PS7	127-18	14/06/2022 4:25	15/06/2022 14:00	Energy	25

The other directions, see Table 2, issued to the claimant occurred during the MSPS period. The amounts calculated under 3.14.5A(d) were zero. By examining the dispatch times and Market Notice numbers included in the claim it was established that the claimant included direct costs only for the MSPS period.

3.1 Gas volume

Gas volume was estimated based on the dispatched MWh in each 5-minute DI and a constant heat rate quadratic relationship used by the claimant for planning. Gas consumption below, approximately, 46% of the highest generation level occurring during the period was set to zero. This provides a conservative estimate of the amount of gas used. The heat rate varies with the power level and other variables. In the absence of precise data recorded the use of a constant heat rate is acceptable in the view of the independent expert.

3.2 Gas price

Gas prices were supported by invoices and the price level in the invoices was reasonable.

3.3 Start-up cost

Start-up cost was supported by purchase orders placed on the supplier in early and mid 2022 and a component based on similar costs incurred in the past few years.

Table 2 Claimant1 directions during the MSPS period

Directed unit	Event ID	Issued	Ended	Type	Fuel	Start-up	Comp	Additional cost
PS6	127-17	15/06/2022 16:50	15/06/2022 22:40	Energy	\$72,483.84	\$14,080.00	0	\$86,563.84
PS7	127-18	15/06/2022 14:55	15/06/2022 20:50	Energy	\$81,228.55	\$14,080.00	0	\$95,308.55
PS6	127-17	16/06/2022 7:55	16/06/2022 9:40	Energy	\$18,214.29	\$14,080.00	0	\$32,294.29
PS7	127-18	16/06/2022 7:55	16/06/2022 9:30	Energy	\$18,146.00	\$14,080.00	0	\$32,226.00



AEMO DIRECTIONS TO PARTICIPANTS DURING MSP AND APP JUNE 2022 – BW 25-26 2022

PS6	127-17	16/06/2022 2 17:10	16/06/2022 2 22:20	Energy	\$123,120.58	\$14,080.00	0	\$137,200.58
PS7	127-18	16/06/2022 2 17:50	16/06/2022 2 21:00	Energy	\$77,518.40	\$14,080.00	0	\$91,598.40
PS6	127-17	17/06/2022 2 6:35	17/06/2022 2 9:05	Energy	\$57,600.96	\$14,080.00	0	\$71,680.96
PS7	127-18	17/06/2022 2 6:40	17/06/2022 2 9:20	Energy	\$61,974.64	\$14,080.00	0	\$76,054.64
PS6	127-17	17/06/2022 2 16:55	17/06/2022 2 22:35	Energy	\$128,425.52	\$14,080.00	0	\$142,505.52
PS7	127-18	17/06/2022 2 16:10	17/06/2022 2 22:40	Energy	\$141,692.32	\$14,080.00	0	\$155,772.32
PS7	143-3	19/06/2022 2 15:05	19/06/2022 2 22:45	Energy	\$169,426.87	\$14,080.00	0	\$183,506.87
PS6	143-2	20/06/2022 2 15:10	21/06/2022 2 1:00	Energy	\$147,547.05	\$14,080.00	0	\$161,627.05
PS7	143-3	20/06/2022 2 17:40	21/06/2022 2 1:10	Energy	\$126,891.40	\$14,080.00	0	\$140,971.40
PS6	143-5	21/06/2022 2 17:40	22/06/2022 2 0:20	Energy	\$161,456.61	\$14,080.00	0	\$175,536.61
PS6	145-2	22/06/2022 2 16:40	23/06/2022 2 0:20	Energy	\$193,086.99	\$14,080.00	0	\$207,166.99
Total					\$1,578,814.00	\$211,200.00	0	\$1,790,014.00

In the opinion of the independent expert Claimant1 is entitled to receive \$1,790,014.00.

4 Claims for additional compensation – Claimant2

AEMO issued Claimant2 directions during the MSPS period but not all of the energy generated by the claimant was in response to directions. The claimant submitted three claims for additional direct costs for the MSPS period. The direct costs claimed are for fuel and start-up costs. The amount claimed is equal to the net direct costs less trading amounts received. The claimant was unable to attribute compensation received to directions and the balance of the MSPS period. Deducting trading amounts received during the period is a conservative approach to determining the claim amount. The submitted claims are set out in Table 3.

