

AEMO Directions to Participants in South Australia

20 April 2022

IES Ref 6696

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 amounts do not include interest payable to the participant.



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1 Introduction

IES has been appointed by AEMO as independent expert to assess claims for additional compensation submitted by two *Directed Participants* in relation to the directions issued during Billing Weeks 41 to 44 in 2021.

1.1 Background and direction to participants

During billing weeks 41 to 44 AEMO issued directions to maintain the system in a secure operating state. This report presents the assessment of claims made by two claimants, Claimant1 and Claimant2. The directions are summarised in Table 1 and Table 2 with the information appropriately masked to maintain confidentiality.

Table 1 Summary of the *directions* – Claimant1

Directed unit	Event number	Issued	Effective	Cancelled	Reason
PS3	47-1	14/10/2021 16:30	15/10/2021 01:00	16/10/2021 15:30	System strength
PS2	47-2	14/10/2021 16:30	15/10/2021 01:00	20/10/2021 00:00	System strength
PS3	47-5	16/10/2021 16:00	17/10/2021 04:00	17/10/2021 16:30	System strength
PS3	47-7	17/10/2021 16:00	17/10/2021 22:00	20/10/2021 00:00	System strength
PS2	47-20	14/10/2021 16:30	20/10/2021 00:00	27/10/2021 11:00	System strength
PS3	47-21	17/10/2021 16:00	20/10/2021 00:00	26/10/2021 16:00	System strength
PS3	47-18	26/10/2021 15:05	27/10/2021 00:30	27/10/2021 17:00	System strength
PS2	48-1	27/10/2021 16:00	27/10/2021 22:30	07/11/2021 00:00	System strength
PS3	48-2	27/10/2021 16:00	28/10/2021 00:30	30/10/2021 17:00	System strength
PS3	48-6	30/10/2021 16:00	31/10/2021 00:30	31/10/2021 17:00	System strength
PS3	48-10	01/11/2021 05:30	01/11/2021 10:00	02/11/2021 16:45	System strength
PS3	48-16	03/11/2021 16:30	04/11/2021 02:00	05/11/2021 04:00	System strength

Table 2 Summary of the *directions* – Claimant 2

Directed unit	Event number	Issued	Effective	Cancelled	Reason
PS1	47-16	25/10/2021 15:30	25/10/2021 17:30	26/10/2021 05:35	System strength



1.2 Description of services provided

The directions issued by AEMO were for the provision of system strength. A directed participant providing system strength (refer to 3.15.7(a2)(4)(iii)) is deemed, for the purposes of 3.15.7(a1), to provide energy. A directed participant that provides energy is entitled to compensation including for “...additional net direct costs incurred by the directed participant...as a result of the provision of the service”. Clause 3.15.7B(a3) lists, without limitation, components included in the calculation of additional net direct costs. 3.15.7B(b) states that submissions made must “(1) itemise each component of a claim; (2) contain sufficient data and information to substantiate each component of a claim...”

The claims for additional compensation include amounts due to four components:

- Additional net direct fuel costs (Gas) – per 3.15.7B(a3)(1), plus
- Additional net direct maintenance costs (VOM) – per 3.15.7B(a3)(2), plus
- Additional net direct other costs (FCAS) – per 3.15.7B(a3)(6), less
- The amount calculated as DCP.

AEMO has calculated the compensation amount the directed participant is entitled to receive (DCP) in accordance with NER Clause 3.15.7(c). The Claimants have submitted written claims for additional compensation under NER clause 3.15.7B. The assessment of these claims is discussed in this determination report.

Where it is considered important for clarity, terms defined in the National Electricity Rules (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 – Claims for additional compensation – Claimant1,

Section 3 – Claims for additional compensation – Claimant2, and

Section 4 – Submissions on matters in the draft report.

2 Claims for additional compensation – Claimant1

2.1 Summary of claims by Claimant1

Claimant1 submitted claims summarised in Table 3. The components of the claim comprised Fuel cost (Gas), variable operations and maintenance cost (VOM) 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 three components. The additional compensation claimed is equal to the latter quantity less DCP. The amounts shown in Table 3 are given in dollars and cents based on the information provided in the supporting information and calculations shown.

