Synergies
ECONOMIC CONSULTING

Final Report on additional compensation claims arising from AEMO directions on 1 December 2016

An independent expert report prepared for AEMO

August 2017

Synergies Economic Consulting Pty Ltd
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1 Introduction

Synergies Economic Consulting (Synergies) has been appointed by the Australian Energy Market Operator (AEMO) as an independent expert to determine additional compensation claims for two *Referred Directed Participants* under clause 3.15.7B of the National Electricity Rules (NER).

This follows the final determination made by Synergies on 14 June 2017 of $0 as the fair payment price for the *Referred Directed Participants* for the *directions* issued on 1 December 2016. The relevant claims addressed that final report were referred to as follows:[1]

- Claim 2: Being a claim for compensation arising from a *direction* for other services in SA.
- Claim 3: Being a claim for compensation arising from a *direction* for other services in Victoria.

AEMO is required by the NER to use reasonable endeavours to complete all obligations, including final settlement, no later than 200 days after the end of the Direction. The 200 business days ends on 18 September 2017.

In accordance with the Intervention Settlement Timetables for the 1 December 2016 Directions, Synergies issued its draft report on this matter on 6 July 2017. In our draft report, we accepted one of the two claims (Claim 2) subject to confirming the quantum of compensation and rejected the other claims (Claim 3), concluding that zero compensation is payable. In this final report, we confirm our draft conclusions and complete the quantification of compensation in respect of Claim 2.

To allow this report to be read in conjunction with our previous final report on the original claim, we will retain our original numbering system and refer to the claims as Claim 2 and Claim 3. We will specify where necessary whether we refer to the original or additional claim for compensation.

[1] Synergies Economic Consulting (2017), Final report on compensation related to *directions* that occurred on 1 December 2016, June

1.1 Structure of the report

In the remainder of this report, we set out the basis for our final determination regarding additional compensation resulting from these *directions* under the NER, as follows:

- Section 2 provides a short summary of Synergies' final determination for compensation claims made in regards to the Direction on 1 December 2016;
- Section 3 sets out and applies the provisions of clause 3.15.7B as they relate to the two additional compensation claims arising from our determination on Claims 2 and 3; and
- Section 4 sets out the considerations relevant to the determination for additional compensation; and
- Section 5 set out our conclusion.

2 Background

The additional compensation claims relate to *directions* issued by AEMO following a South Australia separation event caused by a credible contingency on the Moorabool to Tarrone 500 kV transmission line at a time when one circuit of the Heywood Interconnection was undergoing a scheduled outage.

Four *directions* were issued and subsequently cancelled on 1 December 2016, which led to four claims. A Final Report has been issued in respect of these claims (Final Report)[2], the outcome of which can be summarised as follows.

- Original Claim 1: FCAS *direction* in SA

  In our final report on the original compensation claim, we determined that the South Australian generator was entitled to compensation for loss of revenue under clause 3.15.7B.

- Original Claim 2: *direction* for other services in SA

  In our final report on the Original Claim 2, we determined that compensation under clause 3.15.7A for being constrained off in these circumstances was zero.

- Original Claim 3: *direction* for other services in VIC

  In our final report on the Original Claim 3, we determined that compensation under clause 3.15.7A for being constrained off in these circumstances was zero.

- Original Claim 4: a claim for *Affected Participant* compensation

  In our final report on the Original Claim 4, we concluded that, properly construed, compensation under clause 3.12.2 does not extend to loss of anticipated market ancillary services revenue, but does extend to loss of anticipated revenue from the energy spot market.

Subsequently, the claimants in Claim 2 and Claim 3 have written to AEMO to seek additional compensation under clause 3.15.7B in regard to the *directions*.

[2] Synergies Economic Consulting (2017), Final report on compensation related to *directions* that occurred on 1 December 2016, June

3 Claims under clause 3.15.7B

This section summarises the circumstances of the *directions* and sets out the additional compensation claim provisions of clause 3.15.7B for Claims 2 and 3.

3.1 Circumstances of the *directions*

The *directions* followed a South Australia separation event. Prior to the separation event, two relevant scheduled outages were underway: on the Heywood No 2 500kV bus bar limiting the Heywood SA-VIC Interconnector to a single 500kV circuit; and an outage on one of the two 500kV circuits between Heywood and the Alcoa Portland Aluminium smelter (APD).