Table 3 Claims submitted by Claimant2

Directed unit	Fuel	Start-up	Trading amounts	Additional cost
PS1	\$5,975,345.56	\$246,800.00	\$2,715,740.88	\$3,506,404.68
PS2	\$12,827,807.78	\$90,000.00	\$7,664,161.76	\$5,253,646.02
PS3	\$1,220,117.52	\$19,200.00	\$532,975.97	\$706,341.56
Total	\$20,023,270.86	\$356,000.00	\$10,912,878.61	\$9,466,392.25

Note: The amount for fuel for PS3 reflects the correction to an input error as discussed in the subsection on diesel price.

4.1 Gas volume

Gas volume was determined based on market and pipeline reports adjusted downward to account for consumption by auxiliary loads.



4.2 Gas price

Gas price was based on spot purchases which is in line with the claimant's business plan of purchasing amounts in excess of planned amounts from the spot market from multiple locations. The volume weighted average of the daily imbalance price from these locations was calculated and used in the claim. This included a component of incremental transport cost. The values used were all supported.

4.3 Diesel volume

Diesel volume was based on deliveries to the power station that used diesel during the period to replenish fuel stocks. Information on deliveries were provided by the claimant.

4.4 Diesel price

The claimant used a simple average price of deliveries. The price excluded GST and excise. There was a data entry error made where on some days the full excise amount, instead of the half excise amount, was deducted. The error incorrectly reduced the price used in the claim. The data entry error was corrected and the average price recalculated. Arguably the volume weighted average price is a preferred estimate of the average price in such a case. However, it results in a slightly higher estimate of the average given the data. Therefore, the simple average calculation method was retained and only the obvious data entry error was corrected. The correction resulted in a determination of the amount the claimant is entitled to (for fuel in PS3) that is higher by \$51,431.37 than what was included in the claim. This correction is already reflected in the amount for PS3 in Table 3

4.5 Start-up cost

Start costs were claimed based on amounts used by the claimant to make commercial decisions. The claimant provided support for these costs based on historical costs. The claimant did not apply indexation to historical costs used which results in a conservative estimate of these costs. The number of starts was obtained from NEM data and verified by the independent expert.

4.6 Trading amounts

Trading amounts received during the MSPS period were deducted from the direct costs. The trading amounts were checked against information provided by AEMO.

In the opinion of the independent the claimant is entitled to an amount equal to \$9,466,392.25.

5 Claims for additional compensation – Claimant3

The claimant submitted two claims one, 126-6, operated in the Administered Pricing period (APP) prior to the MSPS period and the other during the MSPS period.



5.1 Claim in the APP

The details of the claim relating to direction ID 126-6 are shown in Table 4.

Table 4 Event 126-6 – prior to the MSPS period

Directed unit	Event ID	Effective	Ended
PS1	126-6	13/06/2022 6:50	13/06/2022 8:20

The claim comprised amounts for gas, including incremental transport costs, compensation for ancillary service costs incurred to comply with the direction and start-up costs less revenue received. The gas volume was based on gas meter data, information supporting the gas price incurred was provided and the amounts deducted included both provisional compensation and trading amounts received.

5.1.1 Start-up cost

In the draft determination report the independent expert adjusted the amount claimed by the claimant assuming the overhaul costs provided were stated in 2022 dollars. In its submission Claimant3 stated that while the minor overhaul costs reflected 2022 dollars; the major overhaul cost was based on a period that spanned 2016-2018 and provided supporting information. The amount in the claimants submission used 2017 as the starting point for indexation. The claimant applied the approach used by the independent expert in the draft determination and indexed the major overhaul cost from June 2017 to June 2022 terms using the producer price index (PPI).⁴ In our view it is reasonable to use this index to express such costs in June 2022 terms. The index value used by the claimant is slightly lower than calculated by the independent expert for costs in June 2022 terms. The start-up cost amount in the submission represents approximately 70% of the amount included in the initial claim. The start-up cost included in the submission has been allowed in the final determination and consequent adjustments made in the report, refer to Table 5 and Table 6.

