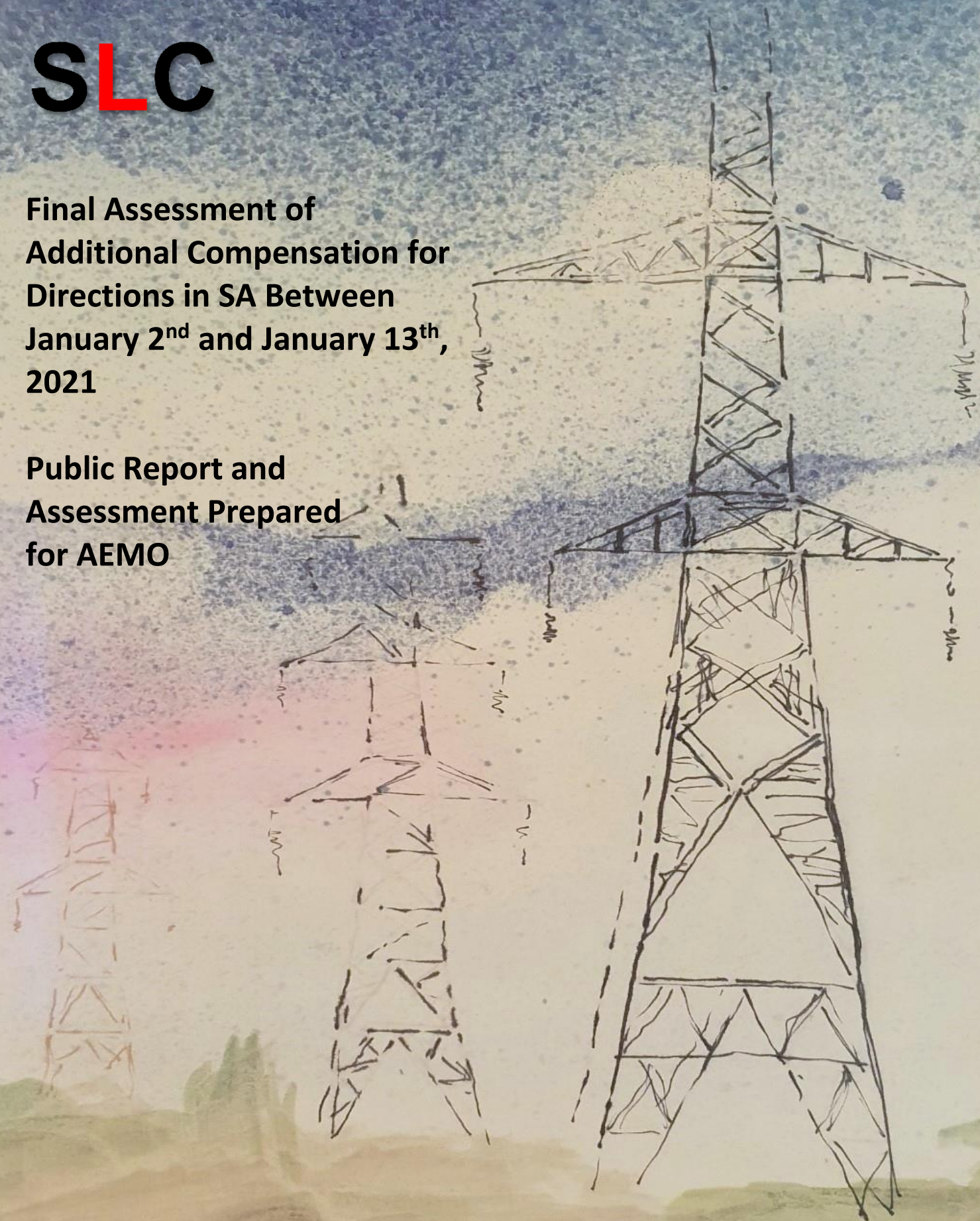




**Final Assessment of
Additional Compensation for
Directions in SA Between
January 2nd and January 13th,
2021**

**Public Report and
Assessment Prepared
for AEMO**



**Sam Lovick Consulting
June 2021**

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1. Introduction

This report is prepared for the Australian Energy Market Operator (AEMO) in accordance with the requirements of clause 3.12.3 of the National Electricity Rulesⁱ (NER).