In response to these scheduled outages, AEMO implemented a series of constraints in order to maintain the system in a secure state including:

- limits on flows on the Heywood Interconnector to ensure that the rate of change of frequency (RoCoF) in SA as a result of a credible contingency did not exceed 1 Hz/s;
- limiting Mortlake generation to 0 MW; and
- ensuring at least 35 MW of raise and lower frequency control ancillary services (FCAS) were available in SA.

Full details on the event are set out in our Final Report on compensation related to *directions* that occurred on 1 December 2016.[3]

3.1.1 *Claim 2*, *direction* to a SA generator to reduce output

Because of the separation event, AEMO was obliged to ensure that the South Australian (SA) system was restored to a secure state. This in turn required that sufficient FCAS Raise was available within the State to cover the largest single credible contingency, which at the time was the loss of the single generating unit with the highest operating output. The quantity of R6 FCAS required depended upon the level of output of that unit.

Insufficient R6 FCAS was available within SA at 02:30 on 1 December 2016. AEMO therefore issued a *direction* to the SA generating unit with the highest level of output, instructing it to reduce its output. It issued a second *direction* at 03:00. The aim was to reduce the output of the directed unit to a level that was consistent with the secure operation of the system given the availability of R6 FCAS within the state.

[3] Synergies Economic Consulting (2017), p 9

AEMO has determined that the affected period for the purposes of compensation is between dispatch intervals ending at 02:35 to 05:00 on 1 December 2016. Intervention pricing was implemented during this period. AEMO has indicated that the *direction* was required to maintain power system security in SA.

3.1.2 *Claim 3*, *direction* to a VIC generator to shut down

Synergies understands that at 10:00 on 1 December 2016, the Victorian generator that was the subject of this *direction* submitted an offer to generate priced at -$1,000 MWh for the whole of its available capacity. As a result of this offer, the generator commenced operation on or around that time. Its operation resulted in certain system constraints becoming binding or being violated.[4] In response, at 10:30 AEMO issued a *direction* for the generator to shut down in order restore the power system to a secure state. The *direction* was cancelled at 15:45 on the same day.

AEMO has determined that the affected period for the purposes of compensation is between dispatch intervals ending 10:35 to 15:45 1 December 2016. Intervention pricing was not implemented in this period. AEMO has indicated that the *direction* was required to maintain power system security in Victoria (VIC) during the affected period.

3.2 Clause 3.15.7B

A *Directed Participant* that is entitled to compensation under clause 3.15.7 and 3.15.7A may make a claim for additional compensation under clause 3.15.7B, which confines compensation (under clause 3.15.7B (a)) to:

(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 3.15.7(c) 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*.

[4] F_S++HYSE_L5, F_S++HYSE_L6_1, F_S++HYSE_L6_2, F_S++HYSE_L60 all of which related to the provision of FCAS Lower in SA at the time.

In broad terms, clause 3.15.7B (a) entitles a *Directed Participant* to claim compensation to cover loss of revenue and net direct costs minus *trading amounts* for *energy* and *market ancillary services* and minus any compensation for directed services that has been determined.

Neither of the *Directed Participants* has made a claim for compensation for additional net direct costs pursuant to clause 3.15.7B (a) (1), so this is not considered further in our report. Each has made a claim for loss of revenue.

4 Considerations relevant to the determination for compensation

This section sets out the reasons for our determination on the two additional compensation claims.

4.1 Additional compensation claims

The key supporting arguments for each of the additional compensation claims are summarised below.

4.1.1 Additional compensation claim in respect of Claim 2

The *Directed Participant* responsible for Claim 2 raised several concerns related to the way Synergies determined that it was not entitled to receive any compensation for the 1 December 2016 *direction*. In summary, these concerns were that:

- generators that are constrained as part of the NEM operation are not relevant to consideration of NEM interventions, such as an AEMO *direction*;
- if a network constraint could be used to resolve the system security problem, then there would have been no need for the direction in the first place;
- if a generator is constrained off in the NEM (say due to a network limit), then another, more expensive generator must be dispatched to replace the MW reduction from the generator that was constrained;
- due to a more expensive generator being dispatched, the NEM spot price will be higher than it would have been had the constraint not been binding – in this way, the generator that is constrained suffers a reduced volume, but enjoys an increase in price;
- in the case of the direction to the *Directed Participant,* it did not get the benefit of the increase in spot price as there was a counter-balancing direction that effectively restored the spot price to what it would have been.