Table 3 Summary of claims - Claimant1

Directed Unit	Event	Effective	Total Fuel Cost	VOM Cost	FCAS Recovery	Total Cost of Direction	DCP	Additional Compensation Claimed
PS3	47-1	15/10/20 21 01:00	\$284,562.83	\$28,022.37	\$642.97	\$313,228.18	\$134,329.08	\$178,899.10
PS2	47-2	15/10/20 21 01:00	\$921,981.08	\$86,614.61	\$2,336.02	\$1,010,931.70	\$424,728.00	\$586,203.70
PS3	47-5	17/10/20 21 04:00	\$94,255.26	\$9,098.17	\$157.02	\$103,510.44	\$44,484.08	\$59,026.36
PS3	47-7	17/10/20 21 22:00	\$470,655.07	\$36,392.69	\$987.80	\$508,035.56	\$177,340.01	\$330,695.55
PS2	47-20	20/10/20 21 00:00	\$1,346,555.87	\$130,285.84	\$2,559.75	\$1,479,401.46	\$636,804.00	\$842,597.46
PS3	47-21	20/10/20 21 00:00	\$1,152,629.76	\$116,456.61	\$2,163.14	\$1,271,249.51	\$569,837.00	\$701,412.51
PS3	47-18	27/10/20 21 00:30	\$133,585.22	\$12,009.59	\$160.41	\$145,755.22	\$56,610.02	\$89,145.20
PS2	48-1	27/10/20 21 22:30	\$1,474,746.89	\$175,776.70	\$4,751.62	\$1,655,275.22	\$835,040.00	\$820,235.22
PS3	48-2	28/10/20 21 00:30	\$376,364.37	\$46,946.57	\$1,193.72	\$424,504.66	\$219,181.47	\$205,323.19
PS3	48-6	31/10/20 21 00:30	\$95,557.33	\$12,009.59	\$356.56	\$107,923.47	\$56,431.44	\$51,492.03
PS3	48-10	01/11/20 21 10:00	\$187,635.58	\$22,381.51	\$640.33	\$210,657.41	\$104,388.96	\$106,268.45
PS3	48-16	04/11/20 21 02:00	\$157,204.48	\$18,924.20	\$338.98	\$176,467.66	\$88,961.96	\$87,505.70
		Total	\$6,695,733.73	\$694,918.45	\$16,288.32	\$7,406,940.50	\$3,348,136.01	\$4,058,804.48

2.2 Calculating 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.

2.2.1 Additional net direct fuel costs (Gas) – per 3.15.7B(a3)(1)

Claimant1 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 price of gas based on the volumes and prices of the gas supplied to the units while generating under direction. Invoices were provided in support of purchases made.
- 3) Gas transportation costs were not claimed as no additional costs were incurred in connection with the directions.

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

2.2.1.1 Calculation of the gas volume

There was a spread sheet error in the implementation of the relationship used to calculate the gas volume. The mathematical relationship was provided on the model provided by Claimant1 in the tab 'HR' and implemented correctly in that tab. However, there was an error in the Excel implementation of the relationship when calculating the volumes associated with the electricity dispatched during the direction (incorrectly placed brackets). This was corrected during the assessment and the corrected volumes used for the determination. The correction was relatively small.

2.2.2 Additional net direct maintenance costs (VOM) – per 3.15.7B(a3)(2)

The claim included a component of additional maintenance costs of the directed units. Claimant1 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 Claimant1 could not furnish other supporting data. In view of this we have used the VOM for these units provided in the “2021 Inputs and assumptions workbook” available on AEMO’s website.¹ The workbook expresses the VOM costs in 2021 terms. It is noted that this approach to estimating VOM is essentially the same approach adopted in a recent final determination.²

There was an error made by Claimant1 in applying the VOM rate. The spreadsheet model calculated a rate for a 30-minute period but applied it to each 5-minute period thus multiplying the cost by a factor of six (6). This is likely caused by the model not being updated for the change from 30-minute settlement to 5-minute settlement. This settlement period error was corrected.

2.2.3 Additional net direct other costs (FCAS & Transportation) – per 3.15.7B(a3)(6)

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 supported by dispatch data. Raise contingency costs are charged to generators on the basis of the energy they produce at the time.

¹ <https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp/current-inputs-assumptions-and-scenarios> accessed on 21 October 2021.

² Final Assessment of Additional Compensation for Directions in SA Between February 25th and March 26th, 2021 by the consultancy SLC.



In IES' view this is a reasonable method of attributing these costs to the direction. The Claimant's amounts for this component included in the claim are accepted.

2.2.4 Additional net direct other costs (Transportation) – per 3.15.7B(a3)(6)

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

2.2.5 The amount calculated as DCP

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 applicable price is the 90th percentile of prices for energy in the year immediately preceding the trading day of the *direction*. This amount was calculated by AEMO.

2.3 Summary of the determination – Claimant1

As a result of reviewing the claim submitted by Claimant1 corrections were made to gas volume and to VOM costs. Both of these corrections were corrections to spreadsheet errors. The review also made what it considered a more reasonable estimate of the VOM costs related to the VOM costs were calculated based on what is considered a more reasonable cost. Following from these assessments Claimant1 is determined to be entitled to an additional compensation amount equal to \$3,441,316.41. The components are shown in Table 4.