Sam Lovick Consulting (SLC) was appointed by AEMO as an independent expert to determine clause 3.15.7B additional compensation owing for *directions* to *Directed Participants* issued in South Australia between Saturday 2nd January 2021 and Wednesday 13th January 2021. This related to four *directions* covering periods between 2nd January 2021 and 17th January 2021:

- for a generator to remain synchronised and follow dispatch targets from 20:30 hrs 2nd January 2021 to 11:30 hrs 9th January 2021 ('Claim A');
- for a generator to remain synchronised and follow dispatch targets from 09:00 hrs 4th January 2021 to 12:00 hrs 7th January 2021 ('Claim B');
- for a generator to remain synchronised and follow dispatch targets from 10:00 hrs 13th January 2021 to 20:00 hrs 17th January 2021 ('Claim C'); and
- for a generator to remain synchronised and follow dispatch targets from 09:30 hrs 14th January 2021 to 18:30 hrs 17th January 2021 ('Claim D').

AEMO determined that these were *directions* for *system strength services* to maintain the system in a secure operating state. The four *directions* covered two different *Directed Participants*.

1.1. Circumstances of the *Directions*

The *Directions* did not result from any particularly unusual events within the NEM at that time. Rather, they were a consequence of supply and demand on the network at the time and the mix of generation available and operating to meet that demand. AEMO determined that offered resources at the time did not provide adequate *system strength services*. The *directions* were necessary to ensure that generators capable of providing *system strength services* that were scheduled to shut down instead remained synchronised.

1.2. Compensation for the *Directed Participants*

AEMO determined compensation for these *directions* under clause 3.15.7, which defines a formula for compensating *Directed Participants* for the provision of *energy* and *market ancillary services* based on the 90th percentile *spot price* or *ancillary service price* over the preceding year. AEMO informed the *Directed Participants* of these compensation amounts.

System strength services are neither *energy* nor *market ancillary services* within the NER so there is no formulaic mechanism for determining compensation for its provision. Clause 3.15.7A sets out how compensation to *Directed Participants* for services other than *energy* or *market ancillary services* should be determined. However, clause 3.15.7A(a1) excludes services where the *direction* would have been unnecessary had the *Directed Participants* made a *dispatch bid*.

ⁱ National Electricity Rules Version 156 in operation from 12 December 2020 to 21 February 2021, available at <https://www.aemc.gov.au/energy-rules/national-electricity-rules/national-electricity-rules-version-156> (last viewed 2 May 2021). Unless otherwise stated, references to clauses within this report refer to this version of the NER.

Energy, system strength services and, to some degree, FCAS are joint products. Had *dispatch bids* for *energy* or FCAS been made for these directed units, there would not have been a need for *directions* for *system strength services*. Accordingly, and in accordance with clause 3.15.7A(a2), compensation for *system strength services* in these cases are to be determined under clause 3.15.7. Furthermore, while the *directions* were for *system strength services*, they were enacted by way of *directions* for *energy*, dictating compensation for *energy* as a directed service under clause 3.15.7.

The *Directed Participants* sought additional compensation under clause 3.15.7B in respect of the foregoing *directions*. All these claims met the thresholds set out in clause 3.15.7B(c)(1) for referral to an independent expert.

2. Directed Participants' claims

AEMO provided SLC with details of the clause 3.15.7 compensation to and correspondence with the *Directed Participants* concerning their clause 3.15.7B claims.

2.1. Clause 3.15.7B claims

There were two cost elements to each of the claims, A to D:

- the costs of purchasing fuel to provide the directed services; and
- a share of the charges levied by AEMO *market generators* to recover the costs of Contingency Raise FCAS.

For each *direction*, they claimed these costs minus the amount of compensation received for directed *energy* calculated according to clause 3.15.7.

2.2. Initial information

The *Directed Participants* provided within the prescribed time limit in respect of each *direction*, a letter summarising the compensation that was sought, signed by an officer, certifying that data supplied was true and correct as required by clause 3.15.7B(b)(3). They also provided spreadsheets detailing the calculations made to determine the amount of additional compensation. The *Directed Participants* also supplied copies of invoices for fuel supplied covering the periods of the *directions*.

2.3. Draft determinations

SLC provided a draft public reportⁱⁱ and confidential draft determinations to AEMO and the directed participants in May 2021 based on AEMO data and submissions from the directed participants.