Table 5 Amounts ‘as claimed’ and determination for event 126-6

Basis	Fuel	FCAS	Start-up	Rev	Additional cost
As claimed	\$121,495.46	\$331.82	\$20,852.76	\$69,256.73	\$73,423.31
Draft Determination	\$121,495.46	\$331.82	\$11,638.40	\$69,256.73	\$64,208.95
Final Determination	\$121,495.46	\$331.82	\$14,571.02	\$69,256.73	\$67,141.57

In the opinion of the independent expert the claimant is entitled to an amount equal to \$67,141.57 in relation to this claim.

⁴ Australian Bureau of Statistics (September 2022), [Producer Price Indexes, Australia](#), ABS Website. 'Table 12. Output of the Manufacturing industries, division, subdivision, group and class index numbers', Index Numbers; 246 Specialised machinery and equipment manufacturing; Series ID A3343907C; accessed 24 December 2022.



5.2 Claim in the MSPS period

The other claim submitted related to the MSPS period. The approaches are similar except that the deductions from additional cost are different. The claimant is required to deduct trading amounts received shown in Table 6. As a minor note, the claimant only claimed the whole dollar amount shown in Table 6.

The claim comprised amounts for gas, including incremental transport costs, compensation for ancillary service costs incurred to comply with the direction and start-up costs less revenue received. The gas volume was based on gas meter data, information supporting the gas price incurred was provided and the amounts deducted included both provisional compensation and trading amounts received. The Start-up cost was adjusted in the same manner and for the same reasons discussed in sub-section 5.1.1.

Table 6 Amounts ‘as claimed’ and determination for MSPS period claim

Basis	Fuel	FCAS	Start-up	Trading amounts	Additional cost
As claimed	\$5,282,080.10	\$10,060.08	\$521,318.98	\$2,725,461.09	\$3,087,998.07
Draft Determination	\$5,282,080.10	\$10,060.08	\$290,960.00	\$2,725,461.09	\$2,857,639.09
Final Determination	\$5,282,080.10	\$10,060.08	\$364,275.41	\$2,725,461.09	\$2,930,954.50

In the opinion of the independent expert the claimant is entitled to an amount equal to \$2,930,954.50 in relation to this claim.

6 Claims for additional compensation – Claimant4

The claimant submitted a claim for additional direct costs covering four units that operated in the MSPS period. The claim comprised fuel and incremental transportation cost, O&M costs, and deducted trading amounts received during the period. The trading amounts were confirmed as part of the assessment.

6.1 Gas volume

Gas volume consumed was calculated based on the generation data and applying the heat rate for each unit as provided in the 2022 ISP plan supporting material, ‘Inputs, assumptions and scenario workbook (Worksheet-Existing Gen Data Summary)’.

6.2 Gas price

Information was provided to support the gas price used and calculated on a volume weighted basis.

6.3 O&M

The claim applied the variable O&M \$/MWh rate for each unit as provided in the 2022 ISP plan supporting material, ‘Inputs, assumptions and scenario workbook (Worksheet-Existing Gen Data Summary)’.



The claim is summarised in Table 7 with amounts in each component summed across the four units involved in the claim.

Basis	Fuel	O&M	Trading amounts	Additional cost
As claimed	\$832,571.35	\$17,794.71	\$401,045.51	\$449,320.56

The claim amount is allowed as claimed.

7 Claims for additional compensation – Claimant5

The claimant submitted claims for billing week 25 that included directions that operated in the Administered Pricing period (APP) prior to the MSPS period and others that operated during the MSPS period.

7.1 Summary of claims

The claim submitted comprised amounts for gas, including incremental transport costs O&M and start-up costs less revenue received. The amounts deducted in arriving at the claim amount included both provisional compensation and trading amounts received. Details of these claims are shown in Table 8.