On these grounds, the *Directed Participant* seeks to claim under clause 3.15.7B(a)(1) for the aggregate loss of revenue suffered because of the direction to it on 1 December 2016. The *Directed Participant* calculated lost revenue by comparing AEMO's 'what if' cleared energy and FCAS values to the values actually cleared while the *directions* were in effect.

4.1.2 Additional compensation claim in respect of Claim 3

The *Directed Participant* responsible for Claim 3 raised the following two grounds for an additional compensation claim:

1. *Compensation for constrained-off generation due to AEMO direction*

According to Synergies' Final Report, units directed to reduce generation output are not entitled to receive any compensation under clause 3.15.7A. However, the *Directed Participant* claimed for loss of revenue for this same reason under clause 3.15.7B.

2. *Additional Claim under clause 3.15.7B*

The *Directed Participant* also pointed out that it has generation assets and customer loads in all NEM mainland regions. As such, price impacts on one region due to a direction could affect the commercial outcome of an adjacent region.

Based on AEMO's what-if price calculation for the period from 10:30 to 13:00 on 1st December 2016, the *Directed Participant* estimated an amount of foregone revenue having regard to its favourable trading position in South Australia.

4.2 Synergies' determination on additional compensation claims

Both *Directed Participants* are seeking additional compensation in regards to loss of revenue under clause 3.15.7B(a)(1) rather than net direct costs as defined under clause 3.15.7B (a3).

4.2.1 Meaning of 'loss of revenue' under clause 3.15.7B(a1)

The term 'loss of revenue' is not a defined term in the NER, nor is there any elaboration on its meaning within the clauses relating to compensation for services from *Directed Participants*.

It is not a term of art in economics or related fields. Nor is Synergies aware of any prior independent determinations of clause 3.15.7B compensation that have addressed its meaning. Hence, in our Final report on compensation related to *directions* that occurred on 1 December 2016, we concluded that the plain meaning of the term should be used. We describe the plain meaning of the term 'revenue' in the context of the term 'income' and noted that in the NEM, this is usually the sum of *trading amounts* due to a participant.

The plain meaning of loss is disadvantage from being deprived of something or a change in conditions that it would otherwise have received.[5] We therefore interpreted the term 'loss of revenue' to mean the failure to get some or all of the revenue that that the *Directed Participant* would have been able to secure had it not been directed to provide a service.

4.2.2 Meaning of provision of a service

Claim 2

In our final decision regarding Original Claim 2, we wrote:[6]

> "The ***Claim 2*** direction was necessitated by a lack of available R6 FCAS capacity in SA at a time when high levels of R6 FCAS were predictable.[1] In Synergies view, compensating generators that are directed to reduce output so as to reduce the R6 FCAS requirement does not help to increase the supply of R6 FCAS."

On further consideration, we consider that it may be more appropriate to treat the direction that formed the subject of Claim 2 as a direction for other services. Our reasoning is as follows.

Firstly, we note the importance of maintaining the integrity of system operation at a time when the National Electricity Market is undergoing a series of very significant changes in the nature and distribution of generation plant. Under these circumstances, it is unsurprising that AEMO may sometimes need to use non-market approaches to ensuring resource adequacy. If it is accepted that circumstances make it more likely that AEMO may need to adopt less conventional approaches to ensuring energy and FCAS adequacy, generators may also have grounds to expect that the interpretation of the NER will evolve in a supportive and consistent way. In saying this, there remains an important distinction between *directions* that cause *Directed Participants* to provide services to the market that are critical to maintaining the system and those *directions* that require *Directed Participants* to cease operation in circumstances where their continued operation would imperil system stability.

Secondly, we reiterate our observation from our final decision on the original claims that:[7]

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[5] Oxford English Dictionary. Loss is defined as 'diminution of one's possessions or advantages; detriment or disadvantage involved in being deprived of something, or resulting from a change of conditions; an instance of this.' Where 'loss' is used within NER defined terms, it typically refers to power losses in transmission or distribution in terms such as *average loss factor*.