ⁱⁱ Sam Lovick Consulting (May 2021) *Independent Expert Draft Determination of Additional Compensation for Directions in SA Between January 2nd and January 13th, 2021* available at https://aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/market_event_reports/2021/draft-determination-january-2-2021.pdf?la=en

2.4. Further submissions

SLC called for further submissions from the *Directed Participants* in response to the draft assessments as required by clause 3.12.3(c)(2) prior to preparing this report. The *Directed Participants* made additional submissions which were duly considered. They confirmed a number of corrections to claimed amounts.

3. Clause 3.15.7B compensation provisions of the NEM

Clause 3.15.7B compensates *Directed Participants* for (clause 3.15.7B(a)):

- (1) the aggregate of the loss of revenue and additional net direct costs incurred by the *Directed Participant* in respect of a *scheduled generating unit, semi-scheduled generating unit or scheduled network services*, as the case may be, as a result of the provision of the service under *direction*; less
- (2) the amount notified to that *Directed Participant* pursuant to clause 3.14.5A(g), clause 3.15.7(e) or clause 3.15.7A(f); less
- (3) the aggregate amount the *Directed Participant* is entitled to receive in accordance with clause 3.15.6(c) for the provision of a service rendered as a result of the *direction*.

3.1. Net direct costs

'Net direct costs' is not a defined term in the NEM, but clause 3.15.7B(a3) sets out, without limitation, seven examples of net direct costs including fuel costs. It is clear from these examples that the term 'net direct costs' encompasses all costs incurred by the *Directed Participant* that would not have been incurred absent the *direction*, and this is the interpretation that has been adopted in the past by independent experts making clause 3.15.7B determinations.

Fuel costs clearly meet this definition. Since the *Directed Participants* did not need to make additional starts or stops to comply with the *directions*, they did not incur any additional start costs; the *Directed Participants* were correct not to claim start costs.

None of the seven examples of net direct costs in clause 3.15.7B(a3) exactly matches Contingency Raise FCAS recovery charges. Nevertheless, for the reasons set out in prior compensation determinations,ⁱⁱⁱ if the generators had not been directed, they would not have produced any *generator energy* and would not have been charged for Contingency Raise FCAS recovery. Accordingly, Contingency Raise FCAS recovery is a net direct cost for the purposes of clause 3.15.7B.

AEMO provided settlement data on Contingency Raise FCAS recovery charges which the *Directed Participants* used to determine their compensation claims.

ⁱⁱⁱ Sam Lovick Consulting (August 2020) *Independent Expert Draft Determination of Additional Compensation 'Package 2' Directions Between February 2nd and February 9th 2020* available at https://aemo.com.au/-/media/files/electricity/nem/market_notices_and_events/market_event_reports/2020/200805-final-report.pdf?la=en.

3.2. Adjustment for revenues received

To determine total compensation, clause 3.15.7B(a)(2) requires that compensation for the directed services calculated according to clauses clause 3.14.5A, 3.15.7 and 3.15.7A is deducted from net direct costs. The market was not suspended during these *directions*, so no revenue was earned under clause 3.14.5A. For the reasons set out above, no revenue was payable under clause 3.15.7A. Revenue was paid to the *Directed Participants* calculated according to clause 3.15.7(c), termed DCP. The *Directed Participants* appropriately calculated and deducted DCP from their additional compensation claims.

Clause 3.15.7B(a)(3) requires that revenues defined in clause 3.15.6(c) are also deducted. In previous determinations of compensation,^{iv} this has been interpreted to require deduction of *trading amounts* for non-directed *market ancillary services* to determine allowable additional compensation. We consider that this approach is appropriate and adopted it in the draft assessments. Only one of the claims included a deduction for *trading amounts* for *market ancillary services*. This was withdrawn in a submission in response to the draft assessments. Accordingly, no clause 3.15.6(c) amounts are included in the final determination.

4. Calculations of the claimed amounts

4.1. Clause 3.15.7B(a)(1) claims for loss of revenue

The *Directed Participants* did not seek additional compensation for loss of revenue under clause 3.15.7B(a)(1).

4.2. Clause 3.15.7B(a)(1) claims for additional net direct costs

The *Directed Participants* sought compensation for additional net direct costs under clause 3.15.7B(a)(1) for fuel costs and Contingency Raise FCAS recovery charges.