Directed unit	Fuel	O&M and Start-up	Prov payment	Rev	Claim
PS-2 (3.15.7B) BW25	\$2,854,253.72	\$744,376.76	\$88,525.62	\$2,194,168.13	\$1,315,936.73
PS-3 (3.15.7B) BW25	\$3,071,172.31	\$780,217.19	\$95,020.01	\$2,289,382.10	\$1,466,987.40
PS-2 (3.15.7B) BW26	\$667,481.65	\$162,601.47	\$0.00	\$508,420.55	\$321,662.57
PS-3 (3.15.7B) BW26	\$1,760,996.81	\$362,861.91	\$0.00	\$1,256,286.30	\$867,572.42
PS-2 (3.14.5B) BW26	\$271,095.46	\$76,725.36	\$0.00	\$297,068.20	\$50,752.62
PS-3 (3.14.5B) BW26	\$1,550,682.25	\$358,286.54	\$0.00	\$1,324,830.87	\$584,137.92
Total	\$10,175,682.20	\$2,485,069.23	\$183,545.63	\$7,870,156.14	\$4,607,049.66

In Table 9 we show details of the directions prior to the commencement of the MSPS period.

Directed unit	Event ID	Effective	Ended
PS2	127-2	13/06/2022 13:00	15/06/2022 14:00
PS3	127-14	13/06/2022 13:00	15/06/2022 14:00

The first two rows pertain to directions that start before the MSPS period when, APP was active, and continue into the MSPS period. Because of this, potentially different compensation mechanisms and claim mechanisms apply to the different sub-periods (APP and MSPS period). The third and fourth rows pertain to a claim in the MSPS period where the claimant was also a



directed participant. The last two rows pertain to a claim in the MSPS period where the units were not under direction.

7.2 Gas volume and price

The gas volume was based on system data and information supporting the gas price incurred was provided.

7.3 Start-up cost

The supporting information for start-up costs provided by the claimant showed an incorrect application of indexation for estimating these costs. The method took into account the expected work over a future period and estimated costs based on costs from a few years earlier. The historical costs were considered as today's costs then indexed each year for a period of 10 years. Future FX rates were used to convert from USD to AUD and an average cost per start-up was calculated. In our opinion this method applies indexation incorrectly. The main defect is indexing costs each year into the future then summing up amounts which are expressed on a different basis each year (they amounts do not all represent the same time basis). The method was adjusted to what we consider to be a correct approach. The historical cost was indexed to 2022 terms using the cpi index published by the ABS.⁵ The average exchange rate of daily rates published during the period 12 June 2022 to 25 June 2022 was used to convert amounts from USD to AUD.⁶

7.4 Summary of the determination

The amounts of the determination are shown in Table 10. The difference between the amounts in the determination and those claimed is due to the adjustment of start-up costs. Otherwise the claim amounts have been allowed.

Table 10 Claim - determination

Directed unit	Fuel	O&M and Start-up	Prov payment	Rev	Claim
PS-2 (3.15.7B) BW25	\$2,854,253.72	\$709,228.49	\$88,525.62	\$2,194,168.13	\$1,280,788.46
PS-3 (3.15.7B) BW25	\$3,071,172.31	\$745,068.91	\$95,020.01	\$2,289,382.10	\$1,431,839.12
PS-2 (3.15.7B) BW26	\$667,481.65	\$155,571.82	\$0.00	\$508,420.55	\$314,632.92
PS-3 (3.15.7B) BW26	\$1,760,996.81	\$352,317.43	\$0.00	\$1,256,286.30	\$857,027.94
PS-2 (3.14.5B) BW26	\$271,095.46	\$73,210.54	\$0.00	\$297,068.20	\$47,237.80
PS-3 (3.14.5B) BW26	\$1,550,682.25	\$347,742.05	\$0.00	\$1,324,830.87	\$573,593.43
Total	\$10,175,682.20	\$2,383,139.23	\$183,545.63	\$7,870,156.14	\$4,505,119.66

⁵ The method has been used in previous determinations. See for example, Final Assessment of Additional Compensation for Directions in SA Between February 25th and March 26th, 2021 by the consultancy SLC. The reference for the cpi index values is Australian Bureau of Statistics (June 2022) All groups CPI; Brisbane, Series ID A2325816R; 'TABLE 5. CPI: Groups, Index Numbers by Capital City', Consumer Price Index, Australia, accessed 30 October 2022. Available at <https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release#data-download>

⁶ The rates are only published on working days. available at <https://www.rba.gov.au/statistics/historical-data.html>