[6] Synergies Economic Consulting (2017), p 21

[7] Synergies Economic Consulting (2017), p 21

> "A better outcome [than constraining a generator to reduce the requirement for FCAS] would be to ensure that markets provide effective price signals that encourage generators to increase the supply of the necessary ancillary services. Unfortunately, market price caps across ancillary services that operate inconsistently with energy market prices frustrate this. market price caps across ancillary services that operate inconsistently with energy market prices frustrate this."

The view underpinning that statement was that current market arrangements are occasionally frustrating the procurement of adequate FCAS in the South Australian market. If this problem is not addressed, then *directions* of the kind that gave rise to Claim 2 provide a second-best alternative for AEMO to resolve shortages and maintain security.

For these reasons, we have concluded that the better interpretation of the phrase "provide services under the direction" (as per clause 3.157B(a)(1)) is that the direction in the case of Claim 2 was a substitute for the provision of market ancillary services by normal means. On this basis, it should be regarded as constituting a relevant service for the purposes of assessing compensation under clause 3.15.7B. Further, since the *Directed Participant* suffered a loss of revenue from providing the service, it should be compensated under clause 3.15.7B.

Claim 3

In the case of Claim 3, our interpretation of the facts and the NER has not been swayed by the information provided in Additional Claim 3, nor by further consideration of the facts.

We consider the *direction* in respect of Claim 3 was a *direction* to ensure system security alone – the *Directed Participant* did not "provide services under the direction" as required by 3.157B(a)(1). The *Directed Participant* was constrained off in direct response to the transmission constraints arising from the outage of the Moorabool-Tarrone 500 kV line. On this basis, we remain of the view that the direction in question should not be viewed as a direction to provide other services for the purposes of 3.157B(a)(1) and the reasoning set out in the Final Report applies.

4.3 Interpretation of the Rules for Quantification

In preparing this final determination, we have had the opportunity to consider the phrasing and origins of clauses 3.15.7B(a) and 3.15.7B(a4) and we have arrived at the view that a different interpretation of 3.15.7B(a4) to that taken in previous decisions should be applied.

Claims pursuant to clauses 3.15.7B(a) are subject to the materiality threshold established by clause 3.15.7B(a4), which states that:

> (a4) In respect of a single *intervention price trading interval*, a *Directed Participant* may only make a claim pursuant to clauses 3.15.7B(a), 3.15.7B(a1) or 3.15.7B(a2) if the amount of the claim in respect of that intervention price trading interval is greater than $5,000.

4.3.1 The difficulties with interpreting 3.15.7B(a4)

There is a range of possible interpretations of cl 3.15.7B(a4), including:

- the calculation of the allocated components of a claim such that where the sum of allocated component values in a given trading interval are less than $5,000, the losses associated with those trading intervals should be excluded from the total claim amount;
- the threshold only arises in respect of claims pertaining to a single *intervention price trading interval*; or
- the threshold is treated as if it applied to a single *intervention pricing interval* only (so that the threshold is only applied once in respect of the entire *direction*).

Of these interpretations, the first and third appear to us to be worthy of further consideration – the second interpretation would virtually render the provision otiose. All claims should be subject to a materiality threshold in order to balance the transaction costs associated with handling compensation claims with the desirability of restoring *Directed Participant*s to their pre-direction position. Accordingly, we have not considered this possible interpretation further in this determination. We turn now to a more detailed consideration of the first interpretation.

Historical approach

Previous compensation determinations by independent experts have interpreted clause 3.15.7B(a4) as directing the calculation of the allocated components of a claim such that where the sum of allocated component values in a given trading interval are less than $5,000, the losses associated with those trading intervals should be excluded from the total claim amount. This is the approach recently taken by Harding Katz in its 18 July

2017 draft report for AEMO[8] and Synergies itself has recently accepted this interpretation in its final report for AEMO on the 1 December 2016 *directions*[9].

In our view, precedent for interpreting the NER established by previous expert reports should be taken into account in subsequent determinations but is not formally binding.