4.2.1 Fuel consumption

For each of the claims, the *Directed Participants* provided an Excel spreadsheet setting out aggregate fuel consumption across a group of generating units. They also provided spreadsheets containing half-hourly meter data showing fuel consumption. There were significant discrepancies between this metering data and the figures used in the compensation claims. We used the metered periodic fuel consumption data to determine fuel costs. Submissions from the *Directed Participants* subsequent to the draft determinations confirmed that the metered periodic fuel consumption used in the draft determination was correct.

Fuel consumption for each *Directed Participant* in each period was based on the trading load of the *Directed Participant* in that period divided by the sum of all trading loads (to which the metered fuel data applied) in that same period.

Metering data was unavailable for a small number of settlement periods. The *Directed Participants* made estimates of fuel consumption in these periods which were consistent with

^{iv} *Ibid.*

typical periodic consumption and with metered generation in the period. We adopted the same adjustment approach to estimate the missing values.

In accordance with previous determinations for additional compensation for the same *Directed Participants*,^v it was unnecessary to adjust these derived consumptions to take account of differences in heat rates across the generating fleet. The claimant's approach based on each *Directed Participant's* share of total trading load across the fleet is appropriate.

The data and calculations submitted by the *Directed Participants* were sufficient to determine fuel consumption.

4.2.2 Fuel costs

The *Directed Participants* provided invoices for fuel purchases covering the period of the whole of the duration of the *directions* with prices denominated in \$/GJ. In all cases, the quantity of fuel referenced in the invoices was enough to supply the *Directed Participants* across all the claims.

The invoices indicated two sources of fuel with different unit prices. The *Directed Participants* indicated that the different sources were separately metered. Metering data indicated the quantum of fuel used from each source that was consumed by the generation fleet during the period of the *directions*.

The *Directed Participants* estimated the unit cost of fuel across the fleet as the average price of fuel across the two sources weighted by the quantity of fuel used from each source. Total fuel costs were determined as the product of this unit cost and the quantity consumed by the *Directed Participants* as set out in section 4.2.1 above.

The approach is appropriate and, other than some small rounding errors, the data and calculations provided were sufficient to determine unit fuel costs.

4.2.3 Charges for Contingency Raise FCAS recovery

The *Directed Participants* submitted spreadsheets detailing AEMO charges for Contingency Raise FCAS recovery separated into 6 second, 60 second and 5 minute classes. The spreadsheets allocated the sum of those charges in proportion to trading load (i.e., using essentially the same approach used to allocate fuel consumption to each unit, as set out in section 4.2.1). This reflects the allocation principles set out in clause 3.15.6A(f).

The approach is appropriate, and the data and calculations submitted were sufficient to substantiate their claims in respect of Contingency Raise FCAS recovery.

4.3. Revenue deductions

For the reasons set out in section 3.2, clause 3.15.7B requires that compensation for directed services and entitlements to *trading amounts* from non-directed services are deducted from costs to determine additional compensation.

^v *Ibid.*

4.3.1 Compensation for directed services

The *Directed Participants* provided spreadsheets detailing the compensation for each *direction* for directed *energy*.^{vi} The 90th percentile prices, quantum of services provided, and compensation payments determined under clause 3.15.7(c) for these services were provided to them by AEMO in accordance with clause 3.15.7(e). These compensation amounts need to be deducted from net direct costs under clause 3.15.7B(a)(2); they were appropriately deducted from the net direct costs in these claims. There were no other directed services.

4.3.2 Revenue for services that are not directed

In previous determinations for additional compensation, *Directed Participants* also earned *trading amounts* for *market ancillary services* which had to be deducted from the additional compensation claims. For claims A, C and D, the *Directed Participants* indicated that they did not provide any *market ancillary services* for the duration of the *directions*. Accordingly, no deductions for *trading amounts* for non-directed services were necessary for these claims.

The draft assessment included a deduction for *market ancillary services* in Claim B. Submissions made in response to the draft assessment showed that the *Directed Participant* was not scheduled to provide and did not, in fact, provide *market ancillary services* for the duration of Claim B. Accordingly, the deduction for *market ancillary services* for Claim B has been removed in the final determination.

4.4. Total additional compensation

Based on the foregoing and in accordance with clause 3.12.3(c)(1)(B), we have determined that the total amount of clause 3.15.7B compensation payable to the *Directed Participants* in respect of the four *directions* is \$355,365.

^{vi} In *directions* for *system strength services*, AEMO treats energy as directed.