8 Claims for additional compensation – Claimant6

Claimant 6 submitted claims for a number of directions that operated during the MSPS period. The claims included cost of fuel and O&M and start-up costs. Information was provided by the claimant to support fuel volumes and prices. Where diesel is involved the costs exclude GST and excise. O&M and start-up costs were also supported by a model showing the calculations and information showing the basis for these costs. During the review process the claimant corrected an error in their calculations of O&M and start-up costs for 136-12, 136-13 and 136-14. At the same time the basis for calculating these costs was updated to reflect the most recent budgetary information. The basis for this revision was explained and has been reflected in the revised figures in Table 11. The claims were submitted under 3.14.5B and trading amounts were deducted from the costs. Event numbers 136-7, 136-8, 136-9, 136-13 and 136-14 each have a small amount for over time that was claimed and is included in the O&M & start-up column in Table 11.

Table 11 Claims in the MSPS period

Direction ID	Fuel	O&M and start-up	Rev	Additional cost
138-3	\$6,806,172.32	\$100,629.33	\$6,233,607.44	\$673,194.21
136-6	\$10,489,236.04	\$141,757.33	\$8,108,307.99	\$2,522,685.38
136-7	\$310,130.17	\$60,273.73	\$147,214.42	\$223,189.47
136-8	\$263,335.29	\$54,556.20	\$126,890.28	\$191,001.21
136-9	\$331,126.86	\$62,925.94	\$157,282.33	\$236,770.46
136-12	\$218,169.41	\$38,691.43	\$162,867.00	\$93,993.84
136-13	\$146,769.68	\$37,768.43	\$96,348.00	\$88,190.11
136-14	\$102,665.79	\$26,090.62	\$67,645.00	\$61,111.41

Following assessment of the claims submitted by the claimant the independent expert has allowed the claim for additional compensation as submitted for the amount shown in Table 11.

9 Claims for additional compensation – Claimant7

The claimant submitted a claim in relation to three directions that operated over two billing weeks during the MSPS period. The claimant has been notified pursuant to 3.14.5A(g) of amounts calculated under 3.14.5A(d) and is eligible for compensation under 3.15.7B(a) as a market suspension compensation claimant who is also a directed participant. The NER allows for an amount to be claimed that is the difference between direct costs and the amount notified. The direct costs included in the claim are fuel costs.

The claimant provided certification of its claim in the submission period.

Figure 2 below is an excerpt from the submitted claim. On the left side of the table in the figure are the amounts notified by AEMO. On the right side we see amounts estimated by the claimant. The claimant has estimated their costs and an amount in the column headed “Pool Revenue” which was also included in arriving at the claim amount. Text in boxes with a dotted outline have been added to aid understanding.



Figure 2 Excerpt from the claimant's claim

Billing week	Notified by AEMO			Added by the claimant			Claim
	Cost	Revenue	Compensation	Generation Cost	Pool Revenue	Compensation	
25	127,665	73,357	54,308	54,993	32,916	22,077	32,231
26	888,885	519,985	368,900	932,072	505,129	426,943	(58,043)
Total	1,016,550	593,342	423,208	987,065	538,045	449,021	(25,812)

9.1 Diesel volume

Additional information to support the claim was sought from the claimant and assessed. Here we discuss our assessment of the fuel volume estimate. The claimant estimated the amount of fuel based on the heat rate published by the manufacturer for that type of unit and assumed density (kg/litre) and calorific value based on weight (GJ/tonne) of the fuel. The assumptions used by the claimant amounted to a calorific volume of 35.61 MJ/litre (or 35.61 GJ/kL, GJ per thousand litres). This is much lower than typical benchmarks and involve estimating two parameters related to the fuel characteristics that are dependent on variables such as temperature. Here we estimate the fuel usage by reference to, what in our view constitutes, a reasonable benchmark based on guidelines published by the Clean Energy Regulator (Estimating emissions and energy from fuel combustion guideline). Method 1 can be used in the absence of site specific values based on measurement and analysis. The method is derived from the National Greenhouse Accounts national methodology. Estimates for individual fuel types are made by multiplying the physical quantity of fuel combusted by a fuel-specific energy content factor. The fuel-specific energy content used in the method is 38.6 GJ/kL based on the values published in the current version of the National Greenhouse and Energy Reporting (Measurement) Determination 2008 (refer to Schedule 1—Energy content factors and emission factors, Part 3—Fuel combustion—liquid fuels and certain petroleum-based products for stationary energy purposes available at <https://www.legislation.gov.au/Details/F2022C00737>). It is also noted that the fuel-specific energy content of 38.6 GJ/kL is the value quoted in the Guide to the Australian Energy Statistics 2021.⁷ The effect of this adjustment is to reduce the diesel volume and subsequently the cost of diesel estimated in the claim. The claimant has claimed only diesel cost under generation cost. The determination results in a reduction in generation cost of \$19,480.05 from \$987,065.47 (based on the values in the spreadsheet calculation provided by the claimant) to \$967,585.41. Generation cost is shown to the nearest dollar in Figure 2.