With this in mind, we consider the historical interpretation, whilst clearly a potentially valid interpretation of the provision, is nevertheless problematic because:

- it is poorly aligned with the structure of the additional compensation provisions under clause 3.15.7B(a); and
- it is inconsistent with the intention of the compensation arrangements based on a review of the policy development process that underpinned the establishment of the provisions.

The interpretation of the provision in the current instance will only slightly affect the compensation determination. Nevertheless, we believe that there is merit in exploring this alternative interpretation as it we believe it better reflects the underlying intent of the compensation provisions.

Claims relate to the aggregate effect of directions

Clause 3.15.7B(a) allows a participant to make a claim for loss arising from a direction, to the extent not already compensated for. The clause suggests that a claim should reflect the *Directed Participant's* interpretation of the aggregate losses arising from a direction. The claim reflects the compensation that the participant believes is required to restore it to its pre-direction position. It does not invite participants to make a series of claims in respect of individual *intervention price trading intervals*.

The distribution of a direction's total financial consequence between different trading intervals seems to us to have no relevance to a claim under clause 3.15.7B(a). It is true that the data required to calculate a claim under 3.15.7B(a) may be expressed by trading interval. Yet it is also the case that these or other data may be expressed in terms of dispatch interval or day or may be described in terms of events or a series of events (such as start-up costs). These time periods or events are only relevant as components of a calculation relating to the entire direction and do not, in our view, constitute the claim itself. The claim, to use the language of 3.15.7B(a) is "the sum of" the component costs and revenue items given in paragraphs (1) to (3).

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[8] Harding Katz, 18 July 2017, *Draft Report: Compensation for Directions in Queensland on 28 and 29 March 2017*

[9] Synergies Economic Consulting, June 2017, Final report on compensation related to directions that occurred on 1 December 2016

Meaning of a "claim" under 3.15.7B(a4)

Clause 3.15.7B(a4) is difficult to reconcile with the drafting of 3.15.7B(a). It limits its effect with the opening phrase "In respect of a single intervention price trading interval". If the historical interpretation is adopted it then proceeds to limit *Directed Participant* claims to cases where the claim amount for each trading interval is more than $5,000. As we noted above, this construction sits at odds with the conception of a claim as a single claim for a single aggregate sum given in 3.15.7B(a) for the entirety of the period to which the relevant *direction* relates.

Unless a direction affects only a single trading interval, it follows that any resulting claim under 3.15.7B(a) is unlikely to have been made in respect of a single intervention price trading interval. Rather, the claim will be made in respect of the aggregate effect of a direction. Further, the claim will make deductions of lump sum amounts corresponding to the revenue already received pursuant to a compensation determination by AEMO and/or settlement (3.15.7B(a)(3)).

The interpretation of 3.15.7B(a4) that has been accepted up until this point relies on treating the *Directed Participant*'s claim as a divisible set of claims relating to individual trading intervals. We consider this inconsistent with 3.15.7B(a).

A further problem with the historical interpretation is that to be internally consistent, the lump sum deductions provided for by sub-paragraphs 3.15.7B(a)(2) and (3) should also be disaggregated by trading interval to calculate each sub-claim at a trading interval level. It is our understanding that previous expert determinations to which 3.15.7B(a4) applied have applied the lump sum deductions from 3.15.7B(a)(2) and (3) as a separate procedure at the aggregate level, rather than incorporating the trading interval components of these parameters into the assessment required by 3.15.7B(a4).

In summary, we are unable to identify a satisfactory reconciliation of clause 3.15.7B(a4) with clause 3.15.7B(a). To resolve this problem, we investigated the creation of the provision with a view to understanding the original intent.

4.3.2 Intended design of the compensation arrangements

Clause 3.15.7B(a4) is present in the first version of the by the NER (dated 1/07/2005). Further investigation revealed that it was gazetted as a change to the National Electricity

Code on 31 October 2002[10]. The change was made as part of the Code Change Panel's[11] "Review of directions in the national electricity market", for which the Panel's final report was published in February 2002[12]. The report introduced the recommended changes to the Code, including a version of 3.15.7B(a4) but the Panel did not discuss this provision or of the need to restrict non-material claims. The version of the clause recommended by the Panel reads:

> "(a4) A *Directed Participant* may only make a claim pursuant to clauses 3.15.7B(a), 3.15.7B(a1) or 3.15.7B(a2) if the amount of the claim is greater than $5,000."