Table 4 Summary of determination for claims by Claimant1

Directed Unit	Event	Effective	Total Fuel Cost	VOM Cost	FCAS Recovery	Total Cost of Direction	DCP	Additional Compensation Determination
PS3	47-1	15/10/20 21 01:00	\$284,158.09	\$3,454.80	\$642.97	\$288,255.85	\$134,329.08	\$153,926.78
PS2	47-2	15/10/20 21 01:00	\$919,914.69	\$10,923.54	\$2,336.02	\$933,174.26	\$424,728.00	\$508,446.26
PS3	47-5	17/10/20 21 04:00	\$94,121.14	\$1,146.25	\$157.02	\$95,424.41	\$44,484.08	\$50,940.33
PS3	47-7	17/10/20 21 22:00	\$470,008.92	\$4,520.56	\$987.80	\$475,517.27	\$177,340.01	\$298,177.27
PS2	47-20	20/10/20 21 00:00	\$1,343,573.39	\$16,377.90	\$2,559.75	\$1,362,511.04	\$636,804.00	\$725,707.04
PS3	47-21	20/10/20 21 00:00	\$1,151,038.51	\$14,525.67	\$2,163.14	\$1,167,727.32	\$569,837.00	\$597,890.32
PS3	47-18	27/10/20 21 00:30	\$133,401.21	\$1,497.07	\$160.41	\$135,058.68	\$56,610.02	\$78,448.66
PS2	48-1	27/10/20 21 22:30	\$1,471,473.75	\$22,099.55	\$4,751.62	\$1,498,324.92	\$835,040.00	\$663,284.92
PS3	48-2	28/10/20 21 00:30	\$378,717.11	\$5,800.70	\$1,193.72	\$385,711.53	\$219,181.47	\$166,530.06
PS3	48-6	31/10/20 21 00:30	\$95,423.60	\$1,500.79	\$356.56	\$97,280.95	\$56,431.44	\$40,849.51
PS3	48-10	01/11/20 21 10:00	\$187,372.13	\$2,769.88	\$640.33	\$190,782.34	\$104,388.96	\$86,393.38
PS3	48-16	04/11/20 21 02:00	\$156,987.40	\$2,357.47	\$338.98	\$159,683.85	\$88,961.96	\$70,721.90



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Directed Unit	Event	Effective	Total Fuel Cost	VOM Cost	FCAS Recovery	Total Cost of Direction	DCP	Additional Compensation Determination
		Total	\$6,686,189.94	\$86,974.17	\$16,288.32	\$6,789,452.42	\$3,348,136.01	\$3,441,316.41

The determination did not assess, nor does it include, events where the additional compensation amount claimed is below \$20,000.

3 Claims for additional compensation – Claimant2

3.1 Summary of claims by Claimant2

Claimant2 submitted a claim for additional compensation in relation to direction event 47-16. The claim amounts related to fuel cost, VOM and Start-up costs and additional transportation. DCP was subtracted from the sum of these components. The claim is summarised in Table 5.

Table 5 Summary of claim - Claimant2

Directed Unit	Event	Effective	Total Fuel Cost	EOH Cost	FCAS	Total Cost of Direction	DCP	Additional Compensation Claimed
PS1	47-16	25/10/20 21 17:30	\$119,635	\$27,602	\$6,067	\$153,304	\$132,873	\$20,431
		Total	\$119,635	\$27,602	\$6,067	\$153,304	\$132,873	\$20,431

Claimant2 used amounts rounded to the nearest dollar in its submitted claim.

The amount claimed for each of these components was supported by an invoice from the relevant supplier. The claim included a higher amount claimed for FCAS due to incorrectly calculating the claimant's share of FCAS. This was corrected and the FCAS claimed amount in the determination was changed from what was claimed to \$613.05. The determination also used amounts in dollars and cents rather than rounded to the nearest dollar. These are summarised in Table 6.

Table 6 Summary of determination for claim by Claimant2

Directed Unit	Event	Effective	Total Fuel Cost	EOH Cost	FCAS	Total Cost of Direction	DCP	Additional Compensation Claimed
PS1	47-16	25/10/20 21 17:30	\$119,635.36	\$27,601.29	\$613.05	\$147,849.70	\$132,873.11	\$14,976.59
		Total	\$119,635.36	\$27,601.29	\$613.05	\$147,849.70	\$132,873.11	\$14,976.59

After making the correction for FCAS the determination is that Claimant2 is entitled to additional compensation of \$14,976.59.



4 Submissions on matters in the draft report

Interested parties were invited to make submissions on the matters contained in the draft report in accordance with the intervention settlement timetable. This invitation was in fulfilment of the requirements of the NER.

No submissions were received.