9.2 Diesel price

The claimant provided information to support the price of diesel used. The price excluded GST and excise. Event number 138-2 ended on 17 June and 138-11 ended on 21 June. As no deliveries of fuel were reported between the 17 June and 21 June, the energy generated during that period, including that under direction, would have had to come from deliveries on or prior to 17 June. The volume weighted average price of the marginal volume

⁷ Department of Industry, Science, Energy and Resources (2021), [Guide to the Australian Energy Statistics 2021](https://www.legislation.gov.au/Details/F2022C00737), Canberra, September. Accessed on 24 December 2022.



was determined by the claimant conservatively and included all deliveries made on the 13 June. Although it does not represent best practice it has been allowed as it has resulted in a more conservative estimate of the price of fuel.

9.3 Determination

The claimant has provided certification of its claim. The adjustment made to the diesel amount results in a reduction to generation cost of \$19,480.05 compared to the amount in the claim. In our view the claimant is entitled to compensation for additional cost in the amount of \$6,333.11. The reduction is due to the reduction in generation cost as discussed above.

10 Claims for additional compensation – Claimant8

The claimant submitted a claim in relation to operating during the MSPS period. Our understanding is that the claimant is eligible to claim under 3.14.5B and the compensation amounts calculated under 3.14.5A(d) are zero. The NER allows for an amount to be claimed that is the difference between direct costs and the trading amounts. The direct costs included in the claim are fuel costs, including transportation and fees related to the fuel purchase, and start-up costs.

The claimant provided information to support the gas volumes and prices used in the claim as well as support for the start-up costs based on a purchase order placed on the equipment vendor in mid 2021.

The claim lodged by the claimant contained an amount calculated by the claimant as the 90th percentile of prices in the previous year. Had the claimant been entitled to such an amount (this amount is referred to as ‘DCP’ and calculated under 3.15.7(c)) they would have been notified of such by AEMO as provided for in the NER.

There is no basis for including such an amount. The amount that should be deducted is the trading amount in each of the two billing weeks. Table 12 shows the amounts as claimed and as adjusted based on our interpretation of the NER. The amount shown under the ‘Trading amount’ column in the ‘As claimed row’ is the amount included by the claimant based on its calculation of ‘DCP’. In the ‘Determination’ row we show the ‘Trading amounts’ that, in our interpretation of the NER, should have been deducted and adjust the additional cost that the claimant is eligible to receive.

Table 12 Amounts ‘as claimed’ and determination

Basis	Fuel	Start-up	Trading amounts	Additional cost
As claimed	\$ 8,054,605.13	\$ 193,831.60	\$4,235,510.00	\$ 4,012,926.73
Determination	\$ 8,054,605.13	\$ 193,831.60	\$ 3,928,001.74	\$ 4,320,434.99

It is the view of the independent expert based on our interpretation of the NER that the claimant is entitled to receive \$ 4,320,434.99.



11 Claims for additional compensation – Claimant9

For claims made in relation to directions 136-3 and 136-4 that started in the APP but whose direction end time extended into the MSPS period, the claimant considered the 'DCP' amounts up to the DI where the MSPS period was active. In our view, this is a reasonable interpretation of the NER and the claim as estimated by the claimant is allowed by the independent expert. Furthermore, it is noted that these periods were not discarded but rather were included in the corresponding directions that were operational in the MSPS period.