Notwithstanding the Panel's final report and the gazettal of the code changes, clause 3.15.7B(a4) was amended to its current wording, which inserted the references to "individual price intervention trading intervals".

Moreover, the historical interpretation (such that the threshold is applied to each trading interval) is inconsistent with the conclusions of an earlier joint review by NECA and NEMMCO of power system *directions* in the national electricity market[13]. The final report from that earlier review remarks:

> "NECA and NEMMCO also consider that payments should only be made when the value at stake is sufficient to justify the significant administrative outlays in determining compensation. We propose that consideration only be given to payment claims with a value exceeding $5000 to each individual party, with amounts less than this deemed immaterial given the costs of settling the claims."

We note that NECA and NEMMCO made no mention of individual trading intervals in their formulation of the materiality threshold. The $5,000 materiality threshold went on to be reflected in the final report's summary of outcomes and the Code Change Panel expressly endorsed the code change proposal arising from the NECA and NEMMCO final report.

4.3.3 A better interpretation of clause 3.15.7B(a4)

In view of the difficulty we encountered in identifying an internally consistent definition of clause 3.15.7B(a4) and the clear evidence that the original policy intent was to create a materiality threshold related to the entire claim, we believe the better interpretation of

[10] South Australian Government Gazette, 31 October 2002.

[11] A function within the National Electricity Code Administrator

[12] Code Change Panel of the National Electricity Code Administrator, February 2002, Report: Review of directions in the national electricity market.

[13] NECA and NEMMCO, 19 May 2000, Final Report: Power system directions in the National Electricity Market.

clause 3.15.7B(a4) is that, for a claim under 3.15.7B(a) that is otherwise valid, a single materiality threshold of $5,000 should be applied, irrespective of the number of trading intervals that the *direction* pertained to. This threshold will apply to the net claim for additional compensation, after the deductions required under 3.15.7B(a)(2) and (3) have been made.

4.4 Quantification of Compensation for Claim 2

In respect of Claim 2, the two sources of revenue relevant to the claim are the revenue that the *Directed Participant* would have earned from *energy* and *market ancillary services*, but for the direction. We start by considering the calculations presented by the *Directed Participant*, before presenting our approach.

4.4.1 *Directed Participant*'s Calculations (Claim 2)

Claim for energy revenue

In its claim for additional compensation, the *Directed Participant* set out its calculation of the amount of energy not delivered as a result of the claim, being the difference in each dispatch interval between the amount (MW) actually cleared in the market and the amount that would have been cleared without the intervention. For the latter term, the direct participant used the 'What if' 'values produced by AEMO. The *Directed Participant* included in its calculation the trading intervals ending 01:30 through to 05:00 on 1 December 2017 and all dispatch intervals contained within those trading intervals.

Claim for ancillary service revenue

In its claim for additional compensation, the *Directed Participant* also set out its estimate of the loss of revenue in each of the following *market ancillary services* categories:

- regulating raise service
- regulating lower service
- fast lower service (6 seconds)
- slow lower service (60 seconds)

The *Directed Participant* provided these figures for all dispatch intervals between dispatch interval ending 01:05 and 05:00 1 December 2016. Again, the *Directed Participant* calculated these variances on the basis of the difference for each dispatch interval between the amount of each market ancillary service (MW) actually cleared in the market and the amount that would have been cleared (MW) without the intervention.

Aggregate claim

The *Directed Participant* claimed under clause 3.15.7B(a)(1) for the aggregate loss of revenue associated with energy and market ancillary services suffered because of the direction to it on 1 December 2016. Since no compensation for the direction had been previously notified, the Claim applied no deductions to this loss of revenue.

4.4.2 Quantification of lost revenue from *energy services* (Claim 2)

In calculating the fair payment for loss of revenue associated with the services provided pursuant to Claim 2, our approach is informed by 3.15.7(c). Specifically, this clause provides for the calculation of the term DQ, being in the case of energy:

> (A) the difference between the total adjusted gross energy delivered or consumed by the *Directed Participant* and the total adjusted gross energy that would have been delivered or consumed by the *Directed Participant* had the direction not been issued;

We find that the use of the amounts cleared to be not the correct starting point since these will only approximate the adjusted gross energy delivered. Instead, we have used the net metered energy delivered in each dispatch interval as the starting point and from these values, we deduct AEMO's 'What if' values for the relevant intervals.