11.1 Summary of claims assessed

The assessed claims submitted by Calaimant1 comprised direct cost components of fuel cost, variable operations and maintenance cost (VOM), start-up costs for some events and recovery of contingency FCAS charges incurred while the units operated in compliance with the directions. The total cost of the direction is the sum of these components. The additional compensation claimed is equal to the latter quantity less DCP, for the directions outside the MSPS period, and less trading amounts for the claims during the MSPS period. These amounts are shown in the 'Rev' column in Table 13. The amounts in the claims submitted by the claimant were all rounded to the nearest dollar. The amounts shown in the above tables are given in dollars and cents based on the supporting information and calculations in the provided excel models.

The assessed claims submitted by the claimant are summarised in Table 13

Table 13 Summary of claim amounts 'as claimed'

Event No.	Total Fuel Cost	VOM Cost + Start up Cost	FCAS Recovery	Rev	Additional Compensation Claimed
136-3	\$415,918.99	\$48,104.34	\$5,102.42	\$243,392.52	\$225,733.23
136-4	\$309,487.03	\$2,062.25	\$3,287.56	\$180,757.15	\$134,079.70
136-3	\$293,902.99	\$2,062.25	\$500.12	\$176,423.78	\$120,041.59
136-4	\$9,388.33	\$60.65	\$9.10	\$3,141.51	\$6,316.58
136-5	\$139,400.45	\$31,525.95	\$179.54	\$89,449.22	\$81,656.72
136-23	\$7,397,152.87	\$20,015.98	\$12,516.68	\$4,723,835.49	\$2,705,850.04
136-24	\$6,578,940.98	\$20,015.98	\$12,915.33	\$4,835,349.96	\$1,776,522.33
138-10	\$234,840.86	\$67,609.55	\$369.92	\$167,490.38	\$135,329.94
142-1	\$107,714.20	\$31,915.81	\$14.25	\$65,174.42	\$74,469.84
136-10, 136-11 & 138-1 (3.15.7B)	\$2,402,621.66	\$64,475.00	\$2,859.09	\$1,353,559.56	\$1,116,396.19
136-10, 136-11 & 138-1 (3.14.5B)	\$3,174,624.99	\$87,865.38	\$4,276.66	\$2,134,693.62	\$1,132,073.42
Total	\$21,063,993.37	\$375,713.15	\$42,030.67	\$13,973,267.61	\$7,508,469.58

11.2 Assessment of the claimed amounts

This Section assesses the claimed amount by examining the method used and correctness of the calculation of each of the components of net additional costs included in the claim.



11.2.1 Additional net direct fuel costs

The claimant calculated gas costs as follows:

- 1) Calculated the gas volume consumed by the units as the product of the heat rate and energy dispatched while under direction. The heat rate relationship was based on a technical report and the energy quantities from the dispatch data.
- 2) Calculated a volume weighted average price of gas based on the volumes and prices of the gas supplied to the units while generating under direction. Prices were supported by invoices.
- 3) Gas transportation costs were not claimed as no additional costs were incurred in connection with the directions.

For units where the information is available, the claimant applied a constant heat rate reported by their management systems for the month the directions fell into. For diesel the claimant based the fuel consumption on vendor data. For units that ran on both diesel and gas the costs were allocated in proportion to the energy generated. Diesel costs were exclusive of GST and excise.

There was a double up of a component of cost in the claimant's calculation of fuel costs for directions 136-10, 136-11 and 138-1. This was corrected resulting in a reduction relative to the corresponding amount claimed.

This method in the view of IES provides a reasonable reflection of the gas costs incurred in relation to carrying out the *direction*.

11.2.2 Additional net direct maintenance costs (VOM)

The claim included a component of additional maintenance costs of the directed units. The claimant used a VOM rate based on data from a very old study and indexed that cost by 2.5% for each year from the date of the study to the present. This is not a reliable estimate of VOM but the claimant could not furnish other supporting data. In view of this we have used the VOM for these units provided in the provided in the 2022 ISP plan supporting material, 'Inputs, assumptions and scenario workbook (Worksheet-Existing Gen Data Summary)' available on AEMO's website.⁸ The workbook expresses the VOM costs in June 2021 terms and the amounts were indexed to June quarter 2022 terms.⁹ It is noted that this approach to estimating VOM is essentially the same approach adopted in a recent final determination.¹⁰ The independent expert allowed the VOM as claimed for three of the directions as the estimate provided by the claimant represented a conservative estimate of VOM.