Regarding which intervals to include in the calculation, Synergies recognises that the period affected by the *directions* in South Australia of 1 December 2016 spans dispatch intervals ending 01:15 to 05:00 of that day. *Prima facie*, this might suggest that the *Directed Participant* was entitled to claim, as it did, for lost revenue during the trading intervals ending 1:30 to 05:00.

However, the claim for additional compensation submitted by the *Directed Participant* under 3.15.7B is in its capacity as a *Directed Participant*. The direction it received under Participant Notice No. 55981, was issued at 02:30. AEMO advised Engie on 30 December 2016 that the affected dispatch intervals for the purposes of determining compensation as a *Directed Participant* were those ending 02:35 to 05:00[14]. We therefore exclude all dispatch intervals before dispatch interval ending 02:35 and after dispatch interval ending 05:00 on 1 December 2016.

Our calculated values for the compensable loss of revenue for energy services are set out in Table 1 following the discussion of the quantification of *market ancillary services*.

[14] AEMO issued a 3.15.7(e) notice to directed participant by email on this day.

4.4.3 Quantification of lost revenue from *market ancillary services* (Claim 2)

As we did for energy, we excluded the dispatch intervals prior to the dispatch interval ending 02:35 on the grounds that in these intervals the *Directed Participant* cannot have suffered loss of revenue as a *Directed Participant*.

In this instance, we agree with the use of the amounts cleared as the starting point, since market clearance establishes the size of the obligation to be able to respond in accordance with each market ancillary service specification. Actual performance of that obligation is a separate issue which only arises in the event the service is called upon. We do not believe that question is relevant to this matter.

On this basis, we conclude that the *Directed Participant* has correctly calculated the loss of revenue associated with *market ancillary services*.

4.4.4 Total compensable loss of revenue for Claim 2

We calculate the total compensation payable to the *Directed Participant* in respect of Claim 2 as set out in Table 1, below.

Table 1 Lost revenue and compensation allowed by intervention price trading interval in respect of Claim 2

Trading Interval Ending	Lost revenue for energy services	Lost revenue for ancillary services	Total lost revenue
01-12-16 3:00	$82,084	$2,553	$84,637
01-12-16 3:30	$115,472	$2,525	$117,997
01-12-16 4:00	$33,271	$2,675	$35,946
01-12-16 4:30	$0	$1,525	$1,525
01-12-16 5:00	$13,173	$1,425	$14,598
Total compensation			**$254,703**

Our assessment of the compensation due to the *Directed Participant* under 3.15.7B (a)(1) for loss of revenue pursuant to the direction of 1 December 2016 is $254,703.

We note that no deductions from this compensation amount need be made since there were no relevant payments made or notified under either 3.15.7 (c) or 3.15.6(c). Our assessment is that the claim (being a claim for aggregate losses) satisfies the materiality threshold established by 3.15.7B(a4) on the grounds that the claim is greater than $5,000.

5 Conclusion

5.1 Compensation determination

For the reasons set out above, we have determined that under clause 3.15.7B the fair payment for additional compensation for the loss of revenue incurred by the *Directed Participant* in:

- ***Claim 2*** is accepted, with compensation of $254,703 being payable; and
- ***Claim 3*** is not accepted, with zero compensation being payable.

5.2 Final remarks

In the context of claims considered in this report, the implications of following the historical interpretation of 3.15.7B(a4) or applying the new interpretation we have set out were small – a difference of $1,525 relating to the trading interval ending 04:00 1 December 2017. However, it is not difficult to imagine a set of circumstances in which the interpretation of clause 3.15.7B(a4) can have a material effect on a claim. Indeed, the historical interpretation could exclude compensation in cases where significant aggregate losses are sustained over many trading intervals.

The issues with clause 3.15.7B(a4) outlined in Section 4.3 strongly suggest that the drafting of this clause should be clarified. We note that the compensation arrangements are now some 15 years old and might warrant review by the AEMC even were it not the case that 3.15.7B(a4) is so challenging to apply.