11.2.3 Additional net direct other costs (FCAS)

The claimant included in its claim for additional compensation an amount to recover the FCAS charges it incurred due to carrying out the *direction*. The claimant calculated the dispatched energy from the directed units as a percentage of the total energy and applied that factor to the contingency raise costs incurred during the direction period. The energy quantities were

⁸ <https://aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp/current-inputs-assumptions-and-scenarios>.

⁹ Australian Bureau of Statistics (June 2022) All groups CPI; Adelaide, Series ID A2325821J; 'TABLE 5. CPI: Groups, Index Numbers by Capital City', Consumer Price Index, Australia, accessed 22 August 2022. Available at <https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release#data-download>

¹⁰ Final Assessment of Additional Compensation for Directions in SA Between February 25th and March 26th, 2021 by the consultancy SLC.



supported by dispatch data. Raise contingency costs are charged to generators on the basis of the energy they produce at the time. In our view this is a reasonable method of attributing these costs to the direction.

11.2.4 Additional net direct other costs (Transportation)

Gas transportation costs were not claimed as no additional costs were incurred in connection with the directions.

11.2.5 Additional net direct other costs (Start-up costs)

Start-up costs, incurred in some events, were based on an engineering report and information provided by the claimant. To assess reasonableness of the start-up costs included in the claim, the claimed costs were benchmarked against independent information in the public domain for the units concerned. IES has allowed the start-up costs included in the claims.

11.2.6 The amount calculated as DCP and trading amounts

The compensation to which a directed participant is entitled (DCP) in the case of a direction for the provision of energy is specified in 3.15.7(c). The price used in determining the DCP is the 90th percentile of prices for energy a year immediately preceding the trading day of the *direction*. This amount was calculated by AEMO. For claims made during the MSPS period the claimant estimated the trading amounts and deducted these from its direct costs in determining the claim amount. This was applied to all claims in the MSPS period including when the claimant was also a directed participant.

11.3 Summary of the determination

The independent expert made, what it considered to be a more reasonable estimate of the VOM costs related to the direction. As a result the determined amount is less than claimed by \$1,716.55. The removal of the double counting of a component of fuel cost resulted in a reduction of \$128,403.79. Table 14 summarises the determination based on the above assessment. Following assessment of the claims submitted the independent expert has allowed a total of \$7,378,349.25.

Table 14 Summary of determination

Event No.	Total Fuel Cost	VOM Cost + Start up Cost	FCAS Recovery	Rev	Additional Compensation Determined
136-3	\$415,918.99	\$47,451.10	\$5,102.42	\$243,392.52	\$225,079.99
136-4	\$309,487.03	\$1,669.54	\$3,287.56	\$180,757.15	\$133,686.99
136-3	\$293,902.99	\$1,687.60	\$500.12	\$176,423.78	\$119,666.94
136-4	\$9,388.33	\$51.44	\$9.10	\$3,141.51	\$6,307.36
136-5	\$139,400.45	\$31,381.40	\$179.54	\$89,449.22	\$81,512.17
136-23	\$7,397,152.87	\$20,015.98	\$12,516.68	\$4,723,835.49	\$2,705,850.04
136-24	\$6,578,940.98	\$20,015.98	\$12,915.33	\$4,835,349.96	\$1,776,522.33
138-10	\$234,840.86	\$67,609.55	\$369.92	\$167,490.38	\$135,329.94
142-1	\$107,714.20	\$31,773.62	\$14.25	\$65,174.42	\$74,327.65
136-10, 136-11 & 138-1 (3.15.7B)	\$2,343,613.33	\$64,475.00	\$2,859.09	\$1,353,559.56	\$1,057,387.85
136-10, 136-11 & 138-1 (3.14.5B)	\$3,105,229.54	\$87,865.38	\$4,276.66	\$2,134,693.62	\$1,062,677.96



Total	\$20,935,589.59	\$373,996.61	\$42,030.67	\$13,973,267.61	\$7,378,349.25
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12 Submissions on matters in the Draft Determination Report

Submissions on the matters contained in the draft report were received in accordance with the intervention settlement timetable from two claimants, Claimant3 and Claimant7. The submissions have been considered and appropriate updates made as discussed in the corresponding